

**IMPACT OF e – GOVERNANCE SYSTEM PRACTICES ON GOOD GOVERNANCE  
IN INDIA - AN EMPIRICAL STUDY.**

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MANAGEMENT**

**By**

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## **CERTIFICATE**

This is to certify that the thesis entitled “Impact of e – Governance System Practices on Good Governance in India - An Empirical Study” submitted to the University of Kashmir in the partial fulfillment of the requirements for the award of Degree of M.Phil in Management is an original research work carried out by Mr. Owais Charag, under my supervision and guidance in The Business School, University of Kashmir within the period prescribed under statutes. The dissertation has not formed the basis for the award of Degree/Diploma/Associate-ship/Fellowship or other similar title to any candidate of any University.

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## **DECLARATION**

I, *Owais Charag*, hereby declare that the thesis entitled "*Impact of e - Governance System Practices on Good Governance in India - An Empirical Study*" submitted to University of Kashmir in the partial fulfillment of the requirements for the award of *Degree of M.Phil* in Management is an original research work carried out by me under the supervision and guidance of *Dr. S. Mufeed Ahmad (Professor)* in The Business School, University of Kashmir within the period prescribed under statutes. The thesis has not formed the basis for the award of any Degree/ Diploma/ Associate-ship/ Fellowship or other similar title to any candidate of any University.

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Research Scholar

Dated:

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## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Full Form</b>
AOA	Articles of Association
APL	Above Poverty Line
APR	Annual Performance Appraisal Report
ARC	Administrative Reforms Commission
ATIs	Administrative Training Institutes
BIS	Bureau of Indian Standards
BOD	Bulk Operations Division
BPL	Below Poverty Line
BPR	Business Process Reengineering
BSEB	Bihar State Electricity Board
CBDT	Central Board of Direct Taxes
CBRMs	Capacity Building Roadmaps
CCTNS	Crime and Criminal Tracking Network and System
C-DAC	Centre for Development of Advance Computing
CDB	Core Database
CET	Common Entrance Test
CIO	Chief Information Officer (USA)
CIOC	Chief Information Officer Council (USA)
CIPA	Common Integrated Police Application
CITU	Central IT Unit (UK)
CLR	Computerisation of Land Records
COD	Compliance Operations Division
CSC	Common Service Centre
CSS	Centrally Sponsored Scheme
DAR&PG	Department of Administrative Reforms and Public Grievances
DDA	Delhi Development Authority
DGFT	Directorate General of Foreign Trade
DHS	Department of Homeland Security (USA)
DIN	Director Identification Number
DISNIC	District Information System of the National Informatics Centre
DIT	Department of Information Technology
DMA	Disaster Management Act, 2005
DoLR	Department of Land Resources
DPR	Detailed Project Report
EA	Enterprise Architecture
EC	Empowered Committee
EDI	Electronic Data Interchange
EFC	Expenditure Finance Committee
EGR	E – Governance Readiness
EGOM	Empowered Group of Ministers
EOI	Expression of Interest
ERNET	Education and Research Network

ETS	Electronic Total Station
EXIM	Export Import
FAR	Federal Acquisition Regulation (USA)
FEA	Federal Enterprise Architecture (USA)
FIFO	First in First out
FIU-IND	Financial Intelligence Unit - India
G2B	Government to Business
G2C	Government to Citizen
G2G	Government to Government
GIS	Geographic Information System
GPS	Global Positioning System
GSA	General Services Administration (USA)
HRSI	High Resolution Satellite Imagery
ICT	Information & Communications Technology
IEC	Information Education and Communication
IEE	Internal Efficiency and Effectiveness
IRM	Institute of Risk Management (USA)
ISRO	Indian Space Research Organization
IT	Information Technology
ITES	Information Technology Enabled Services
ITIN	Individual Tax Identification Number
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KISS	Keep it Small and Simple
KM	Knowledge Management
LAN	Local Area Network
MCA	Ministry of Corporate Affairs
MEA	Ministry of External Affairs
MHA	Ministry of Home Affairs
MIS	Management Information System
MMPs	Mission Mode Projects
MNIC	Multi-purpose National Identity Card
MOA	Memorandum of Association
MoUD	Ministry of Urban Development
MPLADS	Member of Parliament Local Area Development Scheme
MSA	Measurement System Analysis
NARA	National Archives & Records Administration (USA)
NASSCOM	National Association of Software and Services Companies
NeGP	National e-Governance Plan
NIC	National Informatics Centre
NICNET	National Informatics Centre Network
NISG	National Institute of Smart Governance
NLRMP	National Land Records Modernisation Programme
NLSA	National Level Service Agency
NMMP	National Mission Mode Project

NPR	National Population Register
NREGA	National Rural Employment Guarantee Act, 2005
NSDG	National e-Governance Service Delivery Gateway
OECD	Organisation for Economic Co-operation and Development
OFPP	Office of Federal Procurement Policy (USA)
OMB	Office of Management and Budget (USA)
OPM	Office of Personnel Management (USA)
PAN	Permanent Account Number
PDS	Public Distribution System
PeMT	Project e-Governance Mission Teams
PESU	Patna Electric Supply Undertaking
PFO	Physical Front Office
PIAs	Privacy Impact Assessments
PPP	Public-Private Partnership
PSUs	Public Sector Undertakings
RACE	Revenue Administration through Computerised Energy
REGS	Rural Employment Guarantee Scheme
RDs	Regional Directors
RFP	Request for Proposal/Participation
RGI	Registrar General of India
ROC	Registrar of Companies
RoR	Records of Rights
RPO	Regional Passport Office
RTC	Records of Right, Tenancy and Cultivation
RTI	Right to Information
SCA	Service Centre Agency
SDA	State Designated Agency
SDCs	State Data Centres
SeMT	State e-Governance Mission Teams
SMART	Simple, Moral, Accountable, Responsive and Transparent
SRA	Strengthening of Revenue Administration
SROs	Sub-Registrars' Offices
SSC	State Services Commission (New Zealand)
STQC	Standardization Testing and Quality Certification
SWAN	State Wide Area Network
TIN	Tax Identification Number
UID	Unique Identity
ULBs	Urban Local Bodies
ULR	Updating of Land Records
URL	Uniform Resource Locator
UTs	Union Territories
VFO	Virtual Front Office
VLE	Village Level Entrepreneur
WAN	Wide Area Network

# Chapter – 1

## Electronic Governance – An Overview

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### Chapter Outline

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- Introduction
- Conceptual Framework
- Impact of e – Governance on Good Governance
- e – Governance World Scenario
- e – Governance Indian Scenario
- e – Governance scenario in Jammu & Kashmir
- Role of ICT to deliver promises of good governance
- Challenges to e – Governance
- Implementation issues of e – Governance
- Best Practices of e - Governance

# Chapter – 1

## Electronic Governance – An Overview

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*The governments across the world are changing and trying to be more responsive and cohesive in delivering services to citizens. The new facet of service delivery has come which is called e- Governance, delivers electronic services straightly to the citizens homes, community centers and far off locations. The mobility and responsiveness with improved information sharing and service delivery mechanism has given dynamic flow to the government functions and abilities. The present chapter focuses on evaluation of impact of e – governance on good governance and assessment of present scenario of e – Governance within the public institutions in India.*

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### Introduction

Interest in e - Governance is growing with the increasing use of information and communication technology (ICT) by governments to improve the quality of governance and service delivery mechanism. Governments all over the world have been using ICT's such as internet, websites, computers and mobile phones to provide various government services in an efficient, equitable and transparent manner with less corruption. Notwithstanding these advantages, there are certain problems like poor coverage of the e - governance infrastructure, inadequate human resources, mismanagement, technical inexperience and inequitable access (digital divide), lack of public awareness and ineffective civil society participation. This research mainly reviews the experiences of e - governance reforms and the impact of e – governance in delivering good governance to the common citizens.

Immanuel Kant says in his *Grundlegung Zur Metaphysik de Sitton*, “So act as to treat humanity, whether in their own person or in that of any other, in every case as an end withal, never as means only”. Kant’s observation is even more valid today. The citizens are ends in themselves, rather than as means to other ends. The colonial view of the government used to be as a ‘controller’ and ‘ruler’. It is now that of a coordinator and provider. Government is responsible for providing certain services to the citizens, just like an organisation is responsible for managing a value chain that leads to output. Business corporations have discovered over the last few decades that information technology can make the value chain more efficient and lead to quality improvements and cost savings. Similarly, Governments have discovered that information technology can make the provision of services to the citizen more efficient and transparent, can save costs and lead to a higher level of efficiency. The idea of e - governance has changed the way in which governments communicate with one another and with their citizens. In the past communication used to be via public meetings, printed media, radio and television. Today communication is also done via the modern information and communication technologies e.g. the internet and satellite (Kroukamp, 2005). e - 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 citizens and new ways of organising and delivering information and services (Tlagadi, 2007). Electronic governance is using information and communication technologies (ICT’s) at various levels of the government and the public sector and beyond, for the purpose of enhancing governance (Bedi, Singh and Srivastava, 2001; Holmes, 2001; Okot-Uma, 2000). According to Keohane and Nye (2000), “Governance implies the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group. Government is the subset that acts with authority and creates formal obligations. Governance need not necessarily be conducted exclusively by governments. Private firms, associations of firms, non-governmental organizations (NGO’s), and associations of NGO’s all engage in it, often in association with governmental bodies, to create governance; sometimes without governmental authority.” Clearly, this definition suggests that e - Governance need



not be limited to the public sector. It implies managing and administering policies and procedures in the private sector as well. Citizen's access to the government has been a key issue in the field of public administration. A number of hurdles impede citizens' access to policy processes, such as red tape, high transaction costs, and insufficient knowledge and information (Cooper, 1979; Kellogg and Mathur, 2003). In this regard, recently emerging internet technologies have been expected to provide alternative ways for citizens to interact with public officials.

A growing body of literature has focused on “e - Government initiatives,” which refer to the use of the Internet or web technologies to foster public service delivery and citizen participation in policy processes (Coursey and Norris, 2008; Dunleavy, et al., 2006; Norris and Moon, 2005; Robbins, et al., 2008; Thomas and Streib, 2005; Tolbert, et al., 2008; United Nations, 2008; West, 2005). The rise of internet technologies, however, has sparked an intense debate on the democratic potential of information and communication technologies (ICTs) (Norris, 2001). Reinforcement theory argues that web technologies add to the political resources of the powerful elite or activists, strengthening their influence on policy processes (Davis, 1999; Weare, et al., 1999). By contrast, mobilization theory points out that new ICT's provide politically alienated citizens with alternative channels to represent their interests in policymaking processes (Scott, 2006; Stanley and Weare, 2004; Thomas and Streib, 2003). For instance, e-voting systems expand opportunities for citizens to make choices among policy options such that the systems empower them to be direct policy makers (Becker, 2001; Coleman and Gøtze, 2001). In addition, online forums hosted by the government help engage geographically dispersed citizens in policy debates and suggest their ideas to public officials for consideration in decision making (Shulman, et al., 2003; Stanley and Weare, 2004). However, despite their democratic potential, e-voting or online policy forums make citizens passively express their preferences regarding agendas predetermined by the government (OECD, 2003). One important issue in e - government studies is whether government Web technologies impact public sector performance. Although e - government initiatives have been credited as engines of

governmental reform, empirical evidence is insufficient to determine their effects on public agency performance.

Some researchers have recently assessed how agency web sites may help improve public service delivery, citizen participation, and trust in government (La Porte, Demchak, and de Jong 2002; Scott 2006; Tolbert and Mossberger 2006; West 2005). Nevertheless, not only are studies on the impact of e - government web sites very limited, but many of them are based mostly on speculative reasoning, rather than empirical analysis with rigorous methodologies (Musso, Weare, and Hale 2000; Norris and Moon 2005). Thus, it remains unclear as to whether e-Government initiatives make a substantive contribution to public sector performance (Moon 2002). Government web sites and other internet-based applications can provide the public with access to information on public policies and administrative services. They can also expedite responses to requests for specific services. Such web-based channels as e-mail list serves, e-bulletin boards, video conferencing systems, and e-forums can help citizens access policy information, engage in policy deliberation, and contact key decision makers (Brewer, Neubauer, and Ceiselhart 2006; Musso, Weare, and Hale 2000; Thomas and Streib 2005). Weare, Musso, and Hale (1999) find evidence that Web site adoption by municipalities is conditioned by their existing social and demographic conditions such as socioeconomic status, social elite concentration, and information infrastructure in the local community. In these ways, ICT's may further empower the wealthy and the politically connected while further alienating the socially disadvantaged and indifferent citizens from policy-making processes (Norris 2001).

Every second year the UN conducts an e - government survey that aims to indicate which governments are progressive pioneers in relation to e - government technology. The resulting publication receives substantial attention, both as a representation of how information and communication technology (ICT) is used for e - Government, and as a way of acknowledging the Member States that perform well and thus promote good practices (Goodwin et.al., 2011).“United Nations e - Government Survey 2008” is used to test the significance of the proposed model's stages. With the advancement of ICT (Information and Communication

Technology), the words like e – government and e - Governance have come into prominence. In fact, both these terms are used synonymously although they are quite different and have differing audiences to cater to and different objectives to achieve (Website: Godse and Garg) But, for this study, both the words will be used interchangeably. “e - governance”, meaning “electronic governance”, has evolved as information-age model of governance that seeks to realize processes and structures for harnessing the potentialities of information and communication technologies (ICT’s) at various levels of government and the public sector and beyond, for the purpose of enhancing good governance (Bedi et al, 2001; Holmes, 2001; Okot- Uma, 2000 in Saxena, 2005).

### **1.1 Conceptual Framework**

e - Governance may be defined as delivery of government services and information to the public using electronic means. Such means of delivering information is often referred to as Information Technology or ‘IT’ in short forms. Use of IT in government facilities is an efficient, speedy and transparent process for disseminating information to the public and other agencies, and for performing government administration activities. The term governance may be described as the process by which society steers itself. In this process, the interactions among the State, Private Enterprise and Civil Society are being increasingly conditioned and modified through the influence of Information and Communication Technologies (ICTs), constituting the phenomenon of e - Governance. The design and development of such complex solutions poses significant challenges. One such challenge is that in current development environments, the application developers have to work at a low level of abstraction. This means taking care of low-level issues such as intercrosses messaging, tools integration, and data modeling while defining the application logic. Similarly, solution reconfiguration and management requires the solution administrator to have a detailed understanding of the application logic, making the task time-consuming and error-prone. Handling these challenges effectively requires highly skilled and experienced Information Technology professionals, increasing development costs for effective e -Governance solutions. Solution

administrators typically lack these IT skills, rendering change management impossible. In solutions developed to date, each e-Governance solutions have customized existing products to address an individual government agency requirement. However this might not always be the most economical way to develop a solution. In most industries, around 85 percent of the processes are same across companies within that industry. A similar fraction of the processes can be expected to be similar across different government solutions. Clearly, it is desirable to develop these processes once and then reuse them for many solutions. This is also likely to be true for data models, user interfaces, etc. For example, the address verification process in the driving license renewal solution considered above can be reused while developing a passport renewal solution. Similarly, the traffic violation record verification process can be offered as a service to insurance businesses to be reused in a car insurance solution. Lack of information (metadata) on available processes and components and difficulty in customizing these for a specific need currently hinder their reuse for multiple solutions. One can really conclude from the preceding discussion that there is a need for a framework that can simplify the development, deployment, and management of e- Governance solutions.

- Enabling modeling of a hierarchy of building blocks that can be used to abstract government process to a higher semantic level.
- Enabling specification of workflow for government processes independent of standards; the platform takes care of generating the deployable solution that conforms to the appropriate standards.
- Enabling reuse of effort across solutions by providing tools to develop generic, parameterized applications or processes that can be stored in a repository with appropriate metadata and effectively reused by various applications with appropriate customization.
- Extending programming models to specify the customization points in an application or solution during development, and intuitive interfaces to enable modification of solutions easily after deployment without the need for the business user to modify the application source code.

### **1.1.2 Evolution of e - Governance**

Global shifts towards increased deployment of IT by governments emerged in the nineties, with the advent of the World Wide Web (WWW). The technology as well as e-governance initiatives have come a long way since then. With the increase in Internet and mobile connections, the citizens are learning to exploit their new mode of access in wide ranging ways. They have started expecting more and more information and services online from governments and corporate organizations to further their civic, professional and personal lives, thus creating abundant evidences that the new 'e - citizenship' is taking hold. The concept of e - Governance has its origins in India during the seventies with a focus on development of in - house government applications in the areas of defense, economic monitoring, planning and the deployment of IT to manage data intensive functions related to elections, census, tax administration etc. The efforts of the National Informatics Center (NIC) to connect all the district headquarters during the eighties was a very significant development.

From the early nineties, IT technologies were supplemented by ICT technologies to extend its use for wider sectoral applications with policy emphasis on reaching out to the rural areas and taking in greater inputs from NGO's and private sector as well. There has been increasing involvement of international donor agencies under the framework of e-governance for development to catalyze the development of e-governance laws and technologies in developing countries. While the emphasis has been primarily on automation and computerization, state governments have also endeavored to use ICT tools 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 and workflow systems, access to entitlements, public grievance systems, service delivery for high volume routine transactions such as payments of bills, tax dues to meeting poverty, alleviation goals through the promotion of entrepreneurial models and provisions 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 live hoods. Every state government has taken the initiatives to form an IT task force to outline IT policy document for the state and the citizen charters have started appearing on government websites. For governments, the more overt motivation to shift from manual processes to IT-enabled processes may increased efficiency in administration and service delivery, but this shift can be conceived as a worthwhile investment with potential for returns.

### **1.1.3 Phases of e - Governance**

Gartner, an international consultancy firm, has formulated four -phase e-governance model. This can serve as a reference for governments to position where a project fits in the overall evolution of an e-governance strategy. An effort as tremendous as complete realization of e-governance has to be addressed in these phase. This approach would allow for retrospection after each phase, and the ability to retrace steps if required, within a feasible frame of time and money. The design and purpose of each step would have to serve the relevant needs of all G2C, G2B and G2G sectors.

#### **Phase I – Presence**

This first phase calls for making the intentions and objectives of the government known. Development of an inclusive government website, or a network of sites dedicated to different ministries and departments would set the stage for further advancements. These sites would convey the government's initiatives , providing information such as official addresses, working hours, as well as forms and applications to the public, economic reviews, corporate regulations for business and budgetary allocations and pending as a reference for government agencies. With this first phase, the very critical task of building the infrastructure, such as telecommunications would be undertaken.

The presence phase is marked by web presence of public institutions and dissemination of information. This has been facilitated by the Right to Information Act, 2005 (RTI) and this has been developed as a basic feature of all public services where type of service and service provider details are made available in a proactive manner. This information is also being integrated for citizen access through the

National and State Portals which provide basic information on Government programmes and services. Web presence can range from basic and static information to access to databases, documents, policies etc with the aid of help features and site map.

### **Phase II – Interaction**

This phase would allow for basic interaction with the government. Besides hosting search engines on the sites for easy navigation, information detailing social records and job application forms for the public, permit and license documentation for businesses and census details, submission of requests and approvals to the centre by local government officers would have to be provided. The task of building the underlying infrastructure would have to be sustained through these two stages, allowing for rapid implementation of advanced applications as endorsed by the consequent phases.

The interaction stage is marked by an interactive interface with stakeholders with pro-active solutions to problem solving and electronic requests for services and financial transactions. The service starts on the internet but does not always end there. Applications related to property tax, land registration, property titles and programmes like ‘bhoomi’ are now being replicated at the national level. Efforts to widen the reach of these basic services to ordinary citizens through community access in several ways – through Online Sections at Government Offices, integrated service delivery through one-stop service centers – E kiosks, e-sevakendras etc, Post Offices, call centres, cooperative centres etc. – are now well tested in states like Andhra Pradesh, Karnataka, Maharashtra, Rajasthan, Gujarat, UP etc.

### **Phase III – Transaction**

This phase onwards would signify direct interaction of the government and relevant entities. With the infrastructure in place, complete online service suites can be put forth for the public, businesses and governmental agencies. Services for the public such as bill and fine. This phase is marked by completion of transactions on the internet and access to internet. This interaction in turn results in vertical and horizontal integration which changes the way a service is delivered, the

effort being for completion of the transaction for the service through the internet with putting in place of back-end integration. The architectural model for this stage requires interoperability and convergence. There is electronic communication between the platform and citizen and the transaction is completed online

#### **Phase IV – Transformation**

The fourth stage is marked by a Government to Citizen (G2C) framework based on an integrated network of public agencies, process certification and participation in basic process design and political processes. Web comment forms, upcoming events, on line polling mechanism, discussion forums and online consultation facilities are part of this stage. Integrated Portals are central to this integration. Web based political participation and institutionalization of stakeholder participation with tools like citizen polling mark important benchmarks in this stage.

The promise of inclusion of all is an important hallmark of this stage.

- A single point of contact to constituent entities would provide an integrated platform for government services and organization totally transparent to citizens and businesses.
- Focus on ‘virtual agencies’ where government information is readily available to all allowing a seamless interface to respective agencies involved in the transactions.
- State -of -the- art Intranets linking government employees in different agencies extranets allowing seamless flow of information thereby facilitating collaborative decisions among government agencies, NGO’s and the public.

In India’s case the Second UN World Public Sector Report 2003 had evaluated the country’s service delivery by stage. India’s ‘emerging presence’ score is at 100; ‘enhanced presence’ at 63; ‘interactive presence’ at 64; ‘transactional presence’ at 2.4; and networked presence at 4.65 - with a total score of 45. This is higher than that in OECD countries like Spain and similar to Japan but substantially below the leaders.



The following factors have to be taken into account when examining the risk of implementing e -governance.

- Political stability: Democracy or dictatorial regime
- Level of trust in government: perception of service levels
- The importance of government identity : fragmentation or integration
- Economic structure: education, agriculture, industry or service
- Government structure : centralized or decentralized
- Different levels of maturity: weakest part of the chain determines speed
- Constituent demand: push or pull

#### **1.1.4 e – Governance Infrastructure**

Information and Communication Technology (ICT) together with Internet is making it possible to share vast amount of knowledge and information and is driving all round socio-economic changes and growth. e-Infrastructure will be the key enabler for the information and knowledge society. e - Infrastructure comprises tools, facilities and resources that are needed for advanced collaboration and includes integration of various technologies such as Internet broadband channels, computing power, bandwidth provisioning, data storage, grid based resource sharing etc. To sustain the growth of Information & Communication Technologies (ICT) and to meet the challenges of globalization leading to highly competitive markets, there is a continuing need to invest in quality infrastructure, promote R&D efforts, create intellectual property in communications, Internet and broadband technologies, and address the related policy issues. Implementation of e-governance strategies requires established ICT infrastructure. This is required both within Government, where resources and services are produced and within the community, where citizens are able to access Government resources and information. In broader terms e – Governance infrastructure comprises of following:

#### **SWAN: The State Wide Area Network**

(SWAN) is envisioned to connect all the distributed network areas in the Government infrastructure. It will act as a customized communication backbone

interconnecting all the local networks in Government setup. It is expected that the SWAN will provide direct broadband connectivity to all the offices of the State, Districts and Subdivisions up to panchayat level in all the nodes of all the Departments. The network should be able to communicate Voice, Data and Video services across the network. The SWAN will form the core of the entire communication infrastructure. All Core and Group Applications of the State will reside on this network. It is envisaged that SWAN will connect the Departmental Headquarters, district and sub divisional offices and finally the panchayats in a phased manner. SWANs across the country, when fully implemented, will create more than one million route – km of network connecting more than 100,000 government entities. This would bring a connected government space which is unprecedented and would bring a paradigm shift in the way the government works for itself and for the citizen. Success of various e- Government initiatives taken up at the State and the Central level would heavily depend on maximum utilization of SWAN's

### **Data Center**

The Data Centre will act as a central repository of data for all Government Departments and Institutions. The data will be stored in the data centre which will be available online for all Government Departments. This will help to have a uniform data structure across all the Departments and Government can think for a disaster recovery system based on the data centre. This project involves taking the data of every department under one repository and it's a mammoth task.

### **HRMS**

The HRMS (Human Resource Management System) is proposed to serve the purpose of all personnel information management for all Government employees in the State. The Human Resource Management System will be having all the features for management of all HR processes such as payroll, promotion, transfer, cadre management, leave management, pension etc. It is also proposed to have an employee self service portal for every employee which will help them in taking ownership of all individual HR processes and automate the complete HR processes

(such as applying for leave, settling claims, details of PF amounts, details of deductions, approval for all applications etc). To get the full benefits of automation and streamlining the processes, it is felt necessary to develop and deploy the Human Resource Management System across all the Departments.

#### **e - Procurement**

Procurement processes are an integral part of Government processes. It is very much essential to streamline the procurement processes to bring more transparency and efficiency in the system. It is recommended that Government should launch an e-Procurement initiative, which will be supported through electronic purchase requisition generation, comparison of quoted, selection of vendor and placement of order. It will also facilitate purchase order processing, follow-up and monitoring deliveries through confirmation of receipt of goods simply by entering the PO number. The solution can also support invoice verifications. Departments would be provided a facility to raise an online requisition for any purchases (major/minor). Based on the sanctioning levels the requisition would be approved online by the respective authority.

The e-procurement system should provide the facility for issuance of tenders through pre-defined templates / proformas. The tender responses can be compared and based on the successful tenderer's quotes, supply order/ work order generated with standard terms and conditions. The System should also facilitate tracking the status of the Work Order /Contract.

#### **e-mail / Internet**

Efficient service delivery to the citizens in an integrated way depends on the interdepartmental communication and compatible communication system. A statewide email infrastructure on an enterprise wide basis for all the government departments and employees are very much essential for achieving the goals of SMART state. Most of the Departments in Jammu & Kashmir does not have internet connectivity barring the Administrative people's offices in secretariat. Email is very much critical for today's business operations in government sector along with the private enterprises. Internet communication is the powerful medium that allows the

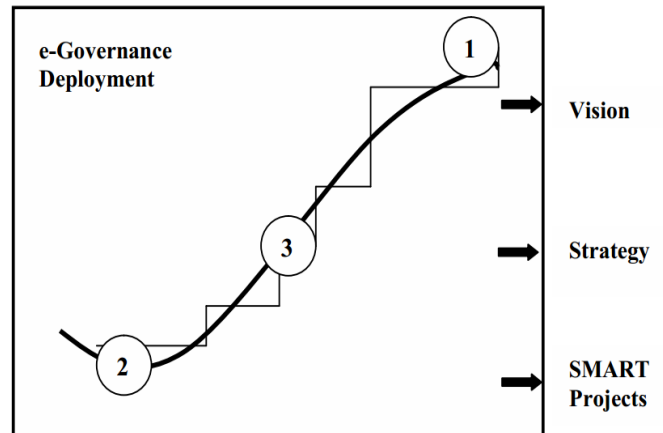
exchange of ideas and messages, as well as text documents, videos, images, and sounds. Integrated with other applications, email facilitates timely communication, opens access to documentation, and increases productivity. It is recommended that internet connection should be provided for all the departments and e-mail application for Government employees should be implemented.

### 1.1.5 Development & Implementation of e-Governance

The model presented can serve as a reference for governments to position where projects fit in the overall evolution of their e -Governance implementation. The model can also support governments in defining an e -governance vision and strategy. A vision is a high- level goal, or ambition level, of government regarding the democracy, government and business aspects of e -governance.

A strategy consists of plans that translate the vision into SMART (Simple, Measurable, Accountable, Realistic & Time -related) projects. A good strategy is crucial to keep the speed in the reform of

- 1. Think Big
- 2. Start Small
- 3. Scale Fast



and implementation process. Thus budgets must be available, time consuming legal transformations should be initiated and quick results must be achieved and communicated to all stakeholders, including the public. A good approach towards implementation of e-governance is to combine short -term steps (projects) and long -term goals (vision). Projects will have a more structural value for development when embedded in a vision and supported by a strategy. Accentor has defined an approach to implement e -governance projects: ‘Thinking big, start small and scale fast’. The process of going from global objectives to concrete targets is complex. It is a joint effort undertaken by all stakeholders.

IICD's core activity is to organize workshops in which this process is facilitated and first steps can be taken.

### 1.1.6 Definitions of e – Governance

- **World Bank ([www.worldbank.org](http://www.worldbank.org)) definition (AOEMA report):** “E-Government refers to the use by government agencies of information technologies (such as Wide Area Networks, the Internet, and mobile computing) that have the ability to transform relations with citizens, businesses, and other arms of government. These technologies can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management. The resulting benefits can be less corruption, increased transparency, greater convenience, revenue growth, and/or cost reductions.”
- **United Nations ([www.unpan.org](http://www.unpan.org)) definition (AOEMA report):** “e - government is defined as utilizing the Internet and the world-wide-web for delivering government information and services to citizens.
- **Global Business Dialogue on Electronic Commerce - GBDe ([www.gbde.org](http://www.gbde.org)) definition (AOEMA report):** “electronic government (hereafter e - Government) refers to a situation in which administrative, legislative and judicial agencies (including both central and local governments) digitize their internal and external operations and utilize networked systems efficiently to realize better quality in the provision of public services.”
- **Gartner Group's definition:** “the continuous optimization of service delivery, constituency participation, and governance by transforming internal and external relationships through technology, the Internet and new media.”

- **Definition of the Working Group on E-government in the Developing World ([www.pacificcouncil.org](http://www.pacificcouncil.org)):** e-government is the use of information and communication technologies (ICTs) to promote more efficient and effective government, facilitate more accessible government services, allow greater public access to information, and make government more accountable to citizens. E-government might involve delivering services via the Internet, telephone, community centers (self-service or facilitated by others), wireless devices or other communications systems.”
- **The UNESCO definition ([www.unesco.org](http://www.unesco.org)) is:** “E-governance is the public sector’s use of information and communication technologies with the aim of improving information and service delivery, encouraging citizen participation in the decision-making process and making government more accountable, transparent and effective. E-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 citizens and new ways of organizing and delivering information and services. E-governance is generally considered as a wider concept than e-government, since it can bring about a change in the way citizens relate to governments and to each other. E-governance can bring forth new concepts of citizenship, both in terms of citizen needs and responsibilities. Its objective is to engage, enable and empower the citizen.”
- **The Council of Europe has taken e-Governance to mean -** “the use of electronic technologies in three areas of public action:
  - relations between the public authorities and civil society
  - functioning of the public authorities at all stages of the democratic process (electronic democracy)
  - the provision of public services (electronic public services”

- **The US e - Government defines “electronic Government” to mean:** “the use by the Government of web-based Internet applications and other information technologies, combined with processes that implement these technologies, to –
  - enhance the access to and delivery of Government information and services to the public, other agencies, and other Government entities; or
  - bring about improvements in Government operations that may include effectiveness, efficiency, service quality, or transformation”.
- **Definition by Dr. APJ Abdul Kalam**, former President of India, has visualized e-Governance in the Indian context to mean: “A transparent smart e-Governance with seamless access, secure and authentic flow of information crossing the interdepartmental barrier and providing a fair and unbiased service to the citizen.”
- **Fraga, 2001** – “e - Government is the transformation of public sector internal and external relationships through net-enabled operations, IT and communications, in order to improve: Government service delivery; Constituency participation; Society.”
- **Tapscott, 1996** – “e -Government is an Internet-worked government which links new technology with legal systems internally and in turn links such government information infrastructure externally with everything digital and with everybody – the tax payer, suppliers, business customers, voters and every other institution in the society.”
- **UNPA & ASPA, 2001** – “e - Governance is the public sector’s use of the most innovative information and communication technologies, like the Internet, to deliver to all citizens improved services, reliable information and greater knowledge in order to facilitate access to the governing process and encourage deeper citizen participation.”

### 1.1.7 Definition of ICT

- "Technology is Not Things - but People". Prof. G B Harrison (Ex Trent Polytechnic) gives us this definition: Technology is the process of using scientific, material and human resources in order to meet human need or purpose. If we then consider a simple definition of Information as 'that which can be communicated and understood', we can then put together a basic definition of IT as: Information Technology is the use of information in order to meet human need or purpose. The definition of ICT therefore became: the use of information in order to meet human need or purpose including reference to the use of contemporary devices such as the Internet.

### 1.2 Impact of e – Governance on Good Governance

e - Governance is about reform in governance, facilitated by the creative use of Information and Communications Technology. e – Governance has following impact on system of governance:

1. **Better access to information and quality services for citizens** - ICT would make available timely and reliable information on various aspects of governance. In the initial phase, information would be made available with respect to simple aspects of governance such as forms, laws, rules, procedures etc later extending to detailed information including reports (including performance reports), public database, decision making processes etc. As regards services, there would be an immediate impact in terms of savings in time, effort and money, resulting from online and one-point accessibility of public services backed up by automation of back end processes. The ultimate objective of e-Governance is to reach out to citizens by adopting a life-cycle approach i.e. providing public services to citizens which would be required right from birth to death.
2. **Simplicity, efficiency and accountability in the government** - application of ICT to governance combined with detailed business process reengineering would lead to simplification of complicated processes, weeding out of



redundant processes, simplification in structures and changes in statutes and regulations. The end result would be simplification of the functioning of government, enhanced decision making abilities and increased efficiency across government – all contributing to an overall environment of a more accountable government machinery. This, in turn, would result in enhanced productivity and efficiency in all sectors.

- 3. Expanded reach of governance** - rapid growth of communications technology and its adoption in governance would help in bringing government machinery to the doorsteps of the citizens. Expansion of telephone network, rapid strides in mobile telephony, spread of internet and strengthening of other communications infrastructure would facilitate delivery of a large number of services provided by the government. This enhancement of the reach of government – both spatial and demographic – would also enable better participation of citizens in the process of governance.

There are five broad categories of goals commonly pursued for e - governance. e - Governance is a means to accomplish these broader social goals, goals that move beyond mere efficiency of government processes to that of overall reform and development.

- **Creating a better business environment** - technology is a proven catalyst in increasing productivity and economic growth, especially in rural and underserved communities. The use of ICT in government and the establishment of an e-government infrastructure help create a business-friendly environment by streamlining the interaction and improving the interface between government and business, especially SME's. By cutting out redundancies in procedures and emphasizing immediate and efficient delivery of services, e-government creates the conditions that attract investors / investment. This goal is highly dependent on the country, its industry strengths and its global competitive advantage. Once identified, these should be incorporated in the country's e-government strategy, with agencies, the

bureaucracy and public services aligned towards promoting these sectors. e-procurement, for example, can open new markets to local businesses by opening up the government procurement process, making it more competitive and fair.

- **Customers online, not in line** - this refers to the effective delivery of public goods and services to citizens accompanied by quick response government with minimal direct intervention by a public official.
- **Strengthening good governance and broadening public participation** - promoting transparency and accountability in government through the proliferation of ICT in management and operations also opens opportunities for citizens to be more actively involved in the policy- and decision-making processes of government. As a major tool in building a tradition of transparency and good governance, e - government can advance the fight against corruption. However, e - governance by itself will not put an end to corruption. It must be accompanied by other mechanisms to be fully effective. At the same time, e - Government facilitates the swift delivery of complete information. The broad dissemination of information helps empower citizens and facilitate informed decision-making. The transparency of information will not only further democracy but also instill a sense of accountability among government leaders and compel effective governance.
- **Improving the productivity and efficiency of government agencies** - reengineering processes and procedures to cut red tape, facilitate delivery of services, increase productivity of the bureaucracy, and increase savings are benefits inherent in e-government. More specifically, e-government can help:
  - increase government staff productivity, reduce overhead from fewer offices and less paper management, improve capacity for planning management by government (using better tools and improving access to critical information, for example, in city planning through the use of a GIS), and increase revenue as businesses and citizens actually

apply for more licenses, due to the fact that the process is much easier and less corrupt.

- induce cost savings in the medium to the long term. In the short term, however, staffing and costs tend to increase as government must offer multiple delivery platforms (both the traditional and e-government) during the initial transition.
- streamline the operations of government. Most government processes have evolved over many years, and usually involve many steps, tasks, and activities. Streamlining government processes through ICT eliminates redundant procedures and helps to reduce red tape.
- **Improving the quality of life for disadvantaged communities** - ICT makes it possible for government to reach marginalized groups / communities and improve their quality of life. This means empowering them through their participation in the political process, as well as delivering much-needed public goods and services. Ultimately, the goal of e -government is to enhance the interaction between three main actors in society—government, citizens and business—in order to stimulate political, social and economic progress in the country.

### 1.3 e - Governance World Scenario

Many countries have initiated e - governance programmes in order to make government and its agencies efficient, more responsive and transparent. Asian countries continue to dominate international e - government ratings, taking three of the top four spots in a global e - government study undertaken by researchers at Brown University. South Korea earned the top rank, followed by Singapore, Taiwan, the United States, Great Britain and Canada. The study shows that 28 % of government agencies around the world are offering online services, about the same as in 2006.

The seventh annual survey conducted by Darrell M. West, Director of the Taubman Center for Public Policy at Brown University, and a team of researchers evaluates online government Web sites of 198 countries around the globe. Most of

the world's nations have their own Web sites, but only 20 percent of people with Internet access use them, according to a 2003 U.N. World Report on the Public Sector. "e - Government at the Crossroads" reveals that 173 of the United Nations' 191 members operated web sites in 2003. In 2001, 143 nations had web sites. Only 18 countries, mostly in Africa, remain completely off-line. Among countries that have government web sites, the United States led in e-government "readiness," or the amount of information, services, and products offered over the internet combined with the infrastructure - such as telephones, computers, and internet connections - needed to access them. Most Americans who use government web sites do so to access tourism information, do research, download government forms, or get information on services. Sweden ranked second in this category, followed by Australia, Denmark, Great Britain, Canada, Norway, Switzerland, Germany, and Finland. In another ranking for "e-participation," or the government's willingness to interact and dialogue with citizens over the Internet, Great Britain beat the United States for the top spot. The rest of the list included New Zealand, France, the Netherlands, Ireland, Chile, Estonia, the Philippines, Mexico, and Argentina. Despite all the progress, only 15 governments in the world accept Internet comment on public policy issues, and only 33 allow government transactions, such as filing forms or paying fines online.

Hong Kong's one-stop Electronic Service Delivery site, for example, allows citizens to do everything from paying taxes to renewing their driver's license online. In the United Kingdom, more than half of all interaction between government and the public is now conducted online, according to the National Archives of the U.K. To preserve the information for future generations, the National Archives has begun an archive of the U.K. Central Government Web sites. The new initiative will collect, preserve, and make available online 50 government documents.

The World Economic Forum's league table measuring the impact of technology on the development of nations, places Denmark at the top of the list for technological advancement, with other Nordic countries Sweden, Finland and Norway claiming second, fourth and 10th place respectively. The same report notes that: "Denmark, in particular, has benefited from the very effective government e-

leadership, reflected in early liberalization of the telecommunications sector, a first-rate regulatory environment and large availability of e - government services.” So for a country to be considered to be technologically advanced, e-governance is a key requirement and measurement. But e-governance is not just about improving delivery of services to citizens, businesses and government employees. It is also about blending Information and Communications Technology (ICT) with administrative reforms to make government more efficient, drive down costs and increase transparency in how government departments work. If implemented properly, it can be an asset for the un-served and under-served areas in India and help drive new levels of efficiency to government services in India.

Electronic invoicing in Denmark saves businesses an estimated 50 million Euros per year, and administrations – hence taxpayers – between 120 to 150 million Euros. If this example could be replicated across all of the EU it could save 15 billion Euros per year. In Japan, the e-Japan Strategy emphasizes the development of local e-governance schemes, including self-evaluation of online government services, allowing citizens' feedback and participation.

In Africa, many countries are developing National ICT's Strategies that, in some cases, are already producing positive results and are leading (or can lead) to success. Some examples are: Egypt, Ghana, Kenya, Mauritius, Morocco, Nigeria, South Africa and Tunisia. Many other countries are embarking on national ICT's strategies and programmes, often "mixed" with administrative reforms, good governance strategies, or decentralization programmes. The project of "Application of Hand-held Computers in the Delivery of Health Services in Uganda", managed by the Uganda Health Information Network, aims at determining cost-effective ways of enhancing access, sharing and communication of critical health and medical information in a timely and efficient manner for the benefit of health care providers, managers and planners, in the Ugandan technological and institutional context. UK is using e - Government services to deliver local democracy and reaching out to the next generation of voters with councilor blogs, democracy themed games and national school level debates and voting programmes.

#### **1.4 e – Governance Indian Scenario**

India is a land of diversity. This diversity spans across culture, tradition, language, geography and the economic condition of the people. It is a nation that has a significant number of people who are below the minimal socio-economic benchmarks. This includes rural and urban poor, women in rural areas, street children, people belonging to historically disadvantaged castes and people living in less developed areas. The vulnerability of these sections of society has increased with globalization and this section is prone to become even more marginalized - economically and socially. Successive governments have committed themselves to addressing these divides, but effective implementation of various economic development programmes aimed at individuals belonging to these sections of society has proved an elusive goal.

Government of India (GoI) recognizes that e-governance, in the context of developing countries, provides an excellent opportunity for improving governance. Used imaginatively, it is a trigger for introducing various administrative reforms. These changes could not only go a long way in improving the quality of life of these sections of society, but could actually provide them more equitable access to economic opportunities than ever before. In this context, the Government of India views e-governance as a strategic tool for transforming governance and improving the quality of services provided by the government to its people.

India's experience in e-governance / ICT initiatives has demonstrated significant success in improving accessibility, cutting down costs, reducing corruption, extending help and increased access to un-served groups. In this phase of experimentation, e-government initiatives have reached millions of people belonging to these sections of society. Improved access to information and services has provided economic and social development opportunities, facilitated participation and communication in policy and decision-making processes and empowerment of the weakest groups. This has led to fostering a sense of ownership and building of social capital, which in turn, constitute a basis for local revitalization.

The Government of India, in various forums, has indicated its commitment to provide efficient and transparent government to all strata of society. e-governance is

now mainly seen as a key element of the country's governance and administrative reform agenda. The Government of India aspires to provide:

- governance that is easily understood by and accountable to the citizens, open to democratic involvement and scrutiny (an open and transparent government)
- citizen-centric governance that will cover all of its services and respect everyone as individuals by providing personalized services.
- an effective government that delivers maximum value for taxpayers' money (quick and efficient services)

India has recently announced a national level of e-governance plan under NeGP. NeGP eventually lead to develop a one-stop government portal. This is supposed to be the mirror of the government, where the user will be able to access integrated public services through a single point even if these services are actually provided by different departments or authorities. The higher the level of e-government maturity in India the easier it will be to achieve a one-stop government portal. Integration and interoperability (vertical and horizontal) are two vital technical issues of the one-stop portal. The introduction of e-government systems in India started out in the late 60's and early 70's with an emphasis on computerizing applications for defence services, for the economic planning department, for the national census, for elections and for tax collections etc. The government mainly did the spending and the development was entirely done by internal information technology departments.

In the 80's the National Informatics Centre (NIC) was established, whose main role was to implement and support large-scale computerization projects in India. The 90's saw the emergence of a national IT initiative by the Government of India with corresponding plans in the states. External funding was sought from agencies such as the World Bank and external parties such as NGO's and private corporations were involved in the computerization efforts. The focus also shifted to external e-government systems that could provide services to the public.

The 90's saw a spate of e-government initiatives in India, in various states, that addressed issues of land records management through digitization, issue of government documents to public and collection of various dues via kiosk-based centres and the use of GIS-based services for assisting agriculture.

Currently, in the year 2005, the government in India is poised to spend Rs. 120 billion on e-government initiatives. The results of such efforts are not very promising, though: most e-government systems that are implemented in developing countries around the world fail, with the failure rates at over 80% (here 50% are partial failures while the rest are total failures. Many reasons are attributed to such high failure rates, most of which have to do with a lack of direction and continued support by the responsible government department. Projects are, apparently, conceived of as a response to the push to 'computerize' from the government without a clear understanding of the problem being addressed or the adequate design of such systems. Or, projects are conceived of to address certain immediate problems without analyzing the deeper causes of the problem. Various commentators provide different rationales for the deployment of e-government systems in India, not least of which are the arguments for leap-frogging development - the idea being to push India into a developed country status, technology-wise, without going through the pains of the technology development and adoption process. Other reasons include bringing about efficiency and transparency in governance, a much-needed cure for India's various ills. The arguments about development and the need for e-government often include the benefits accruing to Indian industry and markets and the government, however, few focus on the needs of the most marginal and poor sections of society.

### **1.5 e - Governance scenario in Jammu & Kashmir**

The Government of Jammu and Kashmir (J&K) has set up an exclusive e-Governance Agency called the Jammu and Kashmir e-Governance Agency (JaKeGA), with an empowered Board of Governors, headed by the State Chief Secretary. JaKeGA registered as a Society under the Societies Registration Act on January 14, 2009, is supposed to provide with the much-needed flexibility to



implement IT (Information Technology) related projects throughout the State and to receive grants directly from the Government of India and other donor agencies. Modeled on similar agencies working in many progressive states like Karnataka and Punjab, this JaKeGA shall serve as the single point responsible for procuring all types of IT resources and services like hardware, software, power, printing and networking peripherals for Government agencies. This will help streamline the IT-related activities of all the departments and help them save time and money by providing a single point mechanism for designing, developing, procurement and training. JaKeGA shall also have the mandate to create permanent, temporary or project-based positions that shall help boost the employment prospects of the thousands of IT professionals in the State. Government of Jammu & Kashmir has taken many IT/ e - governance initiatives in the State. Information Technology Department was formed in 2002 and NIC State unit is working in the State from the inception since October, 1988. NIC and IT Departments are working hand in hand for successful implementation of the initiatives in the State. The various initiatives launched by the Government of Jammu & Kashmir to improve service delivery system in various public offices are as :

### **1.5.1 Community Information System**

- 110 Community Information Centers (CIC) have been set up across the remotest of regions in the J&K among the sanctioned 135 CIC's for the State. These have been done with an aim to bring Information Technology to the grass root level of people. These centers have also been instrumental in taking information technology to the remotest part of J&K in terms of providing training and other IT facilities to the rural mass. In Jammu & Kashmir, there is a lot of potential for using the CIC's as service delivery centres for different Government services.
- An elaborated system has been implemented in Electoral department to computerize the electoral rolls for J&K State. System is designed to handle complete details of voters, constituency, address, profile of candidates and declarations. Complete details are made public using a comprehensive

dynamic web portal. The system is evolved to handle data entry in URDU language and same data is translated in Hindi also and available on the portal.

- The NIC State unit hosts and maintains the official website of the Government of Jammu & Kashmir. The Website boasts of a rich repository of information useful for the Government employees as well as the common masses, ranging from the latest News, employment opportunities in the Government, tenders being floated by the Government to the latest Promotions and transfers taking place in the Government.
- The Website of Transport Department, Government of Jammu & Kashmir is providing forms for all License & Registration related transactions in the site, applicable fee details, guidelines for different transactions; statistical data in terms of Vehicle Population & Revenue Collection is displayed in the site. Apart from it, the Road signs, Distance & Fare details are also provided in the site and the Token Tax rates for different category of Vehicles are mentioned in the site. Transport Department has also implemented two application software's named Vahan and Sarathi for automation of registration related transactions and license related transactions in the pilot location of RTO, Lakhanpur. The live run is going on in the office for last three months. Similar kind of portals with various services and information's for the citizens are available for the Finance, Employment, Tourism, Vigilance, Horticulture Department. The tenders of the State are also floated in the web sites of the State.
- Computer training is being imparted to Government employees with an aim to train them all in the basic operations of the computers along with the upgraded training by NIC state unit staff, IT Department or by private institutes also. IT Department has formed resource team to assist other Departments in their IT needs. The cell also attends to any hardware and software problems being faced by the Departments, rectifying networking faults, coordinating implementation of various software packages.

### **1.5.2 Khidmat Centre**

J&K Bank has taken a phenomenal initiative to make information and knowledge reach all corners of the State. Recognizing the vision of a rural India that goes hand in hand with its urban counterpart in having unlimited access to all Government services, Jammu and Kashmir Bank has embarked upon a mammoth e-Governance Project. Bank has taken up the establishment of Common Service Centres (CSCs), also known as Khidmat Centre that were identified as one of the 4 pillars of the NeGP of the Government of India. As a subsidiary of Jammu & Kashmir Bank, has delved into bridging the digital divide between urban and rural Jammu & Kashmir. J&K Bank has delved into Infrastructural Development pertaining to set up, operate and manage as many as 1109 CSCs across 22 Districts. Till date J&K Bank has rolled out 500 plus CSCs across the state. Which will have to offer over 30 services, including digital, Loan Documentation, Core Banking Facilities, photography, digital videography, NREGA photograph, NREGA data collection, government form submission, information regarding electoral processes-addition and deletion, date entry (LA and LR), DTP, ROR, Internet, death certificate, birth certificate, property tax payment, agricultural soil testing, agricultural diagnosis, e-Learning, electric bill collection (WBSUEDCL), BSNL bill collection, mobile top ups, railway reservation, LIC premium collection, advertising, job portal, gas booking, and examination results. Traditionally, Khidmat means to Help Out. Khidmat Centre, true to its name, is committed towards devising ways to make information and knowledge available to one and all is the greatest of services to mankind. The Khidmat centers have evolved as one stop service centre to provide extendable services to rural areas with better infrastructure and connectivity.

#### **Objectives of Khidmat Center**

##### **1. Making information and knowledge accessible**

Khidmat Centres endorses and transmits information and knowledge. Consequently, Khidmat Centre formulates and allocates information and knowledge available to one and all since according to us just and equal distribution of knowledge and information is the greatest service to the mankind and knowledge is undoubtedly the most authentic source of

power. Therefore, Khidmat Centre would always hold the task of imparting knowledge and information as one of its core objectives in order to eradicate the dividing lines between the HAVE and HAVE NOT's, well-informed and ignorant, and powerful and defenseless.

## **2. Generating and Enhancing Value by Identifying, Financing and Developing Growth Businesses**

Taking an active interest in a wide variety of projects like Common Service Centers (CSC's) in rural India, communication infrastructure, e-governance integrations and citizen services, but with specialist knowledge of the natural resources and emerging technology sectors, Khidmat Centres works with governments, corporate and Village Level Entrepreneurs (VLE's) to expand their market and bring value-added services to the customers.

## **3. Government Advisory Services**

To develop and expand the system that effectively streamlines internal governmental processes and operations to improve functioning of the government. This in turn facilitates almost flawless transaction of information and services in the rural areas. Khidmat Centre consultants from the government and information technology sectors are culturally sentient and have the potential to deliver end-to-end solutions. These resourceful consultants bring the right experience and expertise to design the reference architectures and roadmaps to achieve the e-governance objective.

### **1.5.3 e – Governance initiatives launched by Directorate of Information Technology & Support System – University of Kashmir**

The University of Kashmir is one of the leading University in Northern Indian having established centre of excellence for delivering of IT & Support Services. The development of e – Governance architecture and framework within the University Governance System have made it versatile agency in IT

Consultancy and Support Services. Owing to the significance which the Information Technology has achieved over the past several years in the areas of employment, education and governance the University established a separate Directorate of Information Technology & Support System (IT & SS) in December 2007. The establishment of the Directorate ensures active contribution of the University in the development of the Society through the capitalization of opportunities associated with the Information technology. The Directorate serves as a Central Resource for capitalizing the enormous opportunities associated with Information Technology. The establishment of the Directorate is planned with following major objectives:

1. Achieve excellence in three areas of Information Technology which includes Multimedia Systems, Software Development & DBMS.
2. Bridge the gap between Academics & Industry through the establishment of Advanced Centre of Information Technology which shall also include development of the necessary support structure necessary for the development of the IT Industry.
3. Provide IT support to the local conventional Industry by establishing Computer Aided Designing Centre.
4. Implement & Manage e-Governance in the University System and provide necessary support to other Organizations in the e-governance plans.
5. The present faculty strength of the directorate is 4 which include one Director & Three Information Officers/Technologists.

The Directorate in its first year of establishment has the distinction of getting financial support for one of its major projects designed to implement e-Governance in the University examination system. The brief of the project is as under:

## **CURRENT PROJECTS**

### **e- Governed Examination**

Sponsoring Organization: Department of Information Tech., Govt of India, Lodhi Road, New Delhi Sanctioned Amount 4.43 Crore. The project ensures e-governance of all the activities related to the registration and examination of students within two years. Under this project Directorate of IT &SS is also providing appropriate connectivity to all the affiliated government colleges across the valley and Ladakh division.

### **Scope of the Project**

- Appropriate connectivity to all the affiliated government colleges across the valley and Ladakh division.
- Connectivity and development of IT Infrastructure in University Departments & Centers
- Automation of Entire Examination Wing of the University
- Period of Completion – 2 Years

### **Main Features of the Project**

- Establishment of Information Centre at all the affiliated Govt. colleges (40).
- Each University Department/Centre is also provided the requisite Infrastructure.
- Automation of all the Examination related activities.
- Establishment of Data Centre.
- Online Services for Students, Colleges/ Departments, Paper Setters, Evaluators & other stakeholders involved in the System.
- Development of SMS based information system.
- Entire Software Solutions are being developed in-house

### **Establishment of Skill Development Programme/ Centre of State Department of IT**

The project is sponsored by State IT Department and focuses on up gradation of skills of IT professionals and other students to make them employable in the market at the national and international level with sanctioned expenditure of Rs

2.72 Crores. In its essence it is an industry training programme which, besides sharpening skills, provides for placement of trainees as well.

#### **Establishment of Centre of Excellence**

The project has been approved by the University Council and shall be sponsored by the state government with sanctioned budget of Rs 18.76 Crores. It provides for establishment of an advanced Centre of Excellence where high-end industry focused programmes/ courses will be conducted exclusively for IT professionals.

#### **Centre for VLSI and embedded System 3.95 Crores**

The projects are approved by Ministry of IT and in progress.

#### **e - Governance University Administration MC & IT New Delhi About Rs 7.50 Crores**

The project is upcoming and will focus on e-governing the entire University establishment covering all its academic and administrative constituencies. The Ministry has given green signal to it and will be taken up soon.

### **1.5.4 Secretariat Knowledge Information Management System (SKIMS) / SMARTGOV**

J&K IT Department has implemented Secretariat Knowledge Information Management System (SKIMS) / SMARTGOV, which include combination of total 274 functionality cater to the day to day working of almost all the department and keeping the record of all secretariat related communications. SmartGov mainly handle the email communication, scheme management, CM / Governor communication and knowledge management related to departments of J&K State. The J&K Government has drafted an e-governance roadmap of implementation of an e-governance System. The detailed roadmap has been drafted keeping in mind the goal of arriving at a structured roadmap for all the e-governance initiatives that will be undertaken by the Govt. of Jammu & Kashmir for the next 3-4 years. The roadmap tries to align the vision of the State Government with the National e-Governance Action Plan (NeGP) formulated by Department of Information Technology, Government of India. During the process of preparation of this roadmap

for the State, a detailed study of 30 Departments of the State was undertaken and arrived at a list of 18 priority departments for the state government to focus for the first wave of computerization.

The list is a healthy mix of State Mission Mode projects, Core Infrastructure Projects, Core Application projects and new projects identified by the State, which are considered critical and important from the State's point of view. The approach for this exercise included study of the functions of the departments, critical analysis of the current e-governance initiatives in the Department and need analysis for future requirement of the departments. The socio economic analysis of the state was also done at the same time to prioritize the initiatives and the stakeholder's needs and expectations were analyzed for the identification of the critical parameters for success of the projects.

#### **1.5.5 The J&K road map have categorized applications at three different levels**

- **Core Infrastructure** - Core Infrastructure will be the base for all applications across the State, for e.g. SWAN, Data Centre etc.
- **Core Applications** – Applications, which are common across all the departments, for e.g. HRMS, e- Procurement etc.
- **Group Applications** – Applications, which are common across a few departments of the state, for e.g., GIS, Grievance Redressal etc.
- **Departmental Applications** – Applications which are specific for the department, for e.g., Inventory Management system for Food & Civil supplies, Disease monitoring system for Agriculture department etc.

#### **1.6 Role of ICT to deliver promises of good governance**

The emergence of Information and Communications Technology (ICT) has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments. What had begun as a faster, more accurate and simpler means of word-processing quickly lent itself to being used as a tool for processing and tabulating data as an aid in decision making.



With growing computerization and increasing internet connectivity, this process has presently reached a stage where more and more users are motivated to modifying their ways of doing things in order to leverage the advantages provided by ICT. In other words, this has led to ‘business process re-engineering’. So far as governments are concerned, the coming together of computerization and internet connectivity/web-enablement in association with process re-engineering, promises faster and better processing of information leading to speedier and qualitatively better decision making, greater reach and accountability, better utilization of resources and overall good governance. In the case of citizens, it holds the promise of enhanced access to information and government agencies, efficient service delivery and transparency in dealings and interactions with government.

With the increasing awareness among citizens about their rights and the resultant increase in expectations from the government to perform and deliver, the whole paradigm of governance has changed. Government’s, today, is expected to be transparent in its dealings, accountable for its activities and faster in its responses. This has made the use of ICT imperative in any agenda drawn towards achieving good governance. It has also led to the realization that such technologies could be used to achieve a wide range of objectives and lead to faster and more equitable development with a wider reach. In its Fourth Report entitled ‘Ethics in Governance’, the Commission had clearly stated that the tools of modern technology such as Information and Communications Technology (ICT) should be used to transform the relationship of the government with its constituents, citizens and businesses, and also between its own agencies. e - Governance is the logical next step in the use of ICT in systems of governance in order to ensure wider participation and deeper involvement of citizens, institutions, civil society groups and the private sector in the decision making process of governance better. The fundamental issue of accountability and transparency in the working of public offices and enterprises is efficiently regulated by the e–governance initiatives.

## 1.7 Challenges to e - Governance

Like any government infrastructure project, e- governance can be done in phases and the costs of implementation will depend on current infrastructure availability, supplier and user capabilities, and mode of service delivery (whether through the internet or through telephone hotlines and one-stop shops). The more complicated and sophisticated the kind of services the government wants to offer, the more expensive it is. Governments should focus on small, self-financing or outsourced projects. Because e-government projects must be financially sustainable, there must be a revenue/ cost-reduction model in place from the beginning. Smaller projects with a clear revenue-generation strategy and minimal initial investment are the most likely to be sustainable over the long term. For instance, Web sites are one of the easiest and cheapest ways to achieve high impact e-government with a minimum of investment. e-Government projects are, more often than not, long-term endeavors, requiring large capital infusion in software, hardware, infrastructure and training. A viable financing plan should not only pay for the immediate needs to jumpstart e-government; it must also consider its long-term financing options for the sustainability of the project. There are various business models for funding e-government projects, and the private sector plays a critical role in these. Under partnership arrangements, the private sector builds, finances and operates public infrastructure such as roads and airports, recovering costs through user charges. Various financing schemes exist—from soft and development assistance loans from donor/multilateral aid agencies to partnerships and outsourcing deals with private third party vendors under special financing schemes (e.g., the Build-Operate-Transfer or BOT scheme) that can minimize the initial cost to government. BOT and its variants are usually the favored financing models / arrangements for government projects that require large and immediate financing from the private sector. Under BOT, the private sector designs, finances, builds, and operates the facility over the life of the contract. At the end of this period, ownership reverts to the government. A variation of this is the Build-Transfer-Operate (BTO) model, under which title transfers to the government when construction is completed. Finally, with Build-Own-Operate (BOO) arrangements, the private sector retains permanent ownership

and operates the facility on contract. Cooperation, rather than competition, with the private sector can facilitate effective e-government. Government can encourage private sector investment by complementing and supporting private sector efforts rather than duplicating them.

The key to e-government is to improve citizen access to service delivery, not further expand the role of government. Government should not attempt to create products and services where public-private partnerships or private service providers can adequately provide these products and services more efficiently and effectively. In Indian case the governments both –the Union and the States must make earnest efforts to complete the daunting, but formidable task of quicker and effective e - government programs by:

- making a policy choice in favour of computerization to overcome radically the even if it requires huge investments for the purchase of hardware and software;
- serious efforts would be required to mobilize resources for this arduous job. One way to deal with the situation could be that governments enter into arrangements for leasing of computers. This would reduce initial heavy capital investments. There are a large number of agencies which would like to fund the leasing to the departments. Ministry of Finance can be asked to provide concessions to these agencies;
- establishing complete connectivity between various ministries and departments so that transfer of files and papers could be done through internet thereby choosing efficacious speed as an alternative to manual labour. To make this really effective, there is a need to make databases of various departments compatible with one another. Thus, interoperability of e-governance projects is of vital importance if the citizens are to feel the benefit of IT in day to day life;
- supplying information to the public in a language that they understand and are comfortable with, and generally, it is the local language. As,

technology is available by which transliteration from English into other languages can be made. Therefore, the problem is manageable provided there is enough motivation to do this onerous task;

- changing the mindset of the government employees who are used to working only in the manual mode. This is a big task and needs patience and careful planning. Workshops, seminars, and training programmes are required to be organized to spread awareness among the employees at all levels;

### **1.8 Implementation issues of e - Governance**

There are many hindrances in implementing e-governance. These are inadequacy of funds, infrastructural issues, inadequate manpower, citizen readiness, data backlog, legal framework readiness, maintenance and so on (Jayaradha and Shanthakumar, 2003). A NASSCOM report puts e-governance in India as a rapidly growing segment with three southern states (Andhra Pradesh, Karnataka, and Tamil Nadu) making significant progress. It however, suggests that to achieve desired benefits, several pro-active steps need to be taken by governments to address the operational, economic, personnel, planning and implementation issues, which are the bottlenecks to effective implementation of e-Governance (Rao, 2003).

Modern technologies demand a new way of thinking about service and business process design, new ways of working, the development of new skills, the application of traditional skills more effectively and a more flexible approach to working patterns and practices. According to Robbins (1998) Structural inertia (built-in mechanisms) is a big hindrance to any change process. Another impediment is people's resistance to any change. It becomes very essential to design such employee-oriented Human Resource policies as would enable the organisation to prepare employees for change and also help them absorb rather than adsorb the changed systems.

There are cultural barriers which refer to values, beliefs, mindset, practices and customs of people, which pose the biggest challenge in installing a new system. Cultural barriers exist at employee level, officers' level and political level (Sharma and Palvia, 2004). The need is to create a rich and adaptable culture that encourages

values such as team work, empowerment, trust, and sharing which is opposed to closed, rigid and mechanistic bureaucratic structure of the government organizations. The shift from being an 'organisation' to becoming 'e - organisation' affects organisation structure and management styles as it results into re-distribution of power and control. It also changes the orientation of the organisation. An e-organisation needs to focus on the following aspects:

- develop customer orientation, understand the needs of the user, find new ways of presenting information to meet customer not employee needs; design feedback mechanisms;
- manage customer relationships;
- streamline processes;
- communicate better;
- organise information;
- work more flexibly;
- make better decisions;
- coordinate activities better

Keeping the above requirements in view, the key issues that need to be addressed in the context of personnel include: Doing job analysis again to redefine job responsibilities and other job dimensions of various jobs affected by the change.

- Redesigning the recruitment and selection process in view of the changing manpower needs.
- The identification of competencies of technological environment to enable all employees to operate effectively in a fully electronic working environment;
- Developing a performance management program that would incorporate changes in job responsibilities and requirements and which is development oriented.
- Educating employees about their new legal and corporate responsibilities and obligations;
- Developing knowledge workers capable of multi-tasking (Riley 2003)

- Evolving an environment that would encourage and reinforce the any positive behaviour exhibited by employees.
- Focus on better coordination of efforts between various government agencies as it will affect program effectiveness and efficiency.
- In addition, effective implementation necessitates changes in decision making processes, involving faster decision mechanisms, less red-tapism, changes in organisation structure making it flatter and higher delegation of authority (Garg and Khataokar, 2003)
- There is a need to integrate the new vision with the structure, culture and strategies of the organisation. All the four dimensions of the organisation should perfectly fit into each other like the pieces of a jig-saw puzzle for the best results. The problem faced may be also due to the fact that one or more than one of the four of these dimensions are not complementary with other dimensions.

### **1.9 Best practices of e - Governance in India**

India has been harnessing the benefits provided by the Information & Communication Technologies (ICT) to provide integrated governance, reach to the citizens faster, and provide efficient services and citizen empowerment through access to information. The aim is to redefine governance in the ICT age to provide SMART GOVERNANCE. Several significant initiatives have been taken at the Centre and the State level in this direction. The Central level, the government has extensively promoted the use of IT in managing its internal processes and has drawn up a 'Minimum Agenda of e- Governance'. Further Ministries / departments have provision of 2 to 3 percent of their annual budgets to be spent on IT related activities. The government has enacted IT Act 2000 which provides legal status to the information and transactions carried on the net. Several State Governments have also taken various innovative steps to promote e- Governance and have drawn up a roadmap for IT implementation and delivery of services to the citizens on-line. The applications that have been implemented are targeted towards providing G2B, G2C and B2C services with emphasis on use of local language.

Recognizing that e – Governance is playing an increasingly important role in modern Governance, various agencies of the Government and civil society organizations have taken a large number of initiatives across the country. Indicated below are some of the key initiatives taken in the country across some of the important citizen/business related departments:

**Customs and Excise (Government of India)**

- 98% of export and 90-95% of import documentation computerized
- Electronic filing through ICEGATE at 3 locations (Mumbai, Delhi, Chennai)
- 80% of Service Tax returns electronically processed

**Indian Railways (Government of India)**

- Anywhere to Anywhere reservation from Anywhere
- Electronic Booking of tickets on select sectors
- Online Information on Railway reservation on Internet

**Postal Department (Government of India)**

- Direct e-credit of Monthly Income Scheme returns into the investors accounts
- Dematerialization of Savings Certificate (NSC) and VikasPatras (KVP), offering full portability

**Passport / Visa (Government of India)**

- 100% passport information computerized
- All 33 Regional Passport Offices covered
- Machine readable passports at some locations

**AP Online (State Government of Andhra Pradesh)**

An Integrated Citizen Services Portal providing citizen centric services such as: Birth/Death Certificates, Property Registration, Driver’s License, Govt. Applications & Forms, Payment of taxes / utility bills etc.

### **Bhoomi – Automation of Land Records (State Government of Karnataka)**

It provides computerized Record of Rights Tenancy & Crops (RTC) - needed by farmer to obtain bank loans, settle land disputes etc. It has also ensured increased transparency and reliability, significant reduction in corruption, exploitation and oppression of farmers. This project has benefited 20 million rural land records covering 6.7 million farmers.

### **CARD – Registration Project (State Government of Andhra Pradesh)**

Computerization Administration of Registration Department (CARD) impacting 10 million citizens over a period of 3 years. It has completed registration of 2.8 million titles with title searches made in 1.4 million cases. The system ensures transparency in valuation of property and efficient document management system. The estimated saving of 70 million man-hours of citizen time valued at US\$ 35 mil (investment in CARD - US\$ 6million). Similar initiatives in other states like SARITA (State Government of Maharashtra) STAR (State Government of Tamil Nadu), etc. have further built upon this initiative.

### **Gyandoot: Intranet in Tribal District of Dhar (State Government of Madhya Pradesh)**

This project offers e – Governance services including online registration of applications, rural e-mail facility, village auction site etc. It also provides services such as Information on Mandi (farm products market) rates, On-line public grievance redressal, caste & income certificates and Rural Market (Gaonka Bazaar).

### **LOKMITRA (State Government of Himachal Pradesh)**

- Offers e – Governance services:
  - Online registration of applications,
  - Rural e-mail facility, village auction site etc.
- Key services provided to citizens
  - Information on Mandi (farm products market) rates
  - On-line public grievance redressal
  - Sending and receiving information regarding land records, income certificates, caste certificates and other official documents.
  - Market rates of vegetables, fruits and other items



**e - Mitra - Integrated Citizen Services Center (State Government of Rajasthan)**

- Implemented using a PPP (Public Private Partnership) model
- Private partner paid by the government department / agency
- G2C services like:
  - Payment of electricity, water, telephone bills
  - Payment of taxes
  - Ticket Reservations
  - Filing of Passport applications
  - Registration of birth/death
  - Payment by cash/cheque/ credit card

**Project: e-Seva (electronic Seva)**

Launched on the 25th of August 2001, electronic seva (e-Seva) is the improved version of the TWINS project launched in 1999, in the twin cities of Hyderabad and Secunderabad in Andhra Pradesh. e Seva centers offer 118 different services like payment of utility bills/taxes, registration of births/deaths, registration of applications for passports , issue of births/deaths certificates, filing of Sales Tax returns, Trade licenses of MCH, B2C services like payments of Tata Teleservices, Reliance, sale of Airtel Magic cards. Kalia's (2005) research on e-Seva in Andhra Pradesh illustrates potential positive impacts. In case of e- Seva (earlier known as the TWINS project) after the successful implementation of the pilot, private sector partners were involved to give citizen-centric services. The government supported the system with physical infrastructure and acted as the regulator. This project has won the confidence of citizens and has made government more creditable, responsive, efficient and transparent. This model also shows the potential benefits of involving private partners (Indo-Asian News Service 2006).

**Project: FRIENDS**

Fast, Reliable, Instant, Efficient Network for the Disbursement of Services is part of the Kerala State IT Mission. FRIENDS counters handle 1,000 types of payment bills originating out of various PSUs. The payments that citizens can make

include utility payments for electricity and water, revenue taxes, license fees, motor vehicle taxes, university fees, etc. Firewalls safeguard data from manipulation.

**Project: Gyandoot**

The Gyandoot project was initiated in January 2000 by a committed group of civil servants in consultation with various gram panchayats in the Dhar district of Madhya Pradesh. Gyandoot is a low cost, self-sustainable, and community-owned rural Intranet system (Soochnalaya) that caters to the specific needs of village communities in the district. Thirty-five such centres have been established since January 2000 and are managed by rural youth selected and trained from amongst the unemployed educated youth of the village. They run the Soochanalayas (organised as Kiosks) as entrepreneurs (Soochaks); user charges are levied for a wide range of services that include agricultural information, market information, health, education, women's issues, and applications for services delivered by the district administration related to land ownership, affirmative action, and poverty alleviation.

**Project: VidyaVahini**

This portal provides the opportunity for schools, teachers and students all across the nation, to express and share their creative and academic potential via the internet. The portal aims at creating such an environment by providing facilities for Content Development, Content Deployment and collaboration. Shiksha India is a non-profit organization launched in December 2001 to equip schools with the 5 Cs: Computers, Connectivity, Coaching (teacher Training), Content and models of Commercial sustainability. The Ministry of Information Technology in the project VidyaVahini and Ministry of Human Resources under the CLASS scheme which aims to connect 60,000 schools (approximately 20 million students) across the country in next five years.

**Project: STAMPS & REGISTRATION SOFTWARE**

The Stamps and Registration Department of a State is typically one of the top revenue earners for any Government. Stamp & Registration software provides efficient government citizen interface, and also enables enhanced revenue earnings

for the Stamps and Registration operation. The heart of this application consists of the Registration and Valuation module. Other modules are the Networking and Scanning modules that enable exchange of information securely across departments, and "electronic copying" of the registered documents thereby enabling return of the original document within few minutes of presentation.

**Project: SETU- A bridge for facilitation between Citizen & Government**

The Integrated Citizen Facilitation Centres (SETU) is an approach in this direction. At present there are multiple points of interaction between the citizen and individual departments spread over so many different Government offices. A one-stop service center for all such routine matters must be made available. To create foundation for citizen centric e-governance, at district headquarters & subsequently at taluka headquarters

- Single window clearance of 83 important certificates (includes renewal of leases, permits and licenses)
- Quick redressal of public grievances
- Common registry of letters, petitions for all sections of the office.
- On line pendency monitoring of all above
- To provide services after office hours & on holidays also in order to save Time, Money & Energy of the public.

**Project: JAN MITRA**

Jan Mitra is an integrated e-platform through which rural population of Rajasthan can get desired information and avail services related to various government departments at kiosks near their doorsteps. To achieve this end, a system has been integrated using IT tools. This project has been successfully implemented on pilot basis in Jhalawar, Rajasthan. Jhalawar is the first district among five project location districts in India, where the project has been implemented before schedule.

**Services**

- e - Governance Services
- Public Grievance Redressal System, Online Submission of Application forms
- Land & Revenue Records.

- Public Information Services
- Ongoing Development Works, Public Distribution System, BPL List, Electricity
- Priority Connection List, Drinking Water Resources, Village Schemes, Citizen
- Charters and Immovable Property rates
- Public Awareness Services
- Health Information, Agriculture information, Education information and Animal
- Husbandry Information
- Agriculture Mandi Rates Daily Mandi rates and Weekly / Monthly Mandi rates
- Village to Village Services Gram Haat and Event Information
- Messaging Services e-mail Facility across Departments / Kiosks and Broadcasting of Bulletin.
- MIS for District Collectorate and District level officers for effective monitoring of information flow.

**Project: DRISHTEE-Connecting India Village by Village**

Drishtee's software platform enables e – Governance and provides information about and access to education and health services, market-related information, and private information exchanges and transactions. Drishtee offers its network platform to any service provider who wishes to market its range of services to rural India by plugging their application in with Drishtee's s/w offered directly at the village level. Thus, the Drishtee offering is wide in scope and highly scalable. It aims to be the 'window to the world' for Indian villagers

**Project: Web CITI(Web based Citizen-IT Interface)**

WebCITI provides web based interface to citizens seeking services from district administration. These include issuance of certificates such as death/birth, caste, rural area etc; licenses such as arms license, permission for conferences/rallies etc and benefits from socio-economic schemes.

**Project: AARAKSHI**

Aarakshi is an Intranet based system that has been developed and implemented for Jaipur City Police. This innovative system enables the city police officers to carry out on-line sharing of crime & criminal data bases, carry out communication and perform monitoring activities.

**Project: FAST - Transport Department Automated**

The ‘Fully Automated Services of Transport’ is another e – Governance project implemented in the cities of Andhra Pradesh. The objective of FAST is to make the transport department citizen friendly in its functioning and provide SMART services to the public. It is intended to build comprehensive database and provide on-line services to the public covering all gamut of services of Transport Department like Issue of Driving Licenses, Registration of Motor Vehicles, Issue Permits, Collection of Motor Vehicle Taxes, etc. All the offices in the state would have interconnectivity through APSWAN.

**Project: VOICE (Vijayawada Online Information Centre)**

Launched in June 1998 and implementation was completed in December 1999 to deliver municipal services such as building approvals, and birth and death certificates, to the people of Vijayawada. It also handles the collection of property, water and sewerage taxes.

**Project: MUDRA (Municipal Corporation towards Digital Revenue Administration)**

The system will be useful for the Holding owners, Tax collectors, officials at headquarter levels and Circle levels. They will have total picture of tax collection that will help the decision makers to take suitable decision for further improvement. It is designed to computerize the overall functions of tax collection system of Patna Municipal Corporation.

**Project: KHAJANE (Online Treasury System)**

The online treasury project, KHAJANE, computerises all the 216 treasury offices in Karnataka and is connected to a central server at the State Secretariat

through VSAT (Very Small Aperture Terminal). It provides regular updates regarding the State expenditure and receipts to the central server. KHAJANE aims to bring about a more transparent and accountable system of financial transactions and also discipline in operations and management, resulting in efficiency and cost savings for the government. This system eliminates duplication of data entry and maintenance of individual treasuries and enables uniform replication of modified data at the central server.

**Project: e Cops** (e- Computerised Operations for Police Services)

Launched on the 17th of July 2002, as part of the VISION 2020, the state's focus on modernization of police administration takes the shape of e - COPS. It will help police stations reduce paperwork and automate the maintenance of registers, report generation, data analysis, planning and coordination, enable the speedy detection of crime and monitor prosecutions

**Project: OLTP** (On Line Transaction Processing)

Launched in the year 2002, the project connects 16 government departments in Andhra Pradesh on a single network. The services provided include access to information such as income verification and income certificates of citizens, land cultivation details, agriculture marketing, tele -veterinary services, registration of small farmers, birth and death records, house numbering, first information reports, occupation details of residents, drinking water details and irrigation sources, etc.

**Project: TARAhaat - Achieving Connectivity for the Poor Case Study**

This project, named "TARAhaat" after the all-purpose haat (meaning a village bazaar), comprises a commercially viable model for bringing relevant information, products and services via the Internet to the unserved rural market of India from which an estimated 50% of the national income is derived. TARAhaat combines a mother portal, TARAhaat.com, supported by franchised networks of village cybercafes and delivery systems to provide a full range of services its clients.

**Project: LokMitra**

The LokMitra project was formally dedicated to the people of Hamirpur in Himachal Pradesh as a pilot phase on the 8th of May 2001. The services offered include information about vacancies, tenders, market rates, matrimonial services, village e-mail. An interesting feature is that citizens can use the IT enabled system as a grievance redress system.

**Project: Mahiti Shakti**

Launched in 2001, the portal <http://www.mahitishakti.net/> 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

**Project: Warana Wired Villages**

The key objective of this project has been to utilize IT to increase the efficiency and productivity of the existing sugar cane cooperative enterprises by setting up of a state-of-the-art computer communications network. This provides agricultural, medical, and educational information in the local language to villages around Warana Nagar in the Kolhapur and Sangli Districts of Maharashtra.

**Project: Community Information Center**

On 22 August 2002, the Prime Minister dedicated to the people of the eight North-Eastern states a new structure of localised governance called Community Information Centres. Each is well-equipped with modern infrastructure, including one server, five client systems, a VSAT, laser printer, a dot matrix printer, modem, LAN hub, TV, webcam and two UPS'. Each center has two CIC operators as managers and for providing services to the public. Basic services to be provided by CICs include Internet access and e-mail, printing, data entry and word processing and training for the local populace. Most CICs charge nominal amounts from users

for services, which helps them to meet day-to-day running expenses. To ensure future financial sustainability of this enterprise, it is proposed to use the Community Information Centers for e-entertainment. CIC program was initiated by the Department of Information Technology, Govt. of India and set up at 487 Blocks of the eight North-Eastern states viz. Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

**Project: Community Learning Center Project**

Set up between March and July 2001, the Community Learning centre (CLC) is a joint initiative between the Azim Premji Foundation (APF) and the State government of Karnataka. The government contributes towards hardware and other related expenses per CLC and the Foundation take care of management and the training of Young India fellows (YIFs) who manage the CLCs. The CLCs are used to enhance classroom learning during school hours.

**Project: Dairy Information Services Kiosk**

The DISK application targeted at the booming dairy sector has been tested for two milk collection societies by the Indian Institute of Management Ahmedabad's e - governance center. DISK has helped in the automation of the milk buying process at 2,500 rural milk collection societies and has been pilot tested in two co-operative villages of Amul dairy in Kheda district. Software called Akash Ganga has been developed with special features to enable speedier collection of milk and faster disbursement of payments to dairy farmers.

**Project: Gram Sampark**

'Gram Sampark' is a flagship ICT product of the state of Madhya Pradesh. A complete database of available resources, basic amenities, beneficiaries of government programmes and public grievances in all the 51,000 villages of Madhya Pradesh can be obtained by accessing the website. Gram sampark has three sections- Gram Paridrashya (village scenario), Samasya Nivaran (grievance redress) and Gram Prahari (village sentinel).



**Project: Akshaya**

As part of Kerala’s ambitious e-literacy campaign, Akshaya e-Centers are being set up throughout Kerala. These centers will initially provide e-literacy to one member from every household and act as ICT dissemination nodes and ITeS delivery points in every village.

**Project: Headstart**

Headstart provides computer-enabled education and basic computer skills for all students in 6000 Jan Shiksha Kendras of Madhya Pradesh. Madhya Pradesh has 6500 Jan Shiksha Kendras (cluster resource centres) located in Middle School premises in 48 districts.

**Project: Saukaryam**

Launched in the year 2002, Saukaryam, the pilot project of the Municipal Corporation of Visakhapatnam is now being implemented in other parts of the state of Andhra Pradesh as a model e – Governance initiative for local governments. Online payment of Municipal dues has been taken up as its first sub-project and other services include, Online Tracking of Building plan Status, Online Filing and Settlement Of Complaints & Grievances, Online Registration of Births and Deaths, Instant Issuance of Birth and Death Certificates, Online Tracking of Garbage Lifting.

**Project: e - Chaupal**

Started by ITC’s international Business Division as a cost-effective alternative supply chain system to deal directly with the farmer to buy products for exports is getting transformed into a meta market for rural India. The tobacco giant has already set up over 700 choupals covering 3,800 villages in four states — which include Madhya Pradesh, Uttar Pradesh, Karnataka and Andhra Pradesh — dealing with products ranging from soya bean, coffee, aquaculture and wheat.

**Lokvani Project in Uttar Pradesh:**

Lokvani is a public-private partnership project at Sitapur District in Uttar Pradesh which was initiated in November, 2004. Its objective is to provide a single

window, self-sustainable e – Governance solution with regard to handling of grievances, land record maintenance and providing a mixture of essential services.

### **Revenue Administration through Computerized Energy (RACE) Billing Project, Bihar**

The Patna Electric Supply Undertaking (PESU), which is one of the seven area boards of the Bihar State Electricity Board (BSEB), caters to the energy requirements of the Patna Urban Area. Different modules were implemented incrementally and by July 2007, payment of bills of any division at any one of the 31 collection counters as per convenience was facilitated. Bills are now being generated with a barcode and consumers can download the bills using the internet and also see the details of payments made by them.

### **Admission to Professional Colleges – Common Entrance Test (CET)**

One of the pioneering efforts was made by Karnataka. The State Government decided to conduct a common entrance test based on which admission to different colleges and disciplines was made. The allocation of seats in different colleges/disciplines is done through a process of ‘computerized counseling’ where the student can choose the discipline he/she wants – based, of course, on merit.

### **e -Procurement Project in Andhra Pradesh**

Prior to the introduction of an e-Procurement system in Andhra Pradesh the process consisted of a long chain of internal authorizations and scrutiny which necessitated several visits by the suppliers to government departments. The manual tender system suffered from various deficiencies, including discrimination, cartel formation, delays, lack of transparency etc. In order to achieve these objectives, the entire e-Procurement process was designed to avoid human interface i.e., supplier and buyer interaction during the pre-bidding and post-bidding stages. The system now ensures total anonymity of the participating suppliers, even to the buyers, until the bids are opened on the platform. The e-Procurement application provides automatic bid evaluation based on the evaluation parameters given to the system.

These improved processes have eliminated subjectivity in receipt and evaluation of bids and has reduced corruption to a significant extent.

### **e - Procurement in Gujarat**

The system of e-procurement was introduced in the State of Gujarat from October 2004 onwards. Roll out of the system was carried out in a phased manner starting from few works/items for limited departments and was made compulsory for all government departments in 2007. The project was funded by the State Government with the objective of deriving the benefits of increased efficiency from e-enablement of business processes. It aims to establish transparency in procurement process, shortening of procurement cycle, availing of competitive price, enhancing confidence of suppliers and establishing flexible and economical bidding process for suppliers.

### **MCA 21**

The Ministry of Corporate Affairs has implemented the MCA 21 Mission Mode Project under the NeGP in September 2006 and presently the project is in the post-implementation phase. The project aims at providing easy and secure online access to all registry related services provided by the Union Ministry of Corporate Affairs to corporates and other stakeholders at any time and in a manner that best suits them.

The next chapter will cover the review of literature and will undertake an assessment of the researches conducted within the domain of e – Governance on various fields of study in consideration with the present research topic.

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# Chapter – 2

## Review of Literature

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### Chapter Outline

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- Introduction
- e – Readiness Index
- Scope of e – Governance in improving Government – Citizen Relationships
- Role of e – Governance in delivering promises of good governance
- Combating Corruption with e – Governance
- Impact of e – Governance in India
- National e – Governance Plan
- Initiatives and institutions at the national level
- Initiatives and institutions at the state level
- Major impact of e – Governance on relations among citizens, politicians and public servants
- Capacity Building Measures for e - Governance

# Chapter – 2

## Review of Literature

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*An attempt has been made in Chapter 1 to trace the origin of e – Governance and its relevance to government, citizens and business enterprises. In this chapter the role of e – Governance in tackling corruption, improvements of government and citizen relationships and its impact on overall framework of governance will be discussed in the light of an elaborative review of literature available and past research studies in its systematic form depicting the relationships and influence of one component on other and its paramount significance for the basic institutions of governance and public offices.*

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### **Introduction**

e - Government is a largely amorphous concept with different meanings for different people (Seifert and Relyea, 2004). Based on the fact that e-government is a multidimensional and multidisciplinary field and its scope is a concept that is in a constant state of development (Jaeger, 2003) and given the diversity of e-government implementations, it is becoming increasingly difficult to identify a workable definition of it (Roy, 2003). There exists a number of different definitions of e-government in the literature ranging from being too narrow and specific into extremely general and broad reflecting different meanings and definitions to different people. Some of these definitions are rather narrow focusing on using ICT particularly the Internet to enhance the access to and delivery of government services to citizens (e - Services), business partners and employees (Deloitte Consulting, 2000) while others view e-government more broadly as efforts to transform

government's internal functions (e - Administration) with reinforcement of participatory elements (e - Democracy) to achieve objectives of balanced e – Government (Bertelsmann Foundation, 2002).

Organization for Economic Cooperation and Development-OECD (2003a; 2003b) views e - Government as the use of ICT, particularly the Internet, as a tool to achieve better government, or smarter government (Netcaucus, 2001) whereas The World Bank (2003) sees that ICT is used mainly to transform the relations with citizens, businesses, and other government entities. The European Commission's Information Society describes e – Governance being “for people to be online, not in line” (Europa, 2001). Reinermann (2001) sees it as “the transformation of public institutions into ‘cyberspace’ – an area without restrictions caused by space, time or hierarchies”. between the constituents and the government (Grönlund 2000; Heeks, 2001; Wyld, 2004; Dawes, 2002); the service dimension which comprises the delivery of all types of electronic services (Grönlund 2000; Turban et al, 2002; Heeks, 2001; Prins, 2001; Wyld, 2004; Dawes, 2002); and the administrative dimension including various types of management work and internal routines (Grönlund 2000; Heeks, 2001; Chadwick and May, 2003; Wimmer, 2002; Koh et al, 2006; Kearns and Taylor, 2003; Dawes, 2002). e - government is defined as “the transformation of public-sector internal and external relationships through internet-enabled operations and information and communication technology to optimize government services delivery, constituency participation and internal government processes” (Maio et al, 2002).

The analysis indicates that some e - Readiness tools, such as CIDCM, ITU, and WITSA do not include e – Governance in their assessments. The other tools (CID, KAM, NRI, and USAID) do not consider all internal factors affecting EGR; they only assess availability and number of online services, and promotion and usage of ICT by the public sector. This can be applied on additional tools included in e - Readiness literature such as, Asian Pacific Economic Cooperation - APEC (Luyt, 2006; Budhiraja and Sachdeva, 2002; Bui et al., 2003), The Computer System Policy Project – CSPP (Budhiraja and Sachdeva, 2002; Bui et al., 2003), Computer McConnell International-MI (Luyt, 2006; Bui et al., 2003), World Economic Forum-

WEF (Budhiraja and Sachdeva, 2002), Mosaic-MQ, Metric-Net-Economy Index-M-N, Information Society Index-IDC, Economist Intelligence Unit-EIU, Crenshaw and Robinson-C&R, Center for International Development & Conflict Management-CIDCM, Country Development Gateway-CDG (Bridges.org, 2005).

e-Readiness assessment tools do not undertake in depth research concerning e - government; they ignore vital elements, such as culture and technology acceptance of public officials (Dada, 2006), quality of ICT in government, strategic alignment, etc. In addition, e readiness indicators are over-simplified measurements not reflecting a veritable e – governance status, omitting more relevant dimensions difficult to be measured (Bannister, 2004). Altman (2002) concludes that there is no direct relation between e - readiness and e - governance implementation in a country; this clarifies Jansen’s (2005) recommendation to focus on the most particular factors to e – governance when attempting to measure it. Based on the analysis presented, the study confirms the inadequacy of e - readiness tools for assessing EGR. e - governance has been a growing fact of life and an integral element of the digital environment since 1996 (Porter, 2003).

The possibilities enabled by electronic commerce (e Commerce) have raised the level of expectations of citizens (Nour et al., 2008) demanding faster, better and more access to government services (McGrath and O’Reilly, 2004). Moreover, governments anticipate similar increases in efficiency, productivity improvements and cost savings similar to those experienced by the private sector (Clark, 2003). Around the world, there is a whole range of countries from highly developed to developing that have equally committed substantial resources to implementing e - Governance (Tassabehji, 2005). According to the United Nations Survey 2008 “From e - Governance to Connected Governance”, 189 out of 192 member countries (98%) operate government websites (UNDESA, 2008). e - Governance is predicated on leveraging the power of ICT to deliver services provided by governments; however, how these benefits will be reached is still a matter of controversy (Krishnaswamy, 2005).

e - Governance is still in an early stage (Leith and Morrison, 2004) and has not achieved many of the expected outcomes such as cost savings and downsizing

amongst other issues (Moon, 2002). This is mainly due to the applications which tend to reflect low levels of backstage reengineering and inter-department cooperation (UNDESA, 2003a). e - Governance is more than a technological phenomenon; it is transformative in nature (Dada, 2007), encompassing a broad spectrum of activities that are offered using ICT (Northrup and Thorson, 2003) affecting the management of human, technological, and organizational resources processes (Jansen, 2005; Pappa and Stergioulas, 2005). Most implementations activities focus on service delivery concerns with little emphasis on real transformation of the services themselves or the processes associated with their delivery (Grant and Chau, 2005). Today, e - Governance is still rather immature in practice undergoing a development process; UNDESA (2003a) reports that the failure rate of e - Governance projects has been estimated somewhere between 60-80%. Given the amount of time and money being spent today on e - Government, the public sector needs to ensure accountability by spending more time in measuring the effects of such efforts. It becomes increasingly important for governments to define measures of success and regularly monitor and measure performance (Stowers, 2004). Regular monitoring and evaluation of e - Governance readiness (EGR) is considered an important study to the success of e - Governance initiative where such assessment would raise awareness, and would describe the environment in which e - Governance development occurs confirming the viability of application of e - Governance approaches (UNDESA, 2003a). EGR Assessment would also help politicians, economists and other stakeholders to compare their initiatives with similar ones in others countries, to make sure that their efforts are moving the government in the right direction (Jansen, 2005). Benchmarking e - Governance initiatives has been developed and studied for around a few years now (Salem, 2007).

There are several well-established surveys on e - governance that employ different assessment models for readiness, digital divide and other relevant factors, leading to varying conclusions on the global state of e - government. Evaluation of e - governance is wide ranging and relatively fragmented largely because, information systems in the public sector is a process of experiential and subjective judgment



which is grounded in opinion and world views (Irani et al, 2005). There is still a need for some common understanding to allow for assessment, comparison and explanation of current efforts to vis-à-vis past and future investments in the e - Governance enterprise and on increasing cross functional efficiencies (Grant and Chau, 2005). It is thus argued that these different approaches are not likely to provide a comprehensive framework (Esteves and Joseph, 2008) that may help to assess, classify and compare different e - governance programs (Hu et al, 2005).

In all societies, the formation of public governance is largely dependent on its contextual parameters, including social structure, economic condition, political atmosphere, cultural pattern and technological trend. The nature of governance often changes depending on the intensity and speed of transition in some of these surrounding factors. In the current age, one of the most significant contextual phenomena affecting public governance is the revolution in information and communication technology (ICT). Internationally, this revolution in ICT has facilitated the globalization of the economy, business, finance and culture (Berleur, 1997; Heeks, 1999).

Today ICT constitutes the fastest growing component of the global economy and the revenue generated by the interactive information industry have reached 3500 Crores (Hariharan, 1999). Internally, within each society, the conventional forms of communication (print media, motion pictures, radio, telephones, and records) are increasingly being replaced with digital and wireless technologies such as cellular telephones, satellites, electronic mail and, above all, the internet (Gudaitis, 2001). However, the most influential dimension of this revolution is the worldwide proliferation of access to the internet. It is observed that the number of internet hosts increased from 100,000 in 1988 to over 36 million in 1998; and the number of internet users rose from 26 million in 1995 to 143 million in mid-1998, and it might reach 700 million by the end of 2001 (UNDP, 1999; Norris, 2000). This contextual phenomenon, which has changed the nature of the workforce, human relations and public expectations, represents a considerable challenge to the state to adjust its public governance (Centre on Governance, 1999).

Today public servants are encouraged and trained to be familiar with the tools and languages of ICT (Menzel, 1998). In fact, there have emerged many buzzwords — including digital governance, smart governance, net-governance, cyber-management and digital democracy — which overlap with the notion of electronic governance or e – governance (MIT, 2001b). Although the advocates of e – governance tend to define it as something that is always beneficial, a value-neutral perspective may interpret it as a new mode of governance that extensively uses advanced forms of ICT in pursuing public policies, maintaining organizational relations, interacting with customers and delivering services (Ghere and Young, 1998).

However, one of the most significant dimensions of e – governance is the creation and maintenance of websites by legislatures, ministries, agencies, political parties, local institutions, and so on. The main rationales behind this opting for e – governance are that e - governance will reduce costs and delays in delivering services, expand citizen’s access to public sector information, reinforce innovation in public agencies, increase transparency and public accountability, weaken authoritarian tendencies and strengthen civil society and democracy (Pardo, 2000; Heeks, 2001a; Norris,2001).

In line with this global trend, India has undertaken massive initiatives to introduce e – governance at the national, state and local levels. In terms of the total number of government websites, although the advanced industrial countries top the list, India is ranked seventh in the global list (Norris, 2001). Similar to the previously mentioned common rationales, the top policy-makers in India tend to justify the adoption and expansion of e–governance on the grounds that it costs less, reduces waste, promotes transparency, eliminates corruption, generates possibilities to resolve rural poverty and inequality, and guarantees a better future for citizens (Dev, 1999; Schware, 2000; Wadia, 2000; Silicon India, 2001). In short, the government tends to portray e – Governance as the panacea for all ranges of problems confronting India. But there are critics who, in general, suggest that the whole enterprise of ICT may have created a new class of ‘untouchables’ living in ‘information poverty’, compromised equal access to government services and eroded

accountability and individual privacy (Ghere and Young,1998; Hariharan, 1999; Upadhyaya, 2000). One of the central research questions emerging from these favorable and critical views on e – governance is how such a new mode of governance has affected the nature of the relationship between citizens, politicians and public servants. This dimension is crucial, because what matters most is whether the adoption of e – Governance has been able to create relationships between these stakeholders — between citizens and politicians, between politicians and public servants and between citizens and public servants — based on accountability, equality and fairness. This research explores these issues in the case of India, which represents one of the leading advocates of e – Governance in the developing world.

Unlike developed nations, India is one of the poorest countries in the world with severe problems of poverty, inequality, illiteracy and external dependence, which represent major impediments to the effectiveness of e – Governance in ensuring equal public access to state institutions, empowering ordinary citizens to exercise their basic rights and obliging political and administrative officials to be responsive and accountable. However, before examining the impacts of e – Governance on the nature and structure of citizen–politics–bureaucracy relations in India, the next section is devoted to an analysis of the major policies, initiatives and institutions related to e – Governance in this country.

In the case of India, beyond the issue of public access and participation, e – Governance has not shown any promising results even in terms of service delivery. In fact, the critics identify quite a number of failures of e-governance in India. Examples of total or partial failure include such cases as the creation of district-level information centres by the National Informatics Centre; the computerization of the Income Tax Department’s tax system; the use of the executive information system in the management of adult literacy programmes; the adoption of a computerized decision support system in the Narmada Irrigation Project Authority; and the implementation of the Rural Information Systems Project (Madon, 1997; Heeks, 1998a). Similarly, the e-governance scheme undertaken by the state government of Rajasthan has failed due to its centralized planning, its insensitivity toward local infrastructure and lack of motivation among villagers (Yadav, 2001). It has been

concluded that apart from some improvement made in the railway services (e.g. a faster reservation service and less corruption) by computerizing the Passenger Reservation System, there seems to be no other significant cases in India to demonstrate any noticeable positive outcomes made from the use of it in governance (Heeks, 1998a; Government of India, 2001a).

One of the most critical reasons for e-governance being less effective is the problem of citizens' access to the available information sources such as the internet. Globally, it is observed that the richest 20 percent of the world population represents 93.3 percent of internet users and the poorest 20 percent accounts for 0.2 percent (Singh, 2000). In the case of India, according to *The Economist*, only 0.1 percent of the population has internet access at home (Kashyap, 2000).

According to the UNDP (2000: 200), India has one of the lowest per capita internet hosts (0.01 per thousand people) in the world. It is mentioned by Subbaih (1999) that even many universities in India do not have adequate email or internet. In the last decade we have witnessed a rapid rate of internet penetration worldwide. Although this Internet diffusion happened on a global scale there are significant differences between countries in terms of how far they went and how fast they have adopted new information and communication technology (hereafter labeled ICT) as was shown by Maitland & Bauer (2001).

Since the adoption of a new technology varies between countries it is important to construct a composite measure of the country's overall readiness to adopt and use a new technology and also to measure factors that contribute to the adoption of ICT. Various factors influencing Internet adoption have been considered in several studies. It was confirmed that telecommunication infrastructure (Hargittai, 1999), socio-economic factors (Robinson & Crenshaw, 1999) and cultural values (Maitland & Bauer, 2001) have a significant influence on ICT adoption among countries.

Keeping in view the importance of e – Governance in overall performance and working of government institutions and public offices, an effort has been made in the present study to have a bird's-eye view of the research studies in the area of electronic governance and its positive impact on delivering promises of good

governance to the stakeholders. The following review of literature would unfold a broader canvass of empirical and conceptual studies that would determine the paramount importance of factors, trends, roles and system practices of e – Governance as evolved with time across world and particularly in India and their impact on the overall mode of governance, service delivery mechanism, flow of information and patterns of Administration – Citizen Interactions and growing influence in future course of time

## **2.1 e – Readiness Index**

A country's overall readiness to adopt, use and benefit from using ICT is called country's e Readiness. Knowledge of the factors which make a significant contribution to e-readiness and the country's position on the e-readiness scale would help the country's leaders to identify the strengths and weaknesses of the country's current position and to concentrate on the areas where improvement and further integration of ICT could be made (Bridges.org, 2001).

An important component of the country's overall e-readiness is its government readiness to operate and benefit from the new environment. The concepts of electronic government (hereafter labeled e-government) has not been uniquely defined and used in literature. For example, Turban, King, Lee, Warkentin, & Chung, (2002, p. 452) listed six different e-government definitions. However, we may say that the 'use of Internet technologies', 'access to information', 'service delivery' and 'participation' are the most common keywords used in e-government definitions. Simply, e-government could be defined as the government's use of ICT to serve both internally and externally through its organizational structures and activities.

Cultural differences between countries in general and particularly in relation to information technology adoption is a highly researched subject. The concept of culture adopted and used in this research is based on works of Dutch anthropologist Geert Hofstede who defines culture as "a system of collectively held values". The following authors identified cultural values as one of influential factors on adoption of ICT: Bagchi, Cervený, Hart & Peterson (2003), Johns, Smith & Strand (2003), Maitland & Bauer (2001) and Sørnes, Stephens, Sætre, & Browning (2004). Others

also recognize the role culture could have in adopting ICT; for example, Bridges.org (2001) suggests that: “unique cultural and historical environment of a region must be taken into account as part of a national ICT policy to truly gauge the country's e-readiness for the future.” In other words, each country should find its own way to the optimal e-government readiness which is consistent with the national culture. There were also other assessments of e - government readiness worldwide (West, 2001) or at the different levels of federal, state or local governments (Holden, Norris & Fletcher, 2003; West, 2000) or regions of the world (Altman, 2002). West (2000) assessed federal and state e Governments in US. He found that “the e Government revolution has fallen short of its potential. Government websites are not making full use of available technology, and there are problems in terms of access and democratic outreach”. Altman (2002) assessed e-government in Latin America. Surprisingly he didn't find a direct proportional relation between those countries with high potentiality (readiness) and those with actual broad use of e Government. His research is of particular interest because it brings together the supply-side and demand-side approaches to e-government analysis. Graafland-Essers & Ettetdgui (2003) assessed e-governments in Europe also taking both supply-side and demand-side approaches. Bridges.org (2001) provides a very detailed list and comparison of e-readiness assessment models which were developed until 2001. Choucri, Maugis, Madnick, & Siegel (2003) critically considered these, what they called ‘first generation’ e-readiness models and setup a theoretical framework for the ‘next generation’ of e-readiness models. Defining e-readiness “as the ability to pursue value creation opportunities facilitated by the use of the Internet”, they derived a key element of their framework from the answer to the question: inevitability of e-readiness. According to them, an e-readiness indicator should measure the degree of ability and the capacity to pursue, but emphasis in the framework should be put on value creation opportunities. Another framework of national e-readiness was research studies which considered the various factors having an impact on the ICT adoption confirmed that telecommunication infrastructure (Hargittai, 1999), socio-economic factors (Robinson & Crenshaw, 1999) and cultural values (Maitland & Bauer, 2001) contributed to the explanation of differences in Internet diffusion

between countries. We would also expect that in a democratic political system the government will foster the design and development of various channels for providing their services to the citizens. Indeed, research has examined the impact of democracy, corruption and globalization on e-government readiness and found that more democratic countries are higher ranked on the e-government readiness list than the less democratic countries (Kovačić, 2005). He found significant positive correlations between e - government readiness and democracy (Freedom House index) and between e-government readiness and globalization. Of course the degree of e-government service adoption does not depend only on the level of democracy in the country but also on the cost of implementation, the perceived political benefits for the government from implementing an e-government initiative and other factors.

As Bretschneider, Gant & Ahn (2003) suggested, the degree of e - government service adoption could be explained in terms of the perceived administrative benefit from adopting e-government services, the political nature of online applications, the government's organizational capacity in adopting new information technology, and the diffusion effect of e Government service technology.

## **2.2 Scope of e – Governance in improving Government – Citizen Relationships**

It is now widely accepted that ICT offers increased opportunities for economic development and plays a critical role in rapid economic change, productive capacity improvements and international competitiveness enhancement for developing countries. The range of choices and opportunities in developing countries is expanding. ICT is believed to be a powerful enabling tool to address some of the key barriers and challenges for entering the global economy and for future growth potential. It can transform old challenges and create unprecedented possibilities for sustainable economic development, just as it has done for businesses in the industrial world. ICTs offer the potential not just to collect, store, process and diffuse enormous quantities of information at minimal cost, but also to network, interact and communicate across the world (Crede and Mansell, 1998). Econometric studies have found evidence of a strong positive relationship between ICT investments and GDP growth illustrating the importance of ICTs for development,

both in the commercial and the public sectors. An OECD (2002) research project, based on national studies about the impact of ICT

While e - Government encompasses a wide range of activities, we can identify three distinct areas. These include government-to-government (G to G), government-to-citizens (G to C), and government to business (G to B). Each of these represents a different combination of motivating forces. However, some common goals include improving the efficiency, reliability, and quality of services for the respective groups. In many respects, the government to government (G to G) sector represents the backbone of e-government. It is felt that governments at the union, state and local level must enhance and update their own internal systems and procedures before electronic transactions with citizens and business are introduced. Government to government e-government involves sharing data and conducting electronic exchanges between various governmental agencies. There are number of advantages with government-to-government initiatives. One benefit with this is cost savings, which is achieved by increasing the speed of the transactions, reduction in the number of personnel necessary to complete a task, and improving the consistency of outcomes. Another advantage, which flows from this, is improvement in the management of public resources. Government to citizen (G to C) facilitates citizen interaction with government, which is primary goal of e - government. This attempts to make transactions, such as payment of taxes, renewing licenses and applying for certain benefits, less time consuming and easy to carry out. Government to citizen initiatives also strives to enhance access to public information through the use of websites and kiosks. Further, one of the main goals of implementing these initiatives has been to create a “single window” where citizens can carry out variety of tasks, especially those that involve multiple government departments, without requiring the citizen to initiate contacts with each government department individually. Thus, the G to C initiatives is driven by an urge to provide “better government” through improved efficiency and more reliable outcomes. Government to Business (G to B) sector includes both the procurement of goods and services by the government as well as the sale of surplus government goods to the public on line. There are two motivating forces behind G



to B. Currently; the business community prefers to carry out its activities such as sales, procurement, and hiring through electronic means. There are large numbers of software companies, which are producing number of products focusing on performing routine business activities on line. Thus, many companies like to extend the cost savings realized through Business to Business (B to B) transactions to their business with union, state and local level governments. The second reason for the growth of G to B is the demand for cost cutting and efficient procurements in the government. Developing countries, where there is great pressure to minimize costs due to shortage of funds, G to B are being encouraged by the governmental agencies.

### **2.3 Role of e – Governance in delivering promises of good governance**

Governments now realize that e – Governance is more than just floating government web sites on the Internet. The definition for the purposes of this research is to characterize e- Governance as a process to make simpler and improve democratic government and business aspects of governance through an application of electronic means in the interaction between citizens and government and businesses and government and also in internal government operations (Backus, 2001). e - Governance represents a significant opportunity to move forward with qualitative, cost effective government services and a better relationship between citizens and government (Fang, 2002). The potential benefits of using ICT in government include, but go beyond, efficiency and effectiveness. By making available interactive access to and use of information by people who use government services e – Governance initiatives hope to empower citizens (Gage, 2002) and improve relationships between governments and citizens by helping build new spaces for citizens to participate in their overall development (Gasco, 2003). Online systems have not only helped achieve efficiency gains by cutting overall time to process applications but also made transactions more traceable, transparent and easier to access (Bhatnagar, 2003). However, if e – Governance initiatives are to curb corruption then the design of such systems needs an appropriate conceptual framework and needs to be understood by policy makers and public managers (Cisar, 2003; Mahmood, 2004; Tang Kitvanich, 2003). Within the principal-agent

framework there are three dimensions of institutional structure as the most critical in bearing on opportunities for corruption: (1) the monopoly power of officials; (2) degree of discretion that officials are permitted to exercise; and (3) degree to which there are systems of accountability and transparency in an institution (Klitgaard, 1988, 1995; Rose-Ackerman, 1978, 1994).

e - Governance, reformers aspire to reinforce the connection between public officials and communities thereby leading to a stronger, more accountable and inclusive democracy. The success of e – Governance requires fundamental changes in how government works and how people view the provisions through which government is helping them. Governments need to undertake e – Governance initiatives actively, strategically and resourcefully (Moon 2002). The e – Governance perform following transformations in the system of governance and information sharing:

**Internal** - This refers to the use of ICT to improve the efficiency and effectiveness of internal functions and processes of government by interrelating different departments and agencies. Thus, information can flow much faster and more easily among different governmental departments, reducing processing time, paperwork bottlenecks, and eliminating long, bureaucratic and inefficient approval procedures. Internetworking among different governmental departments improves internal efficiency by enabling time reductions for using, storing and collecting data, reduction of labor costs and information handling costs, as well as the speed and accuracy of task processing.

**External** - ICT opens up new possibilities for governments to be more transparent to citizens and businesses, giving access to a greater range of information collected and generated by government. ICT creates also opportunities for partnership and collaboration among different governmental institutions (Allen et al., 2001). Electronic government blurs the lines not only within government agencies, but also between government and those that touch it (Tapscott, 1996).

**Relational** - ICT adoption may enable fundamental changes in the relationships between the citizens and the state, and between nation states, with implications for the democratic process and structures of government. Vertical and horizontal integration of services can be realized, enabling the integration of information and services from various government agencies to help citizens and other stakeholders get seamless services. Fountain (2001) uses the concept of the “virtual state” that is a governmental entity organized with “virtual agencies, cross agencies, public- private networks whose structures and capacity depend on the Internet and web”.

Moreover the role of e – Governance exemplifies its importance in improving the nature of relationships within the organization, similarly e – Governance has elaborative role in reducing corruption and corrupt practices within the public organizations and making hassle free service delivery mechanism available for stakeholders. Explaining corruption as a complex phenomenon which is making advent within the retarded and degraded framework of public institutions. There is a vast literature dedicated to defining the enormously rich term of corruption. For the purpose of this research study corruption is defined as the ‘use of public office for private gains’ (Bardhan, 1997). A similar definition is given by Rose-Ackerman (1999, 3) who describes corruption in following words ‘Corruption is a symptom that something has gone wrong in the management of the state. Institutions designed to govern the interrelationships between the citizen and the state is used instead for personal enrichment and the provision of benefits to the corrupt. The price mechanism, so often a source of economic efficiency and a contributor to growth, in the form of bribery, undermines the legitimacy and effectiveness of government’. The work of Rose-Ackerman (1978, 1994) and Klitgaard (1995a, 1995b) is especially pertinent here. Professor Klitgaard’s and Rose Ackerman’s corruption framework is succinctly summarized in the following equation:

$$\text{Corruption} = \text{Monopoly} + \text{Discretion} - \text{Transparency (in governance)}$$

The concept of e – Governance is defined as the application of Information and Communications Technologies (ICTs) to the governance, to bring in Simple,

Moral, Accountable, Responsive, and Transparent (SMART) governance (Budhiraja, 2003; Rajashekar, 2002 in Jain and Ramani, 2005; Heeks, 2001; Harris, 2004). The simple objective of e – Governance is to support and simplify governance for e - governance community comprised of citizens, civil society organizations, private companies, government lawmakers, and regulators on networks (Tapscott and Agnew, 1999 in Jain and Ramani, 2005). Citizens, businesses are dependent on the government for information and a large number of services. The successful use of ICTs by the businesses inspired some of the developed and forward looking governments and they adopted these technologies for providing services to the citizens and businesses.

Application of ICTs to the governance is being popularly called as e-governance. e – Governance includes Citizen to Government (C2G), Government to Citizen (G2C), Business to Government (B2G), Government to Business (G2B) and Government to Government (G2G) interactions. India is one of the few countries that have taken up projects to harness the potential of ICTs in providing better governance. Different e – Governance projects initiated in India had different objectives. Many e – Governance projects were very successful, where as others were not as successful and some projects failed at delivering the stated primary objectives, but one thing in which all the projects succeeded is elimination or reduction of corruption to a great extent.

A number of factors contribute to the societal harmony. They include human dignity, freedom of speech, equity in society, equal opportunities, social development, prompt redress to grievances and injustice; absence of rich-poor divide and uniform distribution of wealth, rule of law, transparency and accountability in governance. Corruption in any form affects all these aspects and also all the institutions of a civilized society that were supposed to create a harmonious society. Corruption reflects poor governance. The most dangerous aspect of corruption is that day to day corruption faced by common man erodes the moral fiber of the society (Transparency International India, 2005). Corruption is anti poor. The people that are hardest hit by the existence of corruption are the poor, the down trodden and under privileged sections of the society. Corruption can be very detrimental to and has the

potential to destroy the societal harmony. Eliminating the corruption from the social fabric of the society has the opposite effect i.e. creating a harmonious society. There is an inherent relationship between effective e – Governance and reduced corruption in the society. In this study the relationship between these two i.e. successful e – Governance and reduced corruption is examined by critically analyzing some of the successful e – Governance initiatives in India.

After attaining independence from British, India opted for the parliamentary form of democracy. The aim of democracy is supposed to provide good governance. Good governance essentially means many things. They are the rule of law, absence of corruption, equal opportunity for individuals to realize their full potential and maximum productivity in utilization of physical resources (Vittal, 2004). Other attributes of good governance are transparency and accountability. Though India has proved to be a stable democracy, it cannot be said that it had good governance. The most important reason for this is the corruption, which has become endemic to all walks of life in the governance. The extent of corruption in India can be gauged from what late Mr. Rajiv Gandhi, Ex Prime Minister of India has said about anti - poverty programs. He observed that out of each rupee spent on such programs only 15 paisa reached the beneficiary with 40 paisa being spent on overheads and 45 paisa lost due to corruption. Corruption is the most important factor that contributes to the poverty and underdevelopment of countries.

According to the latest Transparency International's (TI) Corruption Perception Index 2005, a study of 159 countries across the globe, released on 19 October 2005, India ranked at 92. The least corrupt country is ranked as No1 and the most corrupt country comes at the end of the list. TI's Corruption Perception Index (CPI) ranks countries 'in terms of the degree to which the corruption is perceived to exist among public officials and politicians'. CPI score relates to the degree of corruption, which ranges between 10 (very clean) and 0 (highly corrupt). In this India's score is a poor 2.9. In fact India is one of the countries, which have the dubious distinction of increasing corruption with each passing year. In Transparency International's Corruption Perception Index, India ranked 72 in 2001, 73 in 2002, 83

in 2003 and 91 in 2004. It is no consolation that all the countries in South Asia rank poorly.

The ‘India Corruption study 2005’ conducted by Transparency International India in twenty major states of India studied the corruption faced by the common man on a day to day basis in 11 public services. This study brought out very startling facts regarding the extent of corruption in India. The public services were covered under the following two groups: (i) need based services (six) comprising of Income Tax, Municipalities, Judiciary, Land administration, Police and Rural Financial Institutions; and (ii) basic services (five) comprised of Schools, Water supply, Public Distribution system, Electricity and Government hospitals. Need based services were found to be more corrupt. According to the study, the common citizens of the country paid a bribe of Rs 21068 crores (Rs 210.6 billions) during the last one year, while availing the eleven public services. The most disturbing factor brought out by the study is that even judiciary is plagued by corruption. According to former chief justice of Supreme Court of India, Sam Piroj Bharucha, up to 20% all judges in India are corrupt. TII’s study puts the value of corruption in judiciary at Rs 2630 crores (Rs 26.3 billion) per annum. Further the study reports that three fourth of citizens feel that corruption is increasing (TII – Center for Media Studies, 2005).

#### **2.4 Combating Corruption with e - Governance**

N Vittal, India’s ex- chief vigilance commissioner suggested a three-point formula to combat corruption. His three points are simplification of rules and procedures, greater transparency and empowerment of public and effective punishment to the corrupt (Vittal, 2004). Colby (2001), Chaurasia (2003), Budhiraja (2003) and Millard (2004) feel that ICTs offer a number of benefits compared to conventional information management systems. They allow greater accessibility, wider reach, instant communication and dissemination of information, automatic recordkeeping, systematic classification and recovery of data, better knowledge management and the sharing of information. These characteristics have the power to transform the way public administration is conducted and the relations between government and citizens. The new possibilities offered by harnessing ICT’s to public administration provide a powerful tool to combat corruption. Those responsible for

particular decisions or activities can be readily identified. Administrative actions will be more transparent.

Transparency International India study of 2005 concludes that corruption facing the common man can be tackled by simple initiatives including introduction of technologies (TII – Center for Media Studies, 2005). Yisheng (2002) says that it is the honesty and integrity that e – Governance provides. He further mentions that e – Governance helps prevent corruption and uphold integrity in public administration, and overall helps to promote democracy and rule of law. Bhatnagar’s (2003, 2005) studies have highlighted the effect of e – Governance on corruption. His studies confirm reduction of corruption in Indian States. According to him e – Governance introduced transparency in data, decisions/actions, rules, procedures and performance of government agencies, simplified the processes and rules, taken away discretion by automating the processes, made decisions traceable, built accountability, provided greater access to information through web publishing, provided documentation to citizens for follow up. It has also introduced competition amongst delivery channels, standardized documentation of comments/ objections leading to effective supervision, centralized and integrated data for better audit and analysis and enabled unbiased sampling for audit purposes.

With effective e-governance, citizens no longer have to pay bribes to the officials because the chances for exposure of manipulation for exchange of bribe and corruption are high. This results in greater civic engagement and creates disincentives for corruption leading to good governance. Sarah (2003) while assessing 20 e – Governance projects in India confirms that it has led to greater responsiveness, transparency and accountability, improved service delivery and overall reduced corruption, all signs of good governance. Bowankar (2004) investigation shows that e – Governance led to increased levels of transparency and greater public participation and trust.

Cho and Choi (2004) work is based on The Seoul Metropolitan Government reform measure to combat corruption, called the “OPEN” system, an acronym for the “Online Procedures Enhancement” for civil applications that went into operation in April 1999. In an opinion poll conducted by Cho and Choi, 84.3% of the respondents

answered that the OPEN system contributed to transparency in the city administration and 72.3% answered that they are satisfied with the administrative handling by public officials. Mahmood (2004) in his study has shown that e – Governance has the potential of fighting corruption but has explored this by using three elements identified by Heeks (1999) which are (1) a sense of crisis, (2) a renewed ideology, and (3) the political will or power to carry out reform and incorporated his own variable of regime type. Mahmood’s proposition on the role of e – Governance and its accessibility are satisfied in the case of Andhra Pradesh.

The assessments are that the time and money needed to (Foreign Desk, 1999; Dugger, 1999; Basu, 2000; Levander, 2000; Manor, 2005; Geddes, 1991 in Mahmood, 2004). Prahalad (2005) says that this way "transaction governance capacity" can be created which means that the citizens are empowered, they no longer face information poverty, they are able to participate, no longer have to wait in long queues, and , above all , no longer have to face the social and economic consequences of corruption. Prahalad (2005), illustrated Public Private Participation model in his book titled ‘Fortune at The Bottom of The Pyramid’ in which he shows how e – Governance can curb corruption.

Similar results are highlighted by Raghuvver (2005), Jain and Ramani (2005) and Dash (2005). Another survey was conducted by Fuliya and Bansal (2005) to study provision of wide spectrum of citizen friendly services at a single place through e-governance. The findings confirm the improvement in service delivery and elimination of corruption and middlemen from the process. Singh (2004) in his paper ‘Corruption, Transparency and good governance Agenda in India presented at the European Institute for Asian Studies, Brussels says “(In India) e – Governance initiatives have begun to cut through the web of bureaucracy. Some states in India have begun to provide service delivery on line. And government web sites some time provide practical information on how to confront complaints about corrupt acts”.

A study of 21 successful e – Governance projects in India, conducted by Skoch consultancy services ([www.skoch.org](http://www.skoch.org), 2005) titled ‘Skoch e – Governance report card 2004’ has brought out very interesting results on e – Governance effect on corruption. According to this survey there is a considerable decline in corruption



as a result of e – Governance project. According to this report 81% respondents reported reduction in corruption.

A survey conducted by Center for Media Studies in which 4500 citizens from five metros (Hyderabad, Delhi, Mumbai, Calcutta and Chennai) participated show that e – Governance has brought down corruption in India. The study covered the basic services, electricity, municipal corporations, urban development, transport, civil supplies, hospitals, water supply and railways. According to this report, in Hyderabad where e - Seva centers are operational, the presence of middlemen and corruption has declined from 63% in 2000 to 27% in 2004.

In Kolkata and Chennai, the corruption has come down to 19 and 18 percent compared to 51 and 38 percent in 2000 respectively. In Mumbai the corruption level remained static and in Delhi the corruption spurted from 40 to 49 %. The reasons for decline in corruption in Hyderabad, Kolkata and Chennai were attributed to the successful functioning of e – Governance projects (Economic Times, 2004). Therefore, the objective of this study is to analyze successful e – Governance projects in India so as to investigate the extent to which e – Governance initiatives succeeded in curbing corruption and helped in achieving societal harmony. The study based on the empirical studies reported above, hypothesizes an inverse relationship between successful e – Governance and level of corruption which in turn contributes to societal harmony. However not all varieties of corruption can be successfully combatted with e-Governance. Three varieties of corruption can be identified (Shah and Schacter, 2004). The first is formed by petty bureaucratic corruption (i.e. low-level administrative corruption). The second consists of self-serving asset stripping by state officials (state capture). The third is formed by great political corruption (grand corruption).

A range of studies suggests that all types of petty bureaucratic corruption can be diminished through the increased transparency achieved by using modern electronic media. In a number of Latin American and Indian states petty corruption has been attacked by e-Governance (Bhatnagar, 2003, 2005a, 2005b; Sarah, 2003). The most famous case is of the ‘OPEN’2 (Online Procedures Enhancement) system in Seoul, Korea (Kang 2001), Bhatnagar 2003, 2005a, 2005b, and Cho and Choi

2004). Further, the employment of ICTs can also foster the anticorruption struggle against self-serving asset stripping by state officials (Cisar, 2003; Yum, 2003, 2005; Dorotinsky, 2003, 2005; Talero, 2005). Last but not least, the employment of ICTs may also potentially play an important role in preventing some types of grand political corruption (Prahalad, 2005 ; Jain and Ramani, 2005; Dash, 2005). ICTs can not only directly help curb public-sector corruption by increasing the transparency of the political and administrative systems, but can also facilitate the activities and cooperation of the actors focused on fighting corruption.

## **2.5 Impact of e – Governance in India**

It is suggested that while India does have an inspiring vision of where e – Governance is going, there is a gap between service delivery and reality in that country. The challenge of e – Governance in India lies in providing the service to about a billion people.

At the moment, India is ranked 87th in the global e-government readiness ranking of 2005 (CIOL, 2006), which indicates significant room for improvement. Research has indicated that the three Indian states leading in e – Governance provision are Andhra Pradesh, Karnataka and Tamil Nadu, while the states of Kerala, Gujarat, Maharashtra, Madhya Pradesh, West Bengal and Rajasthan are not far behind (NASSCOM, 2003). These Ten Indian States out of a total of 28, comprise over half the total Indian population. There has been a tremendous increase in the automated work flow within the notoriously bureaucratic Indian government departments, and e – Governance seems to be a promising development. For instance, a recent auto bid evaluation for tenders has helped reduce both subjectivity in decision-making and corruption. Corrupt practices have been reduced and on the whole there has been an attendant reduction in costs and inefficiencies (NASSCOM, 2003).

While almost half of the country is catching up, rapid progress is being delayed due to operational, economic, personnel, planning and implementation issues. The main underlying reason for these problems has been identified as an over-emphasis on investing in hardware and too little emphasis on developing software and services (NASSCOM, 2003).

According to a study by NASSCOM, India's National Association of Software and Services Companies, although there is rapid progress in e – Governance implementation, there have been far too many problems in the operational, economic, personnel, planning and implementation stages. That study indicates that the Indian government should clearly define an e – Governance strategy and formulate plans with measurable timelines, which currently do not exist (NASSCOM, 2004). Nevertheless, the foremost concerns of the government lie in addressing the appropriate connectivity between nations, stable power supply, and constant assistance to help the illiterate and lower strata of society (Menon, 2003). There has also been too much emphasis on starting new projects without the subsequent follow through in implementing and running the projects. Anecdotal evidence by Ahmed (2004) indicates that there will be a continuation of funds into buying and installing IT hardware with no changes expected in the long term. He identifies another significant problem; the severe lack of in-house IT expertise to solve even minor problems. There is an acute shortage of staff across even the leading Indian states in the provision of e-governance. Problems also lie in the planning processes, and the type of technology platforms that are required to be utilized. Standardizing programs across the board is another prominent issue that crops up as different departments use different programs. Thus, more time and resources are expended on the unnecessary duplication of databases in government departments (Ahmad, 2004). There is no paucity of suggestions in the literature as to why India needs an e-government or e-governance. There is a significant investment of resources being spent on e governance projects. Often the rating of some of the e – Governance projects is based on subjective assessments and value judgments of only a few sources and institutions (Rao, Rao, & Bhatnagar, 2004). Based on the problems that India faces for the moment and the amount of investment that is being directed to this area, it would be worthwhile to distinguish e – Governance assessment with its service delivery.

## **2.6 National e – Governance Plan**

NeGP is a comprehensive “programme” of the Government of India and is designed to leverage capabilities and opportunities presented by ICT to promote

good governance across the country. One of the learning that is at the core of the NeGP is the emphasis on implementation of such projects with clear timelines and responsibility allocations – in a “Mission Mode”. The Plan initially extends over a 4-year period at an estimated cost of over USD 3 billion. NeGP is aimed at introducing e – Governance systematically through 25 Mission Mode projects, which would touch the lives of more than 1 billion people.

The vision of NeGP is to make all Government services accessible to the common man in his locality through common service delivery outlets. The implementation strategy envisages clear definition of service goals and metrics for each project and structured stakeholder consultations with all stakeholders including citizens and civil society organizations before the service goals of each project are firmed up. Even at the stage of formulation of the NeGP, its vision and proposed strategy, consultations were held with various stakeholders including state governments, ministries/departments, IT industry representatives and civil society organizations.

e - Governance projects undertaken in the agricultural sector have potential to provide benefits to farmers and the rural people and also enhance the lives of urban poor. There are numerous sub-projects pertaining to provision of timely expert advice to farmers, food security, marketability and commercial information relating to agricultural products, enhancing crop productivity, enhancing the reach of and ease of access to micro-credit, etc.

The coordinating agency is the Ministry of Urban Development undertakes various e – Governance projects in municipality. The main programs relevant to vulnerable and marginalized groups are registration of births and deaths, grievances and suggestions, health programs, etc. Similarly in Gram Panchayats (elected village administration) the important programmes being implemented by the Ministry of Rural Development for poverty reduction and employment generation, provision of basic services, infrastructure development etc. The objective is to increase participation of rural population in the government and women empowerment.

(CSCs) is one of the integrated projects envisioned in NeGP. The CSCs provide assisted community access points – a necessity in a country with relatively

low levels of literacy and ICT penetration in rural areas. These centres are very effective in providing multiple services provided by different departments at a single location. For a common citizen, it is often confusing and time-consuming to have to visit different departments and identify the right official or office to avail of some service. This one stop shop is also helpful in increasing accessibility, enabling faster service delivery, curbing corruption and reducing difficulties faced by vulnerable and marginalized groups. Under this program, it is aimed to establish 100,000 CSCs predominantly in the rural areas to serve the needs of the traditionally underserved areas. Core infrastructure comprises of State Wide Area Networks, Data Centres, Gateways, etc. forms another critical element of the NeGP. Approximately 15% of the total program outlay is earmarked for common core and support infrastructure that is shared across projects, excluding the cost of infrastructure that is created specific to, and as a part of, individual projects. The framework includes back-ends (databases of different government agencies, service providers, state governments etc.), middleware and front- end delivery channels (home PCs, mobile phones, kiosks, integrated citizen service centers etc) for citizens and businesses. The middleware comprises of communication and security infrastructure, gateways and integrated services facilitating integration of inter-departmental services.

As previously mentioned, India is one of the leading countries venturing into e-governance. Recently, the Indian Government has set the target of delivering at least 25 percent of its dealings and services electronically (MIT, 2001a). In this regard, the Indian Government's major policy measures have been defined in terms of computer density, connectivity, content, cost and cyber laws (Vittal, 2000). More specifically, the Indian Government has decided to boost 'computer density' by making computers easily affordable; to increase 'connectivity' by improving the telecommunication system based on optic fiber networks; to upgrade 'content' by making government sources on computers readable by ordinary citizens; to cover the 'cost' of ICT by ensuring adequate allocation in the national budget; and to introduce 'cyber laws' by adopting the Information Technology Act. Under this overall policy framework, the government has introduced various measures for e-governance, which can be categorized into National- and state-level initiatives and institutions.

## **2.7 Initiatives and Institutions at the National Level**

One of the most important initiatives undertaken by the central government is the Information Technology Act (2000), which is to regulate cyberspace and define offences and penalties related to information technology (it) such as tampering with computer source documents, breach of confidentiality and privacy, publication of false digital signatures and so on (Vittal, 2000; Wadia, 2000). The Indian Government has also drafted the so-called Freedom of Information Bill that requires all public authorities to maintain information and records, and appoint Public Information Officers to assist citizens in gaining access to such information (Global Campaign for Free Expression, 2000; Government of India, 2000).

The Government has also planned to produce a series of documentaries to generate awareness of the advantages of it and electronic service delivery (Agnihotri and Ramani, 2001). Furthermore, it has introduced citizens' charters under which the ministries and departments at both national and state levels are required to adopt charters specifying their respective service provisions, time frames, service standards and channels for redressing grievances. In order to implement this vision, policy initiatives and legal measures related to e-governance, there has emerged a series of institutions and official positions in India. For instance, the Government has introduced a National Task Force on IT and Software Development, a Committee on Improving Efficiency in Government through IT, a Ministry of Information Technology (MIT) and a Centre for Electronic Governance in order to promote it and e – Governance in the country (Wadia, 2000; Budhiraja, 2001; MIT, 2001a). In particular, the MIT plays a crucial role in facilitating e – Governance by reinforcing knowledge-based enterprises, encouraging coordination among users, adopting procedures based on international standards, promoting the internet and introducing it education (Upadhyaya, 2000).

However, the main functions of the Centre for Electronic Governance are to identify the appropriate forms of ICT necessary for better service delivery, to conduct training for generating it awareness among government officials and to help state governments in implementing policies and reforms based on best e – Governance practices (Centre for Electronic Governance, 1999a,b; Wadia, 2000).

The Government has also decided to establish a National Institute of Smart Government in order to enhance capacity-building in e governance at all administrative levels (Government of India, 2001a). In addition, various ministries and departments have created Information and Facilitation Counters as one-stop shops to make varieties of information available to citizens through electronic links (MIT, 2001a).

An essential institutional aspect of e – Governance in India is also the government decision to appoint its managers (all are ranked as Joint Secretary officers) in the ministries or departments — they are responsible for adopting and implementing it in their respective organizations (Agnihotri and Ramani, 2001). In line with the institutional requirements of e-governance, the ministries and departments have undertaken initiatives to introduce and expand the structures and processes of e-governance. For example, the Ministry of Finance, Ministry of Labour, Department of Agriculture and Cooperation, Ministry of Environment and Forests and the Ministry of Chemicals and Fertilizers now provide computers, email facilities, advanced software, local network connections and internet access to all their officers holding positions from the Secretary to Section Officers. These organizations also maintain their own websites, and often have Facilitation Centres to disseminate information to the public (MIT, 2001c). Similar information infrastructure and communication facilities can be found in most other ministries and departments under the central government.

## **2.8 Initiatives and Institutions at the State Level**

Although the central government has adopted certain measures to assist various states in pursuing e-governance, the state governments themselves have undertaken massive initiatives to transform their governance systems based on it. At a recent conference on e – Governance in Bangalore, IT Secretaries from 32 states and union territories expressed their strong commitment to e – Governance (Centre for the Development of Advanced Computing, 2000). In September 2000, Bill Gates, the chairman of Microsoft, advised 10 Chief Ministers on the role of it in improving governance (Wadia, 2000).

Of the total 25 states and seven union territories in India, some of the leading examples of e – Governance include Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, New Delhi and Tamil Nadu (Silicon India, 2001). More specifically, the Andhra Pradesh Government took the initiative of e – Governance known as the Andhra Pradesh State Wide Area Network, which is a network for data, voice and video communication (MIT, 2001c). Through this network, it launched the Twin Cities Network Services to provide various services to citizens in two main cities (Hyderabad and Secunderabad) through one stop Integrated Citizen Services Centres (ICSCs). Through ICSCs, the citizen can access information about state and central governments; pay utility bills and property taxes; purchase certificates and licenses; and receive information regarding building permits, property registration and transport procedures (Schware, 2000; MIT, 2001c).

Madhya Pradesh followed Andhra Pradesh's example by introducing its own e – Governance with some modifications. In particular, the government in this state has introduced extensive computerization in dealing with payrolls, the budget, accounts, personnel, official communications, land records, public programmes and relief operations. It trains public servants in e – Governance at the Academy of Administration. Initiatives have also been taken to use Hindi as a popular medium to communicate among governments, provide information to the public, use email services and maintain government web pages (PC World, 2000).

Karnataka is another state that has undertaken an ambitious e – Governance programme. This state government has begun to computerize most departments, especially the education department. Its major city, Bangalore, is known as IT hub attracting over 1500 it companies from advanced industrial nations; and its Indian Institute of Information Technology has a very advanced infrastructure and IT facilities (Silicon India, 2001). Furthermore, under its Department of Information Technology, the government plans to create a centre for e – Governance (PC World, 2000). It has recently signed a Memorandum of Understanding with the Microsoft Company with a view to computerizing all departments.



Similarly, the Government of Tamil Nadu is strongly committed to transforming the state into an advanced system of e – Governance by computerizing its major departments and building technical capacity, with the ultimate objective of restoring public confidence and creating an effective relationship between government and citizens (PC World, 2000; MIT, 2001c). To reinforce its mission of restoring citizens’ confidence, the Government has adopted projects to ensure computerization of land records, registration, the education system, transportation, and so on. It has also established a Tamil Internet Research Centre to promote the use of Tamil on the internet in order to increase access for citizens (MIT, 2001c).

In Kerala, however, the state government uses selected nodal officers in each department to accelerate the application of it. In this regard, one unique feature of Kerala is its comprehensive programme aimed at decentralizing e – Governance to the district level — many district cooperative banks and credit societies have been networked. Activities and documents which have been put on the internet may cover tax collection, accounting, welfare schemes, court rulings and government orders and directives (PC World, 2000).

Moreover, the government is using a transliteration technology that allows its web pages to be available in the local language (Malayalam). It launched a project called ‘A PC for Every Home through the Kerala Electronics Development Corporation, which aimed to reach the target of 10 personal computers (pcs) per 1000 people by the end of 2001 (PC World, 2000). There are other states that are also pursuing e-governance. For example, the Rajasthan Government has taken measures to strengthen e-governance, proposing the creation of a statewide network to provide information and video communication to both public and private organizations (PC World, 2000). The Department of Information Technology in Rajasthan has developed such programs as Raj SWIFT to facilitate the use of online data and email communication among officials; and Raj NIDHI to provide services to citizens in a transparent and responsive manner (MIT, 2001c). The Government of Gujarat has introduced a state-wide network (Wide Area Network) connecting all office complexes and corporations in the state. However, beyond the overall state-wide agenda for e – Governance related to land revenue, transport and rural development,

the Uttar Pradesh government has taken a special interest in transforming its Allahabad district into a Smart District (MIT, 2001c).

Similarly, the Government of Maharashtra is trying to develop Mumbai and Pune into major IT hubs while pursuing the state-wide expansion of e-governance. It has taken on the responsibility for developing IT skills and awareness among employees through training, and to link all district-level offices through the Wide Area Network (PC World, 2000; MIT, 2001c). Although the status of e – Governance in other states has not been discussed, they also have their independent agendas for e-governance, which include, in particular, Haryana, West Bengal, Orissa, Tripura, Meghalaya and Himachal Pradesh. Beyond these state-level initiatives, e – Governance has been pursued at the local community level. The national information infrastructure not only covers the state and district information systems discussed earlier, it also encompasses local information facilities, and thus, offers an expansive multilateral network connecting all information users and information providers (MIT, 2001a). A good example of local-level initiatives in e – Governance is a rural intranet project known as Gyandoot, which was adopted by the district panchayat of Dhar district in Madhya Pradesh to extend its services, including both e – Governance and e - commerce, to rural areas in a people- centred manner (Misra, et al., 2001).

In Kerala, the so-called Information Kerala Project was adopted to computerize and network about 1214 local bodies (Centre for the Development of Advanced Computing, 2000). The Indian central government also plans to set up about 500 Community Information Centres in a hilly northeast part of India to let the local people have access to the internet (Singh, 2000). Without extending this discussion on the scope of e-governance, it can be safely concluded that despite the relatively rural-agricultural nature of its economy and the high levels of poverty and illiteracy, India has undergone a fundamental change in terms of the application of ICT to its public governance. There are diverse implications of this recent transition in governance in various domains, sections and relations in society. The main focus in this research, however, is on the implications of this newly emerging e – Governance for the relationship between citizens, politicians and public servants in India.

## **2.9 Major impacts of e – Governance on the relations among citizens, politicians and public servants**

It has been pointed out by Norris (2001) that the key issue in evaluating e – Governance is the way in which it affects the nature of the relationship between political institutions, bureaucracies and citizens; and whether it facilitates a relationship based on public accountability and participation. The cyber-optimists believe that e – Governance does contribute to better relations among these three actors by making information available on government operations and public services, facilitating public feedback or reaction and allowing more direct participation by the ordinary citizen in decision-making (Heeks, 2001b; Norris, 2001). In the case of India, for the current generation of policy-makers, e – Governance facilitates the dissemination of information to citizens, ensures greater access to government administration, enhances public participation in the formulation and implementation of state policies and thus strengthens the government–public interface (*PC World*, 2000). In line with this favorable view, the Indian Government maintains a massive list of government websites. But the cyber pessimists believe that the use of it in governance may worsen inequality in access to government services due to the lack of an adequate infrastructure, unequal ownership of computers, language constraints, and so on (UNDP, 1999; Singh, 2000; Levine, 2001). There is also a concern that e – Governance may disempower citizens by individualizing them, eroding their common bonds and endangering their privacy (Ghere and Young, 1998; Wachbroit, 2001). This section of the research examines this crucial issue of how e – Governance has affected the relationship among politicians, public servants and citizens in India.

This particular dimension of the relationship implies the interaction and interdependence between elected political leaders and political parties, on the one hand, and various sections of the population, on the other. Wadia (2000) mentions that in India, e – Governance creates an avenue for its citizens to communicate with top political leaders and local ministers through such tools as video-conferencing, online grievance channels and complaint cells. A major means through which such interaction between citizens and politicians occurs is the parliamentary website, which is supposed to facilitate the top-down flow of information from the legislature

to citizens, allow a bottom-up channel for feedback from citizens to the elected members, increase transparency by providing detailed information about legislative procedures and activities, expand the number of avenues for greater public scrutiny of the nature and processes of public policies and thus enhance the accountability of these elected politicians to their constituencies (Norris, 2001). In her comparative studies based on the Inter-Parliamentary Union list, Norris(2001) observes that there are 98 countries in which the national parliaments have their own websites; of these the most comprehensive ones are from Scandinavia, Western Europe and North America. Among the developing countries, the website of the Indian Parliament ([alfa.nic.in](http://alfa.nic.in)) is quite comprehensive. It encompasses a list of basic information regarding the House of People (Lok Sabha) and the Council of States (Rajya Sabha). The menu includes such items as parliamentary activities, parliamentary committees, budget matters, national constitution, legislative acts, prime minister's office, web addresses of all ministries and states, bulletins and publications, economic surveys, citizen services, and profiles and speeches of parliamentary members. It also provides an option for citizens to send feedback and suggestions through email.

The Prime Minister's Office also has a website, which provides information regarding his policy initiatives maintains an option for surveying opinion regarding current political issues and offers opportunities for the public to send queries and comments. These online sources of information and avenues for public expression are supposed to be more conducive to a stronger relationship between citizens and politicians. Another dimension of e – Governance that has implications for the citizen–politician relationship are the websites maintained by various political parties. The traditional mode of interaction between party leaders and the public has changed in this age of it, because in most countries, political parties are putting online information about their ideological positions, policy choices, political messages and campaign issues.

However, there are significant regional and cross national variations. Although the number of parties online has reached 1250 worldwide, on average, there are 41 party websites per country in North America, 24 per country in Western Europe and less than five per country in the Middle East and Sub-Saharan Africa

(Norris, 2001). There seems to be a positive correlation between the levels of democracy and income, on the one hand, and the number of political parties online, on the other. Although India is a relatively low-income country, it has as many as 20 party websites, perhaps due to its strong democratic tradition (Norris, 2001). However, taking into account its population size, this number may appear less sufficient. In terms of content, there are differences among political parties in the information put on the website.

Among the major parties, the Bharatiya Janata Party (the current ruling party) covers quite a number of items ([www.bjp.org/home.html](http://www.bjp.org/home.html)), including its history, philosophy, leadership, and members in parliament, interviews, press releases and write-ups on certain issues. It also provides an option for citizens to send feedback.

The Communist Party of India, Marxist ([cpim.org/cpim1.htm](http://cpim.org/cpim1.htm)) has a website that includes the party programmes, constitution, party structure, statements, elections and documents. The Samajwadi Party ([www.samajwadi-party.org](http://www.samajwadi-party.org)) presents its history, constitution and achievements, and an option for citizens to send feedback.

The Akali Dal Party ([www.shiromaniakalidalmann.org](http://www.shiromaniakalidalmann.org)) covers such items as party resolutions, interviews, historical documents and news archives. However, the Communist Party of India ([www.cpoindia.org](http://www.cpoindia.org)) has a website that not only presents its background, programme, constitution, press releases and journals, but also maintains a guest book and an email option for citizens to send feedback. These are a few examples of the menus offered by various political parties on their websites in India. These provide some useful information regarding these political parties, so that citizen can make informed choices when they support or oppose any of these parties, especially during elections.

Despite all these websites maintained by Parliament, the Prime Minister's Office and political parties in India, their effectiveness has yet to be evaluated. In the case of the Indian Parliament, there is no way of knowing how much information is put online and how much is concealed; and whether these elected politicians have the time and motivation to respond to all the public queries and comments, especially when these are too critical. With regard to the political party websites in India, apart

from those launched by the Bharatiya Janata Party and the Communist Party of India (Marxist), they are not as comprehensive as those found in North America or Western Europe. There has been hardly any studies on whether the electronic mode of governance in the political sphere of India, especially the use of the internet and email, has been effective in deepening the relationship between politicians and citizens.<sup>8</sup> The critics may point to the fact that electronic means such as websites, in fact, can be used by political parties and leaders to publicize their achievements, construct positive images and direct public opinion in their favour. After all, this is a great opportunity for them to mitigate or reverse traditional public skepticism towards political parties, institutions and leaders.

The emergence of e – Governance has significantly changed the nature of the relationship between citizens and public servants. The e – Governance movement not only promises higher quality and better delivery of services and a greater realization of entitlements, it also claims to offer stronger bonds between public servants and citizens based on transparency and accountability (Schware, 2000; Heeks, 2001a). With regard to this new mode of relationship, Schware (2000) emphasizes that it in governance provides equal access to government and speedy and transparent responses from public servants. For Ghere and Young (1998), public agencies now have to justify their decisions based on feedback from the people and conduct their business in public.

However, for the critics, instead of a citizen–administration relationship based on equality and account-ability, e – Governance may strengthen a top-down bureaucratic process by posting information about the structures and functions of public agencies and reinforcing the existing mode of interaction through documents and reports (Norris, 2001). In the case of India, it is mostly the favourable view of e – Governance that is echoed in various print and electronic media, especially government websites. In line with the common optimist picture of e-governance, it is pointed out that in India, compared to the previous citizen–administration relations characterized by bureaucratic rigidity, long delays, unnecessary complexity and public suffering, this relationship under e – Governance is now characterized by

higher speed, greater access, less cost and less public harassment (see Dev, 1999; Pardo, 2000; Budhiraja, 2001).

At the Conference of Chief Ministers on ‘Transparent and Accountable Administration’, the potential of e – Governance to realize transparency and accountability was strongly emphasized (Government of India, 1997). One way to decipher how e – Governance has transformed the nature of the relationship between citizens and the administration is to explore some of the major policy initiatives recently undertaken by the Government, and examine the official websites maintained by various ministries, departments and state governments. First, the Indian Government has undertaken major policy initiatives at the national, state and local level. In this regard, the previously mentioned Information Technology Act provides privacy for personal information while the Freedom of Information Bill offers them rights to information when interacting with public agencies and officials. However, the adoption of citizens’ charters and the creation of Information and Facilitation Counters by various government departments or agencies (Government of India, 2001a, and b) are initiatives that may provide citizens with specific guidelines regarding what to expect and whom to approach in their interaction or relationship with public agencies and employees.

Another major administrative initiative mentioned earlier is the appointment of senior civil servants as it managers in various ministries and departments —these it managers can not only facilitate the realization of e – Governance in the irrespective organizations, they can also enhance the relationship between the republic organizations and citizens. Similarly, most state governments have put senior public servants in charge of it, who now have an avenue through which to interact directly with citizens via electronic means.

In order to strengthen the citizen–administration relationship, many state governments have taken other measures such as the introduction of local languages onto their websites (e.g. Hindi in Madhya Pradesh, Tamil in Tamil Nadu and Malayalam in Kerala); and the decentralization of information networks to various district and village Panchayats (e.g. those in Kerala and Madhya Pradesh).Second, the websites maintained by different ministries, departments and state governments

have considerable implications for the interaction of ordinary citizens with public servants, especially with public servants involved in the direct delivery of services related to agriculture, health and food supply. A comprehensive website is maintained by the Department of Agriculture and Cooperation ([www.nic.in/agricoop](http://www.nic.in/agricoop)), which includes information relating to its various programmes and schemes, prices of agricultural products, weather watch, basic statistics, announcements and documents. More importantly, it has clickable feedback and email options and a helpdesk, which provide citizens with an opportunity to express their opinions, needs and problems.

Although the Ministry of Health and Family Welfare website ([mohfw.nic.in](http://mohfw.nic.in)) covers only its schemes and programmes, a database of parliamentary questions and staff profiles without an option for sending feedback, it includes gateways to its major departments that have their own websites. A similar website structure can be found in the case of the Ministry of Consumer Affairs, Food and Public Distribution ([fcamin.nic.in](http://fcamin.nic.in)). However, in addition to the gateways to its departments, the Ministry of Finance ([finmin.nic.in](http://finmin.nic.in)) has an option for feedback on its website. Beyond these ministries and departments, there are other major national level government institutions, including the Supreme Court, public service commission, election commission, planning commission, and so on, which maintain their respective websites. For example, the Supreme Court of India ([supremecourtindia.nic.in](http://supremecourtindia.nic.in)) has a website that covers such menu items as the constitution, rules, profiles of judges and, more importantly, an option for citizens to send feedback. But the web menu of an essential public service institution, the Union Public Service Commission ([www.upsc.gov.in](http://www.upsc.gov.in)), only includes items such as examination schedules, interview details, final results and notifications; it does not have an option for citizen feedback. However, the Directorate of Public Grievances ([dpg.bharatsarkar.nic.in](http://dpg.bharatsarkar.nic.in)) has a website that maintains a clickable option for citizens to send their grievances against any government department or agency.

At the state level, the web menus of state governments cover some major items in various combinations — including profiles of governors and ministers ,ministerial statements, facts and figures, structures and activities, gateways to



various departments and district offices, email addresses, press releases, tourism and investment information and, above all, contact addresses and feedback options. It is clear from this discussion that in India, the websites of public sector organizations (ministries, departments, courts, commissions) at the national and state level not only provide information about their activities, programmes, reports, statistics and publications, many of them also offer feedback options on their websites. These are apparently favorable changes toward a more interactive relationship between public servants and citizens. However, beyond how many hits each of these government website receives, it is difficult to assess the actual quantity of feedback and suggestions and the frequency at which public officials genuinely respond to them. An important consideration in this regard is how relevant the online discussion items and information sources are to the needs and interests of various segments of the population in India.

Not all citizens are interested in receiving information or providing feedback about ministerial speeches, leadership profiles and reports and documents on current issues. Even the practical information and application forms for services such as public utility bills, agricultural inputs, registration of driving licenses, pension schemes and housing and property taxes, may not interest certain occupational or income groups. Thus, under the electronic mode of governance, the interaction between the public and public servants becomes need-based and service-specific.

A common feature of the relation between politicians and the administration highlighted in most advanced democracies is the political neutrality of public servants and their accountability to elected political representatives. Following the liberal democratic model of governance, India inherited the tradition of political neutrality of public servants, although in reality, its bureaucracy was often found to be too powerful to be neutral and accountable to political representatives. However, compared to many developing countries, India did not experience excessive bureaucratic politics in the form of interventionist civilian and military bureaucracies, and it preserved a certain degree of separation between the political and administrative spheres.

In general, unlike the conventional democratic system of governance emphasizing a balance of power based on neutrality and separation among the various branches and levels of government, the current system of e – Governance gives more importance to the ‘connectivity’ between the public and private sectors, between government and non-government organizations, between departments or agencies and between elected political executives and appointed senior civil servants (Pardo, 2000; Heeks, 2001a; Mair, 2001). These increasingly blurred boundaries between the domains and levels of governance are endorsed by the advocates of e – Governance on the ground that such a trend would increase efficiency and coordination in information-sharing, and reduce intragovernmental duplications and conflicts. This global trend toward increasing networks and connections among various layers and realms of governance can also be found in the case of India.

As far as the linkages between politicians and public servants are concerned, there is a growing tendency in India toward a blurred or fused relationship between them, especially due to their common mission of e – Governance that stresses connection rather than separation. In fact, there has emerged in India a new breed of politicians possessing skills in it and behaving like bureaucratic experts. This is often the case at state-level governance. The recent speeches of Chief Ministers invariably include technical languages related to it understood and shared by technical bureaucratic experts rather than ordinary citizens. In fact, the elected Chief Ministers of such states as Andhra Pradesh, Arunachal Pradesh, Gujarat, Maharashtra, Meghalaya and Punjab, are themselves in charge of adopting it in governance. In the case of other states — including Bihar, Haryana, Himachal Pradesh, Karnataka, Madhya Pradesh, Orissa, Rajasthan, Uttar Pradesh and West Bengal — other elected ministers are assigned with this task (MIT, 2001d). There is no serious problem with the elected politicians managing the whole range of activities related to the use of it in governance, but it implies an increasing tendency of these politicians to play the role of technical experts and thus means a certain degree of bureaucratization of the political sphere. Conversely, there is a new generation of public servants in India who are well trained in ICT to generate, maintain and disseminate information.

Despite the greater level of technical skills possessed by current political leaders, they are often dependent on these bureaucratic information experts. In the past, it was widely known that the power of a bureaucracy based on information and technical expertise always posed a challenge to its accountability to the non-expert political leaders in developing countries like India. The current addition of a more sophisticated form of information power to the bureaucracy under e – Governance brings back the question regarding the accountability of such an information expert public bureaucracy to elected politicians who are much less skilled in this new game of it. In addition, e – Governance provides a wider opportunity for public servants to interact directly with the public in the process of receiving feedback from citizens and responding to their queries and complaints through electronic means. By entering into this domain of shaping public opinion, ICT-skilled public servants may have assumed a certain political role.

Thus, e - Governance may not only increase the power of bureaucratic experts in relation to elected political leaders, it may also lead to the politicization of the overall bureaucracy. Even if these politico-administrative consequences of e – Governance — i.e. the bureaucratization of it-driven political leaders and the politicization of information-smart bureaucrats — imply a greater connectivity or interaction between them, it is likely that the latter (bureaucrats) will have a more favorable position in sharing power. After all, the new governance tends to privilege those with greater expertise and experience in it. This is an interesting situation in which greater connectivity does not necessarily mean stronger cooperation between the stakeholders: it may, in fact, imply more competition between them. In any case, if there is a stronger alliance between politicians and public servants based on their common interest in it-intensive governance, it may compromise neutrality as a principle of their relationship and alienate the information-poor public in India. However, if the information-expert bureaucrats become too influential in relation to elected political representatives, it may undermine their accountability to these elected politicians. In other words, under e-governance, the nature of the relationship between politicians and public servants may have changed from one based on neutrality and accountability to one of a fused power structure with the dominance of

bureaucrats empowered by information expertise. In this regard, Daly (2000) makes a general observation that the use of the internet in governance has enhanced the dominance of nomenclature over testate.

### **2.9.1 Capacity building for e – Governance**

The nature and scale of e – Governance initiatives planned within the domain of the State Governments, present a considerable enhancement in the aspiration level of Government. Major managerial and technological challenges are one consequence of this, particularly in the context of the need for implementation of these projects in a “mission/projectized mode”, by departments concerned of the State Governments. There is also a need to manage the entire programme at the State level in a coherent manner with consistent strategies for cost optimization and integration. For achieving this, the Governments need to provide the overall direction, standardization and consistency across initiatives and at the same time, have the resources and flexibility to drive this plan. Given the federal structure of India, this brings in diversity in local laws, rules for transacting government business, implementation approach and responsibilities. Hence while designing the NeGP, GoI recognized the importance of building human capacities in terms of necessary knowledge and skills to conceptualize, initiate, implement and sustain e – Governance initiatives. It is equally important to foster an attitude and mindset that is receptive to ICT based administration and ICT based delivery of services. The Government recognizes that mere development of e – Governance strategies and induction of technology will not help deliver the quality of services envisaged unless human resources are aligned to provide the right services to the right customers from the right sources with the right tools at the right time. To achieve this, what is required is comprehensive capacity building across key areas relating to:

- The agenda for e – Governance is typically set at the highest level of Government. Thus, the capacity at the highest political and bureaucratic levels is extremely critical for informed policy making. This also helps in sustaining such programmes. Further as NeGP entails significant

Government Process Reengineering (GPR), adequate capacity at these levels is necessary to catalyze and drive such decisions.

- Implementing e – Governance policies that are consistent with a broad policy and adhere to common standards despite being implemented by numerous state and central government departments requires setting up of appropriate and empowered institutional arrangements to oversee, drive and manage implementation. These arrangements would vary from Central to State Governments although there would consistency of key roles i.e. formulating and ensuring implementation of e – Governance policies, addressing implementation bottlenecks and dependencies and finally monitoring progress and desired outcomes. These institutional mechanisms include full-time bodies and committees/ groups that meet on an episodic or periodic basis.
- For any institutional arrangements to be effective, there needs to be not only enough manpower; the competencies put together should be suited to the roles envisaged. This is an area, which probably requires the maximum attention. The focus of the capacity building initiatives has been to source the right people for the right job so as to make existing and proposed institutions effective. It is recognized that all the expertise required is not present within government and cannot be created exclusively by retraining existing personnel. Government departments and ministries were created to perform certain functions. Implementing e – Governance projects was not one of them. Yet, no e – Governance project can be meaningfully implemented without the active participation and leadership of the departmental personnel themselves. Even though the NeGP envisages accessing skills outside the government, a certain minimum level and combination of skills within the government are essential. Hence a carefully calibrated mix of inducting professionals at various levels from the market and retraining of existing personnel has been built into the NeGP.

- It has been our experience that to make an e – Governance initiative sustainable and cost-effective, there needs to be enough benefit accruing out of the project, which is monitored closely. Wherever possible, there also needs to be an explicit linkage between the benefit and the financing of the initiative.

The next chapter will reveal the research design, approach and the methodology opted in the present study and will also discuss the sample selection procedures and statistical techniques used for data analysis and interpretation.

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# Chapter – 3

## Research Design, Approach & Methodology

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### Chapter Outline

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- Introduction
- Need for present research
- Research objectives
- Hypothesis
- Research design
- Scope of study
- Variables
- Material Methodology
- Sample Selection Procedures
- Questionnaire Development and its Administration
- Data Collection
- Data Analysis
- Statistical Packages Used
- Techniques used for scoring and data analysis
- Past Research Work

# Chapter – 3

## Research Design, Approach & Methodology

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*In the previous chapter while making a thorough review of literature, a stringent view was taken into consideration of all the e – Governance factors and possibilities that co-exist within a governance system. This chapter will discuss in detail the methodology of research adopted in the current study. The chapter will start with the comprehensive justification of the requirement of research on e – Governance System Practices and there implications for the present scenario of governance. Also revealing the whole framework of research adopted and the research gaps identified through in-depth review of literature.*

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### Introduction

This chapter explains the research methodology used to develop basic framework of evaluation to measure the impact of electronic governance in delivering good governance from a variety of perspectives to the citizens. Due to the dispersed nature of literature about e-governance, several sources were used ingathering research material for this project. While standard academic books and journals were used in the course of the research, a lot of literature was gathered from other sources such as websites, both organisational and non-organizational sites, Internet news sites, magazine articles and a variety of other sources. The rationale for using such a wide range of sources is primarily related to the concern to have access to up-to-date information. Because ICT is moving so fast, hard copy material becomes outdated very quickly. While the published literature is often still relevant, one of the challenges of doing research on ICT based applications is that one needs



up-to-date information about what is happening now rather than what was happening last month or last year. Conducting research using the Internet presents challenges of its own. Because of the sheer volume of literature that is available and accessible on the Internet and in published form, the amount of material that needs to be read, processed and analysed for a research purpose is voluminous. This in itself makes researching easier in the sense that there is more material available, but it is also a double-edged sword in terms of viewing all relevant material. Empirical research via a survey research method is considered to be an appropriate approach to examine the citizens' awareness and adoption of Government Gateway adopters (Choudrie and Dwivedi, 2005a).

Nationwide data on the impact of best practices of e – Governance on good governance was studied, which is already available with the institutions having a role in delivering electronic services to citizens. In order to collect random data from the target population, a self-administered questionnaire was considered to be the most appropriate primary survey instrument in this investigation. This was because it addressed the issue of reliability of information by reducing and eliminating differences in the way that the questions were asked (Cornford and Smithson, 1996) and facilitated the collection of data within a short period of time from the majority of respondents (Hall and Hall, 1996). Overall, the questionnaire used in this research contained 25 questions. These questions were divided into two categories: (1) multiple choice questions addressing the social attributes (demographic variables) including age, gender, education, and income; and (2) Yes/No questions that asked whether the respondents were aware of the Government Gateway and if they had registered when accessing it. Close-ended multiple-choice questions were included in the questionnaire in order to obtain a high response rate. This was attributed to instances where respondents preferred to answer close-ended questions within the non-interactive, self-administered questionnaires (Fowler, 2002).

Prior to dissemination of the final questionnaire, a pilot study was conducted in order to: determine the response rate and learn of any discrepancies within the questions, which included determining whether the format of the questionnaire and questions were suitable. Additionally, the duration that completion of the

questionnaire would require was also established. The pilot questionnaire was delivered by using electronic mail to a total of randomly selected 300 participants in June 2010. A total of 210 replies were obtained from the respondents within the specified duration. The majority of the respondents reported that the questionnaire was easily understood and required 10 to 15 minutes to complete. The majority of the respondents validated the content of the questionnaires, although minor changes based upon the responses were undertaken to the final design of the questionnaire and a final questionnaire was developed. Since there were no major changes required to incorporate in questionnaire, responses received from the pilot study were also included in the final analysis (Fowler, 2002). Fowler (2002) has suggested that a prerequisite for determining a sample size should be an analysis plan. This research is a part of a larger study on impact of e – Governance system practices in India, therefore analysis of the entire study required performing principal component analysis (PCA), regression analysis, t-test and chi-square test. It has been suggested that in order to perform the aforementioned statistical analysis with rigour, the sample size should be above 300 (Stevens, 1996). Therefore, keeping the statistical analysis plan in mind it was decided that the total sample size should be large enough to obtain a minimum of 300 responses.

### **3.1 Need for Present Research**

From last two decades several researches has been done on developing successful models of implementation of e - Governance, formulation of capacity building measures and best practices in order to harness the true benefits of functional e – Governance system. As the era of digital economy is evolving, the concept of governance has assumed significant importance and so is the requirement of stakeholders expanding. Therefore success of any e – Governance system depends upon the policy and financial capacity of the government. However the trends on spending and huge incurred expenditure have lead to back track in implementation of e – governance systems resulting in failure, incompatibility issues and fulfillment of objectives. The present research has taken into consideration the system practices which have evolved our due course of time and their relevance to the present system of governance. Detailed study of key elements, processes, procedures, models has

been performed in a comparison within different states of India, with special focus to the State of Andhra Pradesh and Jammu & Kashmir.

Keeping in view the above facet, the information technology is an in full swing and Govt. has put large investment in building core infrastructure (WAN, SWAN, Satellite Communication System) so that the basic functionary of e – governance is carried at a Panchayat level. The CIC (Community Information Centre) an initiative under Ministry of Information & Technology is one basic aspect of e – Governance. The objective is to collaborate and deliver a full pack of services with use of advanced technology for transferring benefits. However the initiatives launched by both central and state governments is failing do deliver the services deliverable as desired by the stakeholders. Therefore more conversion is required and programmes and departments are required to work on cross network basis, so that the system delivers effective and meaningful services.

The wide spread implantation of e-Government around the world has recently attracted the attention of academic researchers. Understanding e-Government development and exploring variables that affect e-Government development have become an important research topic. Researchers following e-Government development indicated that “e-Government has become an evolving and important research area in the Information Systems (IS) field. The idea of governments around the world declaring themselves as suppliers of services adopting a citizen-centred strategy in order to achieve social and economic development goals has recently caught the attention of numerous e-Government researchers. Many of those researchers suggest that governments, in general, assume that people demand e-Government services. In addition, governments tend to supply people with what governments think is important while neglecting people’s actual needs. This however is creating a mismatch between the demand and the supply of e-Government. Unsurprisingly a study conducted by Accenture on international e-Government study concluded that governments are making service investment decisions without a clear view of the outcomes they affect. Other researchers refer to a recent survey within the EU indicating the scale of this problem.

When comparing the percentage of individuals who used the internet in the EU within the 3 months prior to conducting the survey by the actual use of the internet by surveyed individuals for obtaining information from public authorities' websites. Interesting findings indicate that of the EU countries there is a big gap between the potential and actual usage of online governmental information. Some countries have less than 10% of the population accessing e-Government. The scale of this gap is expected to be much larger within developing countries since the supply-side involves variables including what is available, the quality, and usability of the services. These variables are usually to a very low standards in most developing countries. Add to this problem that most governments and services are lacking the ability to address citizens' true needs and requirements. Research also suggests that governments who pay attention to the demand side of e-Government have succeeded in achieving enormous benefits leading to effective e-Government outputs. Canada for example in the year 2005 was categorized for the fourth year in a row as the most e-Government enabled country. The most likely reason for this is that Canada's regular surveys of citizens and businesses attitudes and needs appear to be the most extensive.

Many e-government initiatives are in their strategic phase of implementation (infancy), however, some key problems and barriers are already beginning to emerge. There are a number of barriers experienced in public sector organisations that prevent the realisation of anticipated benefits and degrade successful adoption of e-government projects. This section analyses and summarises the barriers of e-government adoption experienced in public sector organisations. Technology itself would not guarantee success with e-government but, it is necessary that any e-government initiative must ensure that it has sufficient resources, adequate infrastructure, management support, capable IT staff, and effective IT training and support. Despite the cost of IT going down, an adequate IT infrastructure still represents the key barrier for e-government adoption. The infrastructure is composed of hardware and software that will provide secure electronic services to citizens, businesses, and E-government adoption. According to research done by World Bank 60% of all the e – Governance projects fail to deliver in developing countries. The

basic deficiency lies with the wrong start of project and partial assessment of requirements of the citizens. The purview of this research is to understand, evaluate and analyse what best practices need to be adopted in order to make an e – Governance project a success and thereby creating an efficient and effective service delivery mechanism to the common citizens through the use of ICT in governance.

### **3.2 Research Objectives**

In light of the domain for research identified, following objectives have been set for the present study:

- ✓ to make comparative study of best practices in the sample study states (J&K & A.P) and to evaluate the practices, factors, trends and conditions those are most likely to shape the future of e – Governance in India,
- ✓ to study the mechanisms needed to oversee and assure the quality and integrity of a ubiquitous cyber infrastructure for e - Government when essential governmental functions are distributed across the public, private, and nongovernmental sectors,
- ✓ to examine the necessary elements of an international legal framework for authenticating and protecting personal identity, risks, benefits, and costs and to know how are they distributed across stakeholders, and
- ✓ to know impact of e – Governance System on the basic functioning and service delivery to citizens and what are the possible moderations that will shape the patterns of Administration – Citizen Interactions in future course of time.

### **3.3 Hypothesis**

In view of above stated objective, the following hypothesis are formulated :

1. Hypothesis 1: (H1) e - Governance initiatives are positively related to government– citizen relationships and corruption reduction.

2. Hypothesis 2: Improvements in government-citizen relationships account for more corruption reduction as compared to other variables.

On the basis of successful models of e – Governances it is hypothesized that the system practices adopted for e-Governance initiatives are positively to result in good governance, accountability, transparency, lowering of costs, increasing efficiency and reducing corruption and providing flexibility to change in India.

### **3.4 Research Design**

The study is based on both primary and secondary data. Primary data was collected through administering questionnaires and conducting interviews. The secondary data was obtained from the existing e – Governance case studies, journals, research papers and institutional policy papers.

### **3.5 Scope of Study**

The study has taken into account various inputs from respondents belonging to three sectors namely:

1. Government Sector – Policy Makers, Employees, Consultants & Key Persons.
2. Private Sector – Employees, Business Persons, Industry Owners.
3. Other Sector – Farmers, Rural Community Users & Related Community User Group.

An attempt has been made to present their views on the impact of e – Governance on the overall structure of governance within the public enterprises and large sized government institutions. The study explains following spheres of e –

1. General View on e – Governance.
2. Functional Issues
3. Performance
4. Cross Features
5. Service Delivery
6. Service Contents
7. Working
8. Impact
9. Governance and impact thereof:

### 3.6 Variables

In regard to research dimensions and the gaps, deficiencies of previous studies made in the past by different researcher and institutions, the respondents are studied on different lines sector of belongingness, age, gender and qualification. Whereas the maximum focus of research is to include all the factors which are most pertinent to functioning of an e – Governance system whether it be human factor, environment factor or system factor. The view of the variables is mentioned here under as:

**Exhibit 3.1 - Variable under Study**

S.No	Questionnaire Statement	Variable Representation
1.	e – Governance initiatives launched by state government in Tax Collection, Transport , Secretariat, Complaint Monitoring, High Court are citizen satisfactory	Satisfaction
2.	State & Central Government’s policy on creating sustainable infrastructure like State Wide Network, State Data Centre, and Networking Departments etc will render best e – Governance System in our state.	Awareness
3.	The resistance to change act as an obstacle to implement functional e – Governance System.	Resistance to change
4.	e – Governance system disseminates information in a very transparent manner.	Transparency in dissemination of information
5.	The government information portals, websites, orders, policies, rules and regulations are easily navigable and have friendly design	Navigability and friendly design
6.	The required infrastructure to access the e – Governance system is available with public domain	Availability of required infrastructure to access
7.	The information available through online medium is, encrypted, protected and secure	Information encryption, protection and security
8.	The departments have fully updated information available on internet	Updated information availability
9.	The gap created by redundant, poor functional and standalone working of government organisations will be bridged by e – Governance system	Bridging gap
10.	e – Governance delivers the promises of good governance on time and through cost effective medium	Delivering promises
11.	The performance of e – Governance is restricted to only those who have requisite connectivity and infrastructure in place	Restriction by infrastructure

12.	The use of English language as medium of exchange of information act as a hindrance to citizens who are not well versed with English	Linguistic hindrance
13.	e – Governance transcends gender, geography, income level, socioeconomic status, vested business interests, and political hierarchies	Transcending across demographic constraints
14.	E-government will bring structural changes in governance system and create more open process and functions of working.	Open process and functions of working.
15.	The lack of technical manpower and desired skills has been biggest bottleneck in delivering promises of e - Governance	Technical manpower and desired skills bottleneck
16.	The e – Governance portals, kiosks, information outlets, common information centers offer varied centralized services under single roof	Offering of varied centralized services
17.	The services offered through the service outlets are integrated across with various departments	Integration of offered services with departments
18.	The community information centres are connected with Market, Mandi's and therefore give information of commodity prices in far off rural areas	Reach
19.	The government service delivered through information outlets, web portals, kiosks has expanded service delivery magnitude of Govt.	Expansion of service delivery magnitude
20.	The role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e - Governance	Lessening role of human resource in delivery of services
21.	The e – Governance service delivery mechanism operates on 24X7	Operationality
22.	The information available on e – governance websites, portals etc. of governments is complete in all respects and accurate.	Completeness and accuracy of information
23.	The design, content of information, file formats are of standard type hence there exists no issue of cross operability.	Standardization and cross operability
24.	The poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens.	Impediment by poor infrastructure
25.	The poor technical skills and lack of will for implementing a e – Governance system result in total functional failure	Functional failure by poor technical skills and will
26.	The requirement of capacity building measures is important to deliver e – Governance services.	Capacity building measures service delivery
27.	The e – Governance improves government – citizen relationships which will result in better information sharing.	Improvement in government – citizen relationships
28.	The e – Governance system delivers promises of good governance by reducing corruption.	Reduction of corruption



29.	The improvement in Govt - Citizen relationships account for more corruption reduction.	Improvement in Govt - Citizen relationships account for more corruption reduction.
30.	e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction	Other factors
31.	E – Governance initiatives bring advantage of cost effectiveness and timeliness in public organisation	Cost effectiveness and timeliness
32.	The e – Governance Projects have created interactive atmosphere in public sector.	Interactive atmosphere in public sector.

### 3.7 Material Methodology

The present study has used certain empirical research so that the above set objectives are properly addressed to and thereby generate an appropriate proposition and identifying major aspects that contribute towards the development of citizen centric e – governance systems. The main components of research methodology adopted for conducting the present research are as under: -

- Critical review of literature available on the multi – facet dimensions on the present study.
- The citation of past researchers conducted on the subject parameter to elucidate the aim of present objective.
- Critical study of approaches and policies of State Governments toward e – Governance Initiative.
- Conducting face to face interviews with sample officials and purpose of arriving a viable model for e – Governance in State.
- Study annuals reports of UNCTAD, Ministry of Information Technology and Survey Reports.

### 3.8 Sample Selection Procedures

In pilot study of the State of Andhra Pradesh and Jammu & Kashmir, the preference was given to ascertain the current position of infrastructure and the level of significance within the governance system. The pilot study revealed the existing performance of various e – Governance initiatives launched by the state and central governments and also highlighted the deficiency existing in the automation processes. The sample selection procedure adopted was in consideration with the requirements of the research objectives and design. Keeping in view of the total 725

respondents have been selected for study from two states. 424 respondents belong from the state of Andhra Pradesh, while as 301 respondents belong to state of Jammu & Kashmir. The higher percentage of respondents from Andhra Pradesh has been selected in concordance with implementation of large number of e – Governance initiatives by the State Govt. Out of the total 725 respondents, 195 respondents are from Govt. Sector, 282 respondents are from Private Sector and 248 respondents are from other sector. The respondents selected age wise represents that out of 725 total respondents 321 respondents are in the age group of 20 -35 Yrs , 251 are of 36 – 51 Yr age group and rest above 51 Yr age group. Similarly in selection of respondents for the research purpose, due preference was given to ascertain genuine representation from the population on gender wise and qualification wise. The brief particulars of the respondents are given in the tables mentioned below:

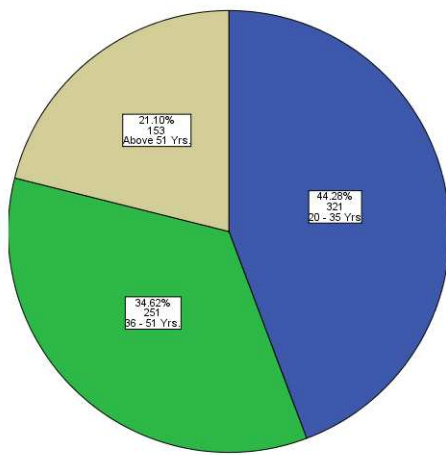
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Andhra Pradesh	424	58.5	58.5	58.5
	Jammu & Kashmir	301	41.5	41.5	100.0
	Total	725	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Govt. Sector	195	26.9	26.9	26.9
	Private Sector	282	38.9	38.9	65.8
	Other Sector	248	34.2	34.2	100.0
	Total	725	100.0	100.0	

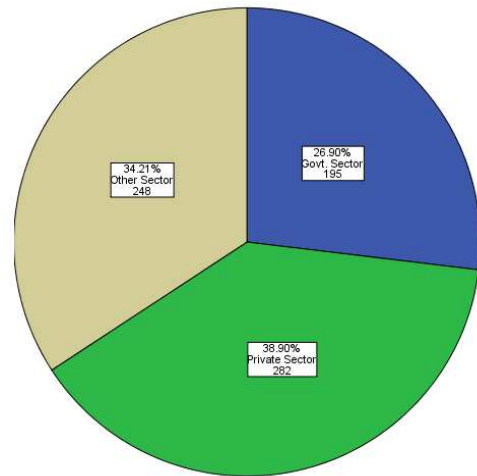
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 - 35 Yrs	321	44.3	44.3	44.3
	36 - 51 Yrs.	251	34.6	34.6	78.9
	Above 51 Yrs.	153	21.1	21.1	100.0
	Total	725	100.0	100.0	

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	314	43.3	43.3	43.3
	Male	411	56.7	56.7	100.0
	Total	725	100.0	100.0	

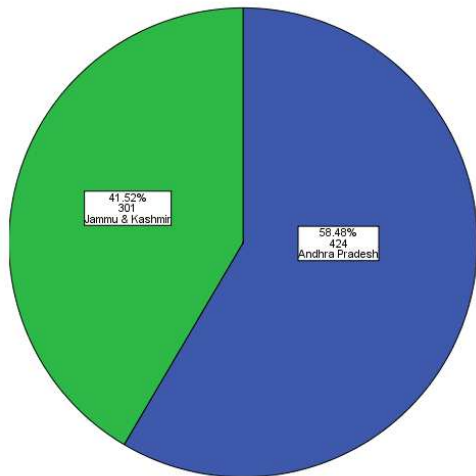
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under Graduate	183	25.2	25.2	25.2
	Graduate / Post Graduate	280	38.6	38.6	63.9
	Above Post Graduate	262	36.1	36.1	100.0
	Total	725	100.0	100.0	



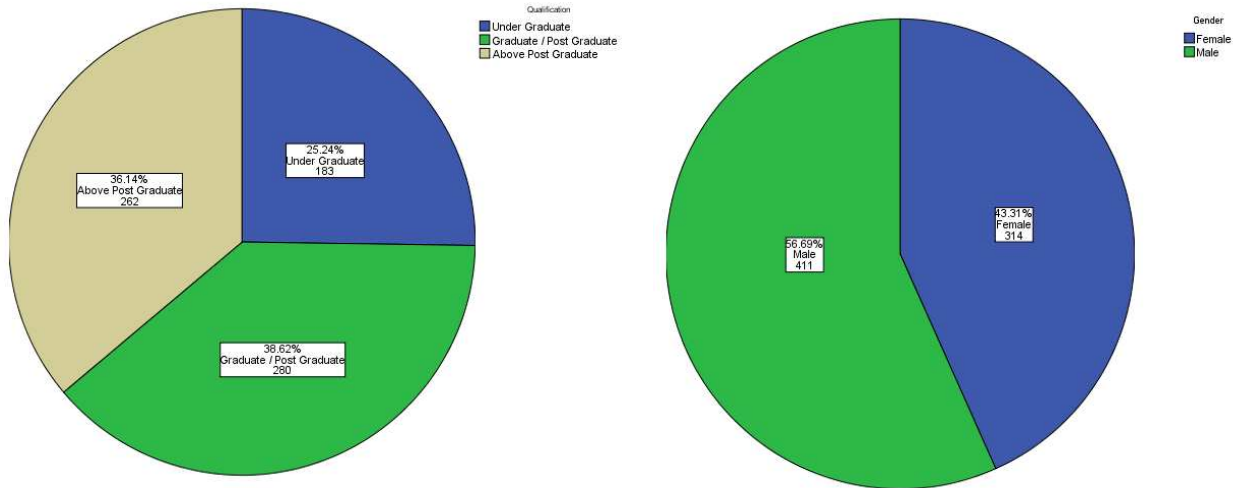
Age  
 ■ 20 - 35 Yrs.  
 ■ 36 - 51 Yrs.  
 ■ Above 51 Yrs.



Sector  
 ■ Govt. Sector  
 ■ Private Sector  
 ■ Other Sector



State  
 ■ Andhra Pradesh  
 ■ Jammu & Kashmir



### 3.9 Questionnaire Design Development and its Administration

In order to elicit the required information from the respective departments and their status on implementation of e – Governance System , the overall procedures, functioning, digitization’s and data communication methods will be studied. The questionnaire has been drafted and distributed among the key sample. So that specific responses to questions of understanding and improvement in regard to their interaction with an e – Governance Modular System was done. The questionnaire asks on questions on the daily routine work, processes, procedures and protocol to be followed. The questionnaire will ask question in order to judge the respondents level of expertise with any information technology system and there possible outcome.

#### 3.9.2 Data Collection

Data was collected from the respondents by distributing questionnaires among citizens, government officials, bureaucrats, policy makers, educational institutions, technological enterprises and independent consultants who were able to use Information and Communication Technologies or have interaction with ICT based e – Governance System, therefore target population was given a complete representation by distributing questionnaires to State of Andhra Pradesh, Uttar Pradesh, Haryana & Jammu and Kashmir. The data was collected as per the

requirements of the study. The objectives of the study were kept in mind and the contents of the questionnaire were very specific as per the needs of the study.

### **3.9.3 Data Analysis**

The analysis of the data during the evaluation phase of the research was divided into two succinct groups; the analysis techniques used for the three questionnaire survey sand those techniques used to analyse the data gathered during the two evaluations. This section begins by discussing the methods used to analyse the data obtained from the questionnaire surveys.

The survey data was mainly quantitative in nature and was, therefore, analysed using SPSS (SPSS, 2006). The analysis began by using univariate analysis such as frequency distributions and descriptive statistics to gain an understanding of the data collected. However, most good research in the social sciences works under the assumption that “reality is complex” (Burdenski, 2000) and that in most cases univariate analysis is simply not enough to measure the complexities of the real world. For this reason bivariate and multivariate analysis were used to extract the really useful and meaningful information out of the data collected. Therefore, tests including cross tabulations, independent t-test, chi-squared test and correlation coefficient were used to analyse the relationships between variables and samples. The fact that the results obtained from the surveys were intended for input into the evaluation framework meant that some of this data required further treatment. This treatment consisted of calculations, scripts and scenarios within the evaluation framework that were required to configure the data into a format that was acceptable to the model. The data analysis procedures used during the two evaluations were extremely different than those used during the survey analysis. The main reason for this was that the evaluations in themselves were not only the research instrument but they were also comprised of data analysis techniques. Both evaluations began with the gathering of raw data and went about transforming this data into a format that was not only valuable in a business sense but was also compatible with the evaluation framework. The evaluations themselves were comprised of a wide variety of data analysis packages such as log analysers, Web-based tools and software

packages to evaluate areas as diverse as search engine optimisation, html validity, website content analysis and website promotion techniques.

#### **3.9.4 Statistical Packages Used**

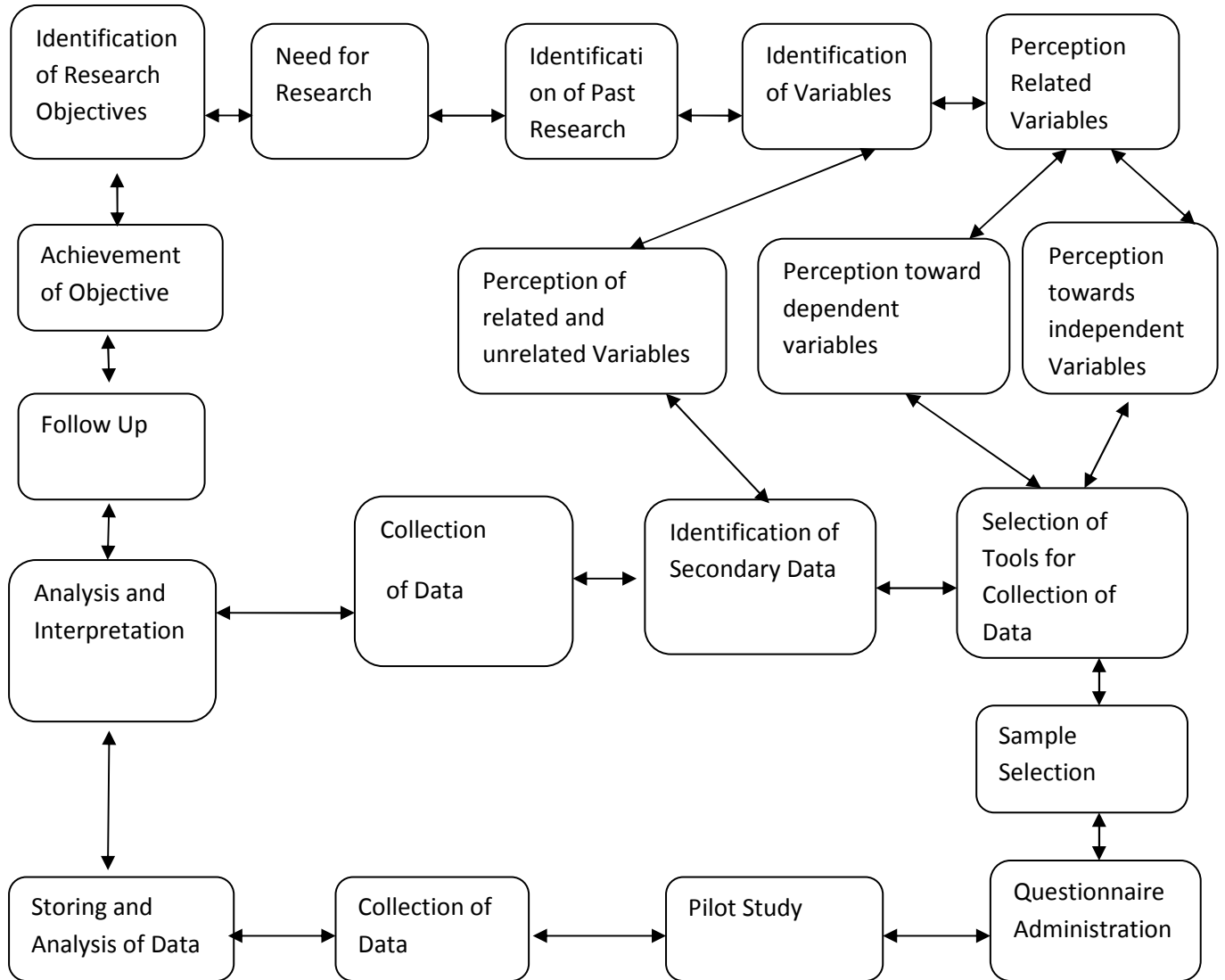
The data collected from both primary and secondary sources for determining the status of impact of best practices of e – Governance on good governance was statistically analyzed by using statistical tools like standard deviation, mean, averages, comparative averages, correlation, ANOVA, Chi – Square Test and other methods. All the calculations were performed on SPSS Version 19 & SPSS Version 16 and on Mini Tab 13.2 Software systems where all the statements represent each variable and has therefore a separate label. As the number of respondents in the sample exceeds more than 30 and the sample sectors exceed more than two, therefore “T” test is inappropriate, the level of significance had to be determined through the use of ANOVA. The basic pre – requisite for administering ANOVA to the data is that the variance across the sample is equal. To test this equality of variance the Leven’s Static was used, it tested the homogeneity of variances in the data of the sample study sectors and worked out the level of significance. After testing the homogeneity of variance the ANOVA was applied to the data and necessary analysis was performed. Also Chi Square was used to work out the level of significance and hypothesis testing.

#### **3.9.5 Techniques used for scoring and data analysis**

The survey was used to study impact best practices of e – Governance and their impact in delivering services good governance to stakeholders. The instrument also provided the insight on the importance of e – Governance functional systems is the system is implemented fully and made functional in delivering services to the stake holder. The survey used a five point scale with 1 indicating the total disagreeeness with the statement of the questionnaire, 5 indicate total consonance with the statement of the questionnaire used in survey method. The mean score of 4 indicates the agreement of respondent with the showcase features of e – Governance. The data analysis was performed in such a way that all the information contained in the data was given full understanding and conclusion in drawing the perfect information for the available data.

Exhibit 3.7 Data Analysis Frame									
Sample Study States		e – Governance System Practices					Sectors	Org. Hierarchies	Designated Respondents
		Impact	Working	Service Content	Service Delivery	Cross Features	Performance	Functional Issues	General View
							Government Sector	Policy Makers Top Management Middle Management IT Staff Consultants	Director of Departments, e – Governance Agency CEO, M.D's of Corporations, Commissioner IT, IT Consultants, Project Manager, Software Engineers, Networking Specialists, Technicians.
							Private Sector	Companies Firms Private Employees NGO's Business Enterprises	Private Company Head of Projects, Project Managers, System Integrators, Training Managers, Design Engineers, Network / Interface Designers, Proprietors, Service Staff Employees, Managers, Users and Employees.
							Other Sectors	Farmers & Basic Workers Labourers Shop Owners Village Panchayat Workers City Municipal Workers	Village inhabitants, Panchayat Members / Secretaries, VLW's, CIC Employees, Khidmat Centre Employees, Village Common Facility Centre Users, Common Farmers / Agriculturist, common people.

**Exhibit 3.8 Research Approach and Methodology**



### 3.9.6 Past Research Work

A bird's eye view has been presented in the following exhibits revealing the research summaries of the past research work undertaken by the different organisations and public sector institutions and researchers within the functional e – Governance domain. The summaries of 15 Journals of last five years are presented in ascending order along with limitation in scope and date of publication.

The next chapter will present detailed analysis of statistics and interpretation of results and their relevance to the research objectives and hypothesis undertaken for research.

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**Exhibit 3.9 Summaries of the Past Research Work  
Existing Status of e – Governance and its impact**

	Name of the Paper	Source	Sample Sector	Sample Size	Variables		Techniques Used
					Dependent	Independent	
❖	<p><b>The Electronic Journal of e-Government (EJEG)</b> Volume – 9 Issue 1 / September 2011 <a href="http://www.ejeg.com/main.html">http://www.ejeg.com/main.html</a></p> <p><b>“Public Sector e – Service Development in Bangladesh – Status Prospects and Challenges.”</b></p> <p><b>By:</b> Frank Bannister</p>	Journal	<ul style="list-style-type: none"> <li>- 44 Public Officials involved in implementation of e-Government Project.</li> <li>- 9 Top Official involved in policy interventions in e – Governance implementation.</li> </ul>	44 + 9	<p>Public e - Service Initiatives in Bangladesh</p> <p>Assess e – Service Maturity Level</p>	Progress / Development in the country.	Survey & Interview Approach

**Limitation of the present study :**

The study has focused on infrastructural demands to make the e – governance projects viable in the developing nations like Bangladesh, while as neglecting the role of technological interventions, human resource capacity building initiatives, training and developmental skills, policy interventions and dowlaiting of different aspects of governance in order to make the project’s success and citizen benefit oriented.

❖	<b>Journal of Theoretical and Applied Information Technology.</b> Volume - 1 2005 - 2010 JATIT & LLS. <b>“E-Governance In India – Problems and Acceptability”</b> <b>By:</b> 1.Dr. Sanjay Kumar Dwivedi, Head, Department Of Computer Science, BabasahebBhimrao Ambedkar University, Lucknow (U.P.), India - 2.Ajay Kumar Bharti Research Scholar, Department Of Computer Science, BabasahebBhimraoAmbedka r University, Lucknow (U.P.), India - 226025	Journal	- Public Sector - 4 States - 4 Projects	4 States	Good Governance	Governance that is inexpensive, qualitatively responsive, and truly encompassing.	Project Evaluation Studies
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**Limitation of the present study**

The study is focused that Governments and public sector organizations around the world are facing problems to reform their public administration organizations and deliver more efficient and cost effective services, as well as better information and knowledge to their stakeholders. In spite of poor infrastructure, poverty, illiteracy, language dominance and all the other reasons India has number of award winning e-governance projects. Effective promotion schemes by the Indian government will also a boosting factor to provide quality services to their citizens as in which means there is huge potential for the development of e-governance in various sectors. However the study has failed to explain the possible practices and implementation tactics to be opted in order to make e – governance initiatives a success and also fails to explain what possible steps and models need to be kept in view while we formulate operational guidelines for an e - governance project.

❖	<b>Asian Journal in Information Management</b> 4 (1) 1.11.2011  <b>“A model for e – governance system implementations for developing countries”</b>  <b>By:</b> Department of Computer Science – University of Nigeria , Nsuka ISSN 1819-334X 2010 Academic Journal Inc.	Journal	In a survey method conducted between Nov. 2006 & March 2007 in 30 communities of 10 selected out of 17 Local Govt. Area	10 Communities	Location , Size , Technology environment, culture communication	Stake Holders, electric supply, communication infrastructure, Socio – culture environments, economic environment, pol – legal environment.	Modeling Techniques , Surveys, Project Studies.
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**Limitation of the present study:**

The study is based on the modeling approaches presents partly the framework proposed which consist of the way of thinking. The study has been divided into three variables one is actor variable i.e. collective problem solving process. The level variable identifies the various organizational or political levels on which collective problems solving processes take place. The function variable represent the core functions namely policy making, regulation and service delivery.

The study has highlighted good model to develop an effective and efficient and sustainable IT System. However the model has put extra focus on the problem defining process while by neglecting the role of stringent policies and infrastructure demand in order to bring the gap between the government and citizen through the local based e – governance initiatives.

❖	<p><b>Government Information Quarterly</b> 26 (2009) 118–127</p> <p><b>“E-Government in developing countries: Experiences from sub-Saharan Africa”</b></p> <p><b>By:</b> TinoSchuppan Institute for eGovernment, c/o University of Potsdam, Complex III, August- Bebel-Str. 89, D-14482 Potsdam, Germany</p>	Journal	Government Sector	Public Offices Sub-Saharan Africa	<p>Specific potentials of E-Government In developing countries</p> <p>Conditions must be taken into Consideration when implementing E-Government</p>	<ul style="list-style-type: none"> <li>▪Delay of goods traffic</li> <li>▪Inefficient tax collection system</li> <li>▪No possibility to anonymously report corruption</li> <li>▪High bureaucratic procedures</li> <li>▪Electronic customs declaration system</li> <li>▪Online tax collection system</li> <li>▪Introduction of a Business Keeper Monitoring System for anonymous reporting</li> <li>▪Reduction of interfaces to the customer</li> <li>▪Reorganization of tax processes</li> </ul>	Survey across Sub – African Nations
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**Limitation of the present study:**

This article addresses the different institutional and cultural contexts which must be considered when implementing e-Government in sub-Saharan Africa. Although e-Government is a global phenomenon, simply transferring ICT solutions and related organizational concepts from developed to developing countries seems inappropriate. E-Government undoubtedly has the potential to reduce administrative and development problems. However, it is obvious that compared to developed countries, additional effort is necessary when implementing e-Government in developing countries. More than in developed countries, the different initial institutional, cultural, and wider administrative contexts must be considered to avoid unintended effects. It is oversimplifying the issue to merely state that e-Government projects fail in Africa and other developing regions. The paper has not taken into account he especially for African countries, a context-oriented approach, which seems to be a more promising route to the successful implementation of e-Government. The results of this approach may not seem ambitious from a western perspective, but could contribute to the solution of real life and development problems in African societies.

❖	<p><b>Daryl M. West,</b>  <b>“Global E-Government, 2006,”</b> <a href="http://www.insidepolitics.org">www.insidepolitics.org</a>.</p> <p><b>“Evolving Public-Private Partnerships: A New Model for e-Government and e-Citizens”</b>  <b>By:</b></p> <p>W. Lance Bennett  and Philip N. Howard</p>	Journal	Govt. Sector	Public Private Partnership	<p>Greater access to government,</p> <p>Civic engagement by enabling the public to interact more conveniently with government officials,</p> <p>Increasing government accountability by making its operations more transparent, thereby reducing the Opportunities for corruption to infiltrate; Supporting development goals by lessening the time and expense</p>	<p>Harnessing existing Government services Address citizen Needs and demands through partnerships between Government, technology companies, access providers, and Finance organizations,</p> <p>Coordinate the flow of computers, e-services, and skills In targeted, underserved segments of society</p>	<p>According to one rating of 198 nations and more than 1,700 government Web sites, the top nations offering citizens online government services are South Korea, Taiwan, Singapore, the United States, Canada, and Great Britain. Fully 71 percent of North American government sites offer online services</p>
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**Limitation of the present study:**

The Microsoft Partnerships for Technology Access (PTA) initiative is developing a model for creating strategic technology alliances. This paper examines the model, assesses its assumptions, and compares it with earlier methods for stimulating technology access in both developed and less developed countries. The basic aim of the PTA program is to put a computer purchase within reach of underserved population segments through a PPP. To make the computer affordable, the PTA initiatives are characteristically premised on opening new lines of credit that did not exist for the target segment. To make the computer relevant, PTA initiatives harness a government service that benefits a relevant citizen population. That service should be something that the government sponsor would like to use to transform its operations and the quality of its relationships with various constituents. The paper fails to explain what policy interventions are required to address the problems which exist and which hinder the public private partnership to harness true fruits of e - Governance.

❖	<b>Federal Report</b>  <b>State and Federal Electronic Government in the United States, 2008</b>  <b>By:</b>  Darrell M. West	Government Report	Government Sector	Public Enterprises	Privacy and security	A disorganized website can be frustrating and difficult to use, even if it has many helpful features and services	Using a detailed analysis of 1,537 state and federal government websites, a report measuring what is online, what variations exist across the country
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**Limitation of the present study:**

The most striking discovery of this paper is that while researching state and federal websites was the importance of consistency. States that had websites that were completely inconsistent from one agency to the next were harder to navigate, because each site seemed like an independent entity. Sites that were consistently formatted, however, were much easier to use because one knew where to find certain links with the prior knowledge of their relative locations on other state sites. For example, many Massachusetts state sites had consistent types of links on the top, left, right and bottom of each page, allowing for very straightforward navigation. The paper discusses modes of interface for possible interaction between service provider i.e. government and the stakeholders i.e. citizens. However the study has not focused on the technological interventions which can be made possible in mobile based government where mobile alerts depict the interaction patterns between government and citizen.

❖	<p><b>Digital Philippines</b> www.digitalphilippines.org April 2002</p> <p><b>“e-Government in the Philippines: Benchmarking Against Global Best Practices”</b></p> <p><b>By:</b></p> <p>Emmanuel C. Lallana, PhD Patricia J. Pascual Edwin S. Soriano With Assistance From Katherine B. Nakpil Beatrice Recio</p>	Journal	Government Sector	Public Organizations	<p>Internet users per one Hundred inhabitants;</p> <p>Cellular subscribers per one hundred inhabitants;</p> <p>Internet Users per host; percentage of computers connected to the internet, and</p> <p>Availability of public access to the Internet. government</p>	<p>Faster and better delivery of public goods and services;</p> <p>Greater transparency in government operations;</p> <p>Increased capacities of public sector organizations, and</p> <p>Proactive participation of citizens in governance.</p>	Study
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**Limitation of the present study:**

The paper illustrates that e-Government is a tool by which limitations of time, distance, and cost are reduced, thereby enhancing citizens’ access to government services. Citizens will no longer have to wait in line to claim birth certificates, licenses or visas. Citizens will have better access to public government information such as application requirements, study and employment opportunities, and policies. While as the paper does not explain what benchmarking practices need to be adopted and what variable need to be tracked and what threats need to be dealt with to make system functional and delivery of service easy and affordable.

❖	<p><b>Breaking Barriers to e -Government Overcoming obstacles to improving European public services Modinis study</b></p> <p>Contract no. 29172 Solutions for eGovernment Deliverable 3 23/12/2007</p> <p><b>By:</b></p> <p>e- Government Unit DG Information Society and Media European Commission</p>	Working Paper	Government Sector	Public Offices	<p>Identification and Recommendations of key legal and organisational solutions to overcoming the barriers to e government,</p> <p>Substantial Legal, political, administrative, social, institutional and cultural differences between member States and regions</p>	<p>Leadership failures ,</p> <p>Financial inhibitors,</p> <p>Digital divides and choices,</p> <p>Poor coordination,</p> <p>Workplace and organizational inflexibility,</p> <p>Lack of trust,</p> <p>Poor technical design</p> <p>inequalities in skills and access can limit and fragment</p> <p>Take-up of egovernment</p>	Comparative Study
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**Limitation of the present study:**

The working paper proposes that overall objective of the research was to identify and explore the barriers to eGovernment progression in Europe and suggest organisational, technical and legal solutions to overcome these obstacles. The project team have used four main methods to achieve these aims: a critical review of a wide collection of existing work on eGovernment, a non-probabilistic web-based survey, case study research and engagement with eGovernment experts via a project website, six-monthly workshops, and the creation of an expert group. The methods adopted are not significant and hence the over motto of the research is not fully addressed hence further research is required to explain un- answered queries.



❖	<p><b>Government Information Quarterly</b> 22 (2005) 20–37</p> <p><b>“E-government in China: Bringing economic development through administrative reform”</b></p> <p><b>By:</b> Lianjie Mab, Jongpil Chunga, Stuart Thorsona,*  aInformation and Computing Technology Group, The Maxwell School, Syracuse University, 542A Eggers Hall, Syracuse NY 13244-1020, USA  bSchool of Public Administration of Huazhong University of Science &amp; Technology, China and Fullbright Visiting Scholar at the Maxwell School of Syracuse University, USA, 2002–2003</p>	Working Paper	Government Sector	Public Offices	<ul style="list-style-type: none"> <li>- Reduce costs and layers of organizational processes</li> <li>- restructuring the relationship among state, business, and citizens (more transactions among them)</li> <li>Improving government to business (g2b)</li> <li>Improving service to citizens and Enhancing governance</li> </ul>	<p>Growing Convergence of computers and telecommunications, and the potential this offers to create A network society</p> <p>Reducing administrative examination and approval</p> <p>Reorganizing government structures</p> <p>Transforming government functions</p>	Survey
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**Limitation of the present study:**

The study focuses that within China, government leaders are using information technology to drive efforts both to accelerated ecentralized public administration and at the same time to enhance government’s ability to oversee key activities. The concurrent pursuit of these two seemingly paradoxical objectives is, in turn, motivated by an explicit desire to modernize and make more competitive the Chinese economy. In particular, this paper provides a number of illustrations of how Chinese e-government initiatives can be best understood as vehicles intended to support economic development through an increasingly transparent and decentralized administration while at the same time there exist some un – attended facts that the central governments information and ability to efficiently monitor and potentially steer economic activity is at more abstract level. These cases illustrate the relationship between national-level efforts and administrative reforms implemented at the local level hence need further research.

❖	<p><b>African Journal of Business Management</b> Vol. 5(5), pp. 1564-1569, 4 March, 2011 Available online at <a href="http://www.academicjournals.org/AJBM">http://www.academicjournals.org/AJBM</a> ISSN 1993-8233 ©2011 Academic Journals Full Length Research Paper</p> <p><b>“Lean public management: How lean principles facilitate municipal governance reform in China”</b></p> <p><b>By:</b></p> <p>Xin Miao*, Yan-Hong Tang, Bao Xi and Zhi-Yan Liu School of Management, Harbin Institute of Technology, Harbin 150001, China. Accepted 18 January, 2011</p>	Journal	Government Sector	Chinese municipal governance	<p>Understand lean is an ongoing, continuous improvement approach as compared to process re-engineering</p> <p>Gain top management's commitment. Continuous improvement requires ongoing support</p> <p>Build a multi-discipline team for the project-one that understands lean management</p> <p>Analyze the total working process, not just one part</p>	<p>Rationalize the process.</p> <p>Improve the process to drive change</p> <p>Incorporate new technology and new medium as part of the process improvement</p>	Survey
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**Limitation of the present study:**

This article focused on the gap through referring to lean principles in supply chain management. The aim was to illustrate the determinants of efficient public service provision for citizens to support flexible municipal governance reform to satisfy increasing public demand. The explorative and deductive principles were put forward following by a case study on Jiangmen municipal service hotline that set an example of cross-network integration for lean public management. The limitation of the study is that it is done at a small level i.e. Municipal level as the factors which represent a big picture at miniature level often diminish at larger level as other major factors crop in and their disposal decides the success and failure of an e – Governance System.

❖	<p><b>e - Government Workshop '05 (eGOV05), September 13 2005, Brunel University, West London UB8 3PH, UK</b> RanaTassabehji</p> <p><b>“Inclusion in E-government: A Security Perspective</b> <b>INCLUSION IN E-GOVERNMENT: A SECURITY PERSPECTIVE”</b></p> <p><b>By:</b> <b>Rana,Tassabehji</b>, School of Management, University of Bradford, UK r.tassabehji@bradford.ac.</p>	Journal	Government Sector	Public Offices	<p>E-government readiness,</p> <p>Re-engineering inter and intra-organisational processes and structures</p> <p>Generating new Services, products and channels for the end-users or consume</p> <p>Accidental loss, destruction, disclosure, modification, misuse or access</p>	<p>Increases in efficiency, productivity improvements and cost savings similar to those Experienced by the private sector,.</p> <p>Human resource Management and training; and organisational culture as well as systems and technology Infrastructures</p>	UN World Report on the Public Sector
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**Limitation of the present study:**

This paper has examined the issue of inclusion in the process of e-government from the perspective of security and ultimately trust. In order to engage citizens in the process, there must be transparency and confidence that the e-government systems they are using are trustworthy and will deliver the services they are “advertising” with integrity, authentication, confidentiality, trust, and accountability. While empirical studies have already shown that measures such as, improving information quality, accuracy and currency and introducing trust mark seals go some way to generating trust in users, studies have shown that if trust in e-commerce is broken, then it is particularly difficult to regain.

The paper proposes to identify and develop various prospects of security, affordability and access to citizen’s different cities at different levels. One thing that is not discussed how to bring transparency with efficiency and effectiveness’ in the delivery system while same time keeping the promises of security and authentication intact. Hence further research is needed on this subject.

❖	<p><b>Journal of Information Technology Management</b> ISSN #1042-1319 A Publication of the Association of Management</p> <p><b>“GOVERNMENT ORGANIZATION REFORM AND SHARED SERVICES DEVELOPMENT IN TAIWAN”</b></p> <p><b>By:</b></p> <p>PROF. JOHANNES K. CHIANG DEPT. OF MIS, NATIONAL CHENGCHI UNIVERSITY <a href="mailto:jkchiang@nccu.edu.tw">jkchiang@nccu.edu.tw</a> DR. KENNY HUANG MIND EXTENSION INC. <a href="mailto:huangk@mindext.com">huangk@mindext.com</a></p>	Journal	Government Sector	Public Offices	<p>Stable migration of available applications into the new architecture</p> <p>Accumulation,</p> <p>Material organization and description,</p> <p>Validating the digitized objects and the annotations,</p> <p>Accessing,</p> <p>Dissemination</p>	<p>Service-level-agreement (sla) And performance management assessment,</p> <p>Open source Community and other open technologies</p> <ol style="list-style-type: none"> <li>1. Service discovery</li> <li>2. Security and authentication</li> <li>3. Service interaction and communication</li> <li>4. Service management</li> </ol>	Survey Method
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**Limitation of the present study:**

The study is to explore the potential trend of e-Gov systems due to new technologies introduced and operational requirements on e-Gov services. The research conducted in this paper has an explorative descriptive nature. Aim is to develop an understanding of the relevant management issues of IT systems from operating e-Gov services but neither to develop nor validate a theory. The research objective is to find out the deficits in the e-Gov. development and the needs on shared services for the development of e-Gov. This research conducted interviews and survey to gather the requirements and experiences of the current IT practice.

The paper foresees the deployment of Grid and shared service that can lead better cost/benefit effects and QoS of the government and will be emerging very soon, while as no technical modalities has been discussed and no cost – benefit has been done to ascertain the actual impact of technical issues in solving problems of today’s world.

❖	<p><b>Recommendation</b> Rec(2004)15 adopted by the Committee of Ministers of the Council of Europe on 15 December 2004 and explanatory memorandum ISBN 92-871-5680-8was</p> <p><b>ELECTRONIC GOVERNANCE ("E-GOVERNANCE")</b></p> <p><b>Prepared By:</b></p> <p>Multidisciplinary Ad hoc Group of Specialists on electronicgovernance (IP1-S- EG).</p>	Policy Paper	Government Sector	Public Offices	<p>Strengthening the participation, Improving the overall accessibility,</p> <p>Strengthening public services' responsiveness to user needs,</p> <p>Consistency in service quality and a seamless service across multiple service Areas and modes of access,</p> <p>Identification and authentication in electronic communications</p>	<p>Quality- management system Aimed at improving public e-services,</p> <p>Automatic processing of personal data</p> <p>Review of policies, legislation and practice,</p> <p>Interoperability achieved through the use of open standards</p>	Government Fact Sheet.
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**Limitation of the present study:**

The paper emphasizes the importance of maintaining and enhancing democratic institutions and processes in the context of the new opportunities and challenges arising from the rapid emergence of the Information Society; Convinced of the continued and essential leadership role that national, regional and local public authorities must play in identifying and responding to these opportunities and challenges, by implementing comprehensive e-governance strategies; Acknowledging the range of e-governance initiatives in member states at the national, regional and local levels; Noting that the development and implementation of these e-governance initiatives should serve to further strengthen human rights, particularly the right of everyone to express, seek, receive and impart information and ideas. The paper has taken broad outline in context of study and has hence focused on study of general terms rather than on concrete and challenging factors, which have a long implication for an e – Governance system to deliver citizen expectations.

❖	<b>Asian Affairs,</b> Vol. 29, No. 4 : 29-46, October-December, 2007  <b>“UNDERSTANDING E-          GOVERNANCE: A          THEORETICAL APPROACH”</b>  <b>By:</b> MUHAMMAD MUINUL ISLAM ABU MOMTAZ SAADUDDIN AHMED	Journal	Government Sector	Public Offices	Building services around citizen’s choices (2) Making government and its services more accessible (3) Social inclusion (4) Providing information responsibly (5) Using IT and human resources effectively and efficiently	Globalization with the emergence of new information and communication technologies	UN Survey 2002).
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**Limitation of the present study:**

e - Governance as the above discussion suggests offers many benefits to the citizens. It has much potential to bring many dreams and goals into reality designed by various international organizations and governments of the world. The issues of poverty reduction, economic underdevelopment, illiteracy, pervasive corruption can be arrested by using skillful application of egovernance initiatives. Despite its enormous potentials, it is observed that the benefits of e-governance are not duly reaped by the governments of both developed and developing countries. The main stumbling blocks in this way are basically the political leadership and bureaucratic inertia. Another stumbling block for global equitable access of e-governance is ‘digital divide’<sup>7</sup> often called as ‘information block holes’. E-governance can very positively turn a paradigm shift as indicated above from traditional bureaucratic administration to a more responsive, accountable and effective administration which many governments of the world are aspiring for a long time. The paper has taken qualitative factors in consideration, while sidelining the quantitative factors like the number of small initiatives launched each year in each state, in each city, the increase in ICT coverage area with corresponding increase in e – Governance infrastructure, initiatives to bridge technological divide, hence further study is required to come to final conclusion.

❖	<p><b>Communications of the Association for Information Systems</b> (Volume 17, 2006) 1064-1123 1064</p> <p><b>“E-GOVERNMENT AND DEMOCRACY IN RUSSIA”</b></p> <p><b>By:</b> William McHenry Department of Management College of Business Administration University of Akron wm@uakron.edu ArtemBorisov Deputy Director Zheldoripoteka Joint Stock Company Moscow, Russia</p>	Journal	Government Sector	Public Offices	<p>Actual levels of Development of national and regional official governmental websites,</p> <p>Effective use of the intellectual and labor potential,</p> <p>Good Governance,</p> <p>Electoral Accountability,</p> <p>Public Participation</p>	<p>Access for every member of society to the whole aggregation of Socially significant knowledge,</p> <p>Freely receiving information at the needed time,</p>	Survey Method
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**Limitation of the present study:**

As against the backdrop of creeping authoritarianism by the Putin administration, this paper examines whether or not Russian efforts to enact e-government are enhancing, inhibiting, or neutral towards the establishment of preconditions for democracy in Russia. Eighty official regional governmental websites in 2003 and 85 in 2004 are examined to benchmark their contents according to a set of measures related to Information, Communications / Participation, Action / Transaction, and Integration. It is concluded that the main thrust of the websites was on the Information category, with some increases in the Communications / Participation from 2003 to 2004. Almost no services were enacted. Using a detailed analysis of the E-Russia expenditures, it is concluded that this program was focused more on building infrastructure than on building up e-government websites or increasing Internet access.

The paper concludes that the policy matter has failed in giving boost to e – governance projects, however the failure can be due to other factors like, creation of infrastructure for future projects which are still to come up, hence it is not clear on its perspective.

# Chapter – 4

## Data Analysis & Interpretations

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### Chapter Outline

- Introduction
- Evidences of present study
- Impact of e – Governance
- Quality assessment statistics of variables
- Satisfaction with e – Governance initiatives
- Awareness of e – Governance initiatives
- Resistance to change
- Transparency in dissemination of information
- Navigability and friendly design
- Availability of required infrastructure to access
- Information encryption, protection and security
- Updated information availability
- Bridging gap
- Delivering promises
- Restriction by infrastructure
- Linguistic hindrance
- Transcending across demographic constraints
- Open process and function of working
- Technical manpower and desired skill bottleneck
- Offering of varied centralized services
- Integration of offered services and departments
- Reach
- Expansion of service delivery magnitude
- Lessening role of human resources in delivery of services.
- Operationality
- Completeness and accuracy of information
- Standardization and cross operability
- Impediment by poor infrastructure
- Functional failure by poor technical skill and will
- Capacity building measure service delivery
- Improvement in government – citizen relationships
- Reduction of corruption
- Improvement in government – citizen relationships verses corruption reduction
- Other factors
- Cost effectiveness and timeliness
- Interactive atmosphere
- State wise perception on impact of e – Governance
- Sector wise impact of e – Governance
- Age wise impact of e – Governance
- Gender wise impact of e – Governance
- Qualification wise impact of e – Governance
- Chi – Square Test



# Chapter – 4

## Data Analysis and Interpretations

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*The research design and methodology adopted for the current research study has been discussed in detail in the preceding chapter 3<sup>rd</sup> ‘Research Design, Approach and Methodology’. This chapter will present the empirical findings in tabulated and graphical form in a comparative as well as theoretical manner. The findings of the research study were arrived at after the collected was subjected to various appropriate statistical tools and techniques. The results reveal the significant impact of e – Governance on the overall governance framework and working of public offices.*

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### Introduction

In purview of the research methodology opted and the objectives framed, questionnaire was administered to respondents from two States namely Andhra Pradesh & Jammu & Kashmir. In order to understand preferences of respondents, profiling of respondents was performed on sectoral lines i.e. Government Sector, Private Sector and Other Sector and accordingly their perceived preferences were evaluated and analyzed. The respondents vary across gender, age and qualification; hence same was evaluated to analyze age based, gender based and qualification based preferences of respondents to e – Governance initiatives and system practices. In government sector the respondent from government sector were taken into study which involved employees of public offices, policy makers, e – Governance implementation consultants and others, whereas in private sector the persons who are self-employed or work for private organizations other than public organization and by one way or other interact with e – Governance System such as online tax

collection, e – payment, e – procurement, online application submission etc comprise private sector respondents. The other sector deal with persons who are common citizens and have small interactions with e – Governance system of State and Central Government. This sector comprises of Panchayat based community information center delivering market related information to villagers in far off rural areas, people living in sub – urban part of state and using information kiosks to get information on land records etc through information Kiosks. The sector also includes those people who use online complaint redressal system of State & Central Government. The questionnaire contains 32 statements on eight sections. Section (A) deal assessment of general view of e – Governance in regard to awareness of different e – Governance initiatives and polices launched by state and central governments and satisfaction with them. Section (B) deal with functional issues which are much relevant to government – citizen interactions. Section (C) deal with performance issues of e – Governance System and also discuss bottlenecks that act as hindrances to e – Gov. System. Section (D) deals with cross features which are integrated or centralized with an e – governance system. Section (E) deal with service delivery mechanism and operational issues. Section (F) deal with service content of various e – services delivered by e – Gov. System. Section (G) deal with working of e – governance system and discuss infrastructure demand, capacity building and functional failures. Section (H) deal with impact of e – Governance system on corruption reduction and betterment of Govt. – Citizen Relationships. The rating for every question has to be done on a scale from  $\underline{5}$ – $\underline{1}$  where (5) = Totally agree, (4) = Mostly Agree, (3) = Don't know / Neutral, (2) = Mostly disagree, (1) = Disagree. As since no response was right as such the respondent's has been asked to tick the relevant one which according to them was most appropriate. The present study is based on the parameters of e – Governance which are widely part of various policy initiatives of all of State & Central Government. The 35 items assess the impact of e – Governance system practices on good governance. The relevant data so collected from both the primary as well as secondary sources as discusses in detail in chapter 3rd “Research Approach and Design” has been statistically analyzed by using and applying different statistical techniques and tests. In the light of the domain

knowledge for research the present study was undertaken to understand and evaluate (1) Level of interactions between the user and e – governance system, (2) Magnitude of impact of e – governance on efficiency of performing routine work, (3) Reduction of corruption and increase in transparency in the system, (4) Feasibility issues and security / privacy of data, (5) Cultural implication on success and failure of e – governance project. This empirical chapter therefore aims to unwieldy various issues of HRD climate and their current status as perceived by the user of e – Governance based government – citizen interaction interface across the government, private and other sectors of study.

#### **4.0 Evidences of Present Study**

This research is focused to study impact of e – Governance system practices on good governance and to evaluate overall framework and working of e – Governance within State of Andhra Pradesh and Jammu & Kashmir. As the sample states chosen for the study and the number of respondents in each sample category exceeds more than thirty, therefore the level of significance had to be determined through the use of ANOVA. Before doing any test it is important that the sample passes test of independence, normality and homogeneity. Whereas independence in this case implies to complete lack of covariance between variables; a lack of association between variables. When used in analysis of variance or covariance, statistical independence between the independent variables is sometimes referred to as a balanced design. During selecting sample population for study the variables undertaken for study where fully independent, therefore Variable State as our independent variable of analysis lacks any association with other variable hence permits us to undertake analysis of same. Similarly distribution involving more than two variables in which the distribution of one variable is normal for each and every combination of categories for all other variables has been analyzed by using normality function of SPSS. As the data is Ordinal in characteristic therefore parametric test like ANOVA to find variance within the sample and non - parametric tests like Chi Square Tests has been used to ascertain the significance of the study. To test variance in the sample distribution, the Levene Test of Homogeneity has been performed to test the equality of variance of mean scores across the sample

study sectors. The variables are shown on the basis of their demographic distribution brief summary is as:

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
1. Satisfaction	725	100.0%	0	.0%	725	100.0%
2. Awareness	725	100.0%	0	.0%	725	100.0%
3. Resistance to Change	725	100.0%	0	.0%	725	100.0%
4. Transparency in Dissemination of Information	725	100.0%	0	.0%	725	100.0%
5. Navigability and Friendly design	725	100.0%	0	.0%	725	100.0%
6. Availability of Required Infrastructure to Access	725	100.0%	0	.0%	725	100.0%
7. Information Encryption, Protection and Security	725	100.0%	0	.0%	725	100.0%
8. Updated Information Availability	725	100.0%	0	.0%	725	100.0%
9. Bridging Gap	725	100.0%	0	.0%	725	100.0%
10. Delivering Promises	725	100.0%	0	.0%	725	100.0%
11. Restriction by Infrastructure	725	100.0%	0	.0%	725	100.0%
12. Linguistic Hindrance	725	100.0%	0	.0%	725	100.0%
13. Transcending Across Demographic Constraints	725	100.0%	0	.0%	725	100.0%
14. Open Process and Functions of Working.	725	100.0%	0	.0%	725	100.0%
15. Technical Manpower and Desired Skills Bottleneck	725	100.0%	0	.0%	725	100.0%
16. Offering of Varied Centralized Services	725	100.0%	0	.0%	725	100.0%
17. Integration of Offered Services with Departments	725	100.0%	0	.0%	725	100.0%
18. Reach	725	100.0%	0	.0%	725	100.0%
19. Expansion of Service Delivery Magnitude	725	100.0%	0	.0%	725	100.0%
20. Lessening Role of Human resource in Delivery of Services	725	100.0%	0	.0%	725	100.0%
21. Operationality	725	100.0%	0	.0%	725	100.0%
22. Completeness and Accuracy of Information	725	100.0%	0	.0%	725	100.0%
23. Standardization and Cross Operability	725	100.0%	0	.0%	725	100.0%
24. Impediment by poor infrastructure	725	100.0%	0	.0%	725	100.0%
25. Functional Failure by Poor Technical Skills and Will	725	100.0%	0	.0%	725	100.0%
26. Capacity Building Measures Service Delivery	725	100.0%	0	.0%	725	100.0%
27. Improvement in Government - Citizen Relationships	725	100.0%	0	.0%	725	100.0%
28. Reduction of Corruption	725	100.0%	0	.0%	725	100.0%
29. Improvement in Govt - Citizen Relationships Account for More Corruption Reduction.	725	100.0%	0	.0%	725	100.0%
30. Other Factors	725	100.0%	0	.0%	725	100.0%
31. Cost Effectiveness and Timeliness	725	100.0%	0	.0%	725	100.0%
32. Interactive Atmosphere in Public Sector.	725	100.0%	0	.0%	725	100.0%

The sample data is distributed across 424 Respondents from Andhra Pradesh, 301 respondents from Jammu & Kashmir. Taking look of sector wise distribution 195 respondents is from Govt. Sector, 282 respondents from Private Sector, 248 respondents from other sector. Whereas the respondents distributed across the age wise are for a age group of 20 – 35 Years are 321, 36 – 51 Years are 251, Above 51 Year are 153. Taking look at gender wise 314 respondents is female and 411 respondents are male. The data is processed using SPSS & PASW Software to assess the information possessed by the data and to understand the relevance of same in this present research study. The softwares depicted the trend and distribution of data and helped in estimating the relevance and efficacy of each respondent towards statements mentioned in questionnaire. To analyze and interpret the data collected from the respondents MiniTab and XLStat software's were used.

Further statistical techniques and principles of statistics were kept into view before undertaking procedural statistical study. Table 4.1 depicts the summary of cases, variables and respondents undertaken for study. Keeping in view the requirement of selecting the appropriate sample for the study and to validate impact of system practices of e – Governance on good governance, variables from sample state i.e. State of Andhra Pradesh and Jammu & Kashmir, which are relevant to study and who are most likely to get impacted by the implementation of functional e – Governance system or will impart change to e – Governance working and service delivery or other functional issues were studied in detail and hence interpreted to ascertain their relevance in this present study. Table 4.1 depicts the cases which are valid for whom the data is appropriate i.e. data from all the 725 respondents is available for 32 variables for processing and full in its sense. As from the interpretation of Table 4.1. The missing case result as zero, as no case exists for which data is unavailable or the data has not been collected. The total sample population which has been selected across two states i.e. Andhra Pradesh and Jammu & Kashmir is 725, which are under consideration for the study and these represent 32 statements/ variables represent 32 statements as mentioned in questionnaire. Similarly the descriptive statistics of both Andhra Pradesh and Jammu & Kashmir is shown in below mentioned Table 4.2.

**Table 4.2 – Descriptive Statistics of the Variables Under Study**

		N	Mean	Std. Dev.	Std. Error	95% Confidence Interval for Mean		Min	Max
						Lower Bound	Upper Bound		
						1. Satisfaction	Andhra Pradesh		
	Jammu & Kashmir	301	3.13	1.351	.078	2.98	3.28	1	5
	Total	725	3.30	1.311	.049	3.21	3.40	1	5
2. Awareness	Andhra Pradesh	424	3.61	1.202	.058	3.50	3.73	1	5
	Jammu & Kashmir	301	3.31	1.334	.077	3.16	3.46	1	5
	Total	725	3.49	1.266	.047	3.39	3.58	1	5
3. Resistance to Change	Andhra Pradesh	424	3.60	1.235	.060	3.49	3.72	1	5
	Jammu & Kashmir	301	3.24	1.338	.077	3.09	3.39	1	5
	Total	725	3.45	1.290	.048	3.36	3.55	1	5
4. Transparency in Dissemination of Information	Andhra Pradesh	424	3.54	1.334	.065	3.42	3.67	1	5
	Jammu & Kashmir	301	3.27	1.352	.078	3.11	3.42	1	5
	Total	725	3.43	1.348	.050	3.33	3.53	1	5
5. Navigability and Friendly design	Andhra Pradesh	424	3.09	1.335	.065	2.96	3.22	1	5
	Jammu & Kashmir	301	3.38	1.320	.076	3.23	3.53	1	5
	Total	725	3.21	1.335	.050	3.11	3.31	1	5
6. Availability of Required Infrastructure to Access	Andhra Pradesh	424	2.64	1.275	.062	2.52	2.77	1	5
	Jammu & Kashmir	301	3.01	1.347	.078	2.85	3.16	1	5
	Total	725	2.79	1.316	.049	2.70	2.89	1	5
7. Information Encryption, Protection and Security	Andhra Pradesh	424	2.66	1.311	.064	2.54	2.79	1	5
	Jammu & Kashmir	301	2.97	1.370	.079	2.81	3.13	1	5
	Total	725	2.79	1.343	.050	2.69	2.89	1	5
8. Updated Information Availability	Andhra Pradesh	424	2.70	1.300	.063	2.58	2.83	1	5
	Jammu & Kashmir	301	3.00	1.374	.079	2.84	3.16	1	5
	Total	725	2.83	1.338	.050	2.73	2.92	1	5
9. Bridging Gap	Andhra Pradesh	424	3.38	1.277	.062	3.26	3.50	1	5
	Jammu & Kashmir	301	3.06	1.314	.076	2.91	3.21	1	5
	Total	725	3.25	1.301	.048	3.15	3.34	1	5
10. Delivering Promises	Andhra Pradesh	424	3.24	1.277	.062	3.12	3.36	1	5
	Jammu & Kashmir	301	3.00	1.359	.078	2.85	3.15	1	5
	Total	725	3.14	1.316	.049	3.04	3.24	1	5
11. Restriction by Infrastructure	Andhra Pradesh	424	3.16	1.373	.067	3.02	3.29	1	5
	Jammu & Kashmir	301	3.50	1.232	.071	3.36	3.64	1	5
	Total	725	3.30	1.327	.049	3.20	3.40	1	5
12. Linguistic Hindrance	Andhra Pradesh	424	3.26	1.297	.063	3.14	3.38	1	5
	Jammu & Kashmir	301	2.77	1.266	.073	2.63	2.91	1	5
	Total	725	3.06	1.306	.048	2.96	3.15	1	5
13. Transcending Across Demographic Constraints	Andhra Pradesh	424	3.39	1.192	.058	3.28	3.51	1	5
	Jammu & Kashmir	301	3.06	1.263	.073	2.92	3.20	1	5
	Total	725	3.25	1.232	.046	3.16	3.34	1	5
14. Open Process and Functions of Working.	Andhra Pradesh	424	3.40	1.283	.062	3.28	3.53	1	5
	Jammu & Kashmir	301	3.09	1.351	.078	2.93	3.24	1	5
	Total	725	3.27	1.320	.049	3.18	3.37	1	5
15. Technical Manpower and Desired Skills Bottleneck	Andhra Pradesh	424	3.38	1.324	.064	3.25	3.50	1	5
	Jammu & Kashmir	301	3.04	1.466	.084	2.87	3.20	1	5
	Total	725	3.23	1.394	.052	3.13	3.34	1	5

16. Offering of Varied Centralized Services	Andhra Pradesh	424	2.97	1.377	.067	2.84	3.10	1	5
	Jammu & Kashmir	301	3.29	1.362	.078	3.14	3.45	1	5
	Total	725	3.10	1.379	.051	3.00	3.20	1	5
17. Integration of Offered Services with Departments	Andhra Pradesh	424	3.29	1.330	.065	3.17	3.42	1	5
	Jammu & Kashmir	301	2.83	1.400	.081	2.67	2.99	1	5
	Total	725	3.10	1.377	.051	3.00	3.20	1	5
18. Reach	Andhra Pradesh	424	3.50	1.240	.060	3.38	3.62	1	5
	Jammu & Kashmir	301	3.13	1.366	.079	2.97	3.28	1	5
	Total	725	3.34	1.305	.048	3.25	3.44	1	5
19. Expansion of Service Delivery Magnitude	Andhra Pradesh	424	3.48	1.347	.065	3.35	3.61	1	5
	Jammu & Kashmir	301	3.25	1.366	.079	3.09	3.40	1	5
	Total	725	3.38	1.359	.050	3.28	3.48	1	5
20. Lessening Role of Human resource in Delivery of Services	Andhra Pradesh	424	3.46	1.226	.060	3.35	3.58	1	5
	Jammu & Kashmir	301	3.21	1.304	.075	3.06	3.36	1	5
	Total	725	3.36	1.264	.047	3.27	3.45	1	5
21. Operationality	Andhra Pradesh	424	3.56	1.381	.067	3.42	3.69	1	5
	Jammu & Kashmir	301	3.28	1.354	.078	3.12	3.43	1	5
	Total	725	3.44	1.376	.051	3.34	3.54	1	5
22. Completeness and Accuracy of Information	Andhra Pradesh	424	3.15	1.338	.065	3.02	3.27	1	5
	Jammu & Kashmir	301	2.68	1.399	.081	2.52	2.84	1	5
	Total	725	2.95	1.382	.051	2.85	3.05	1	5
23. Standardization and Cross Operability	Andhra Pradesh	424	2.67	1.434	.070	2.53	2.80	1	5
	Jammu & Kashmir	301	2.91	1.396	.080	2.75	3.07	1	5
	Total	725	2.77	1.423	.053	2.66	2.87	1	5
24. Impediment by poor infrastructure	Andhra Pradesh	424	3.57	1.321	.064	3.44	3.69	1	5
	Jammu & Kashmir	301	3.32	1.366	.079	3.16	3.47	1	5
	Total	725	3.46	1.344	.050	3.37	3.56	1	5
25. Functional Failure by Poor Technical Skills and Will	Andhra Pradesh	424	3.53	1.291	.063	3.41	3.66	1	5
	Jammu & Kashmir	301	3.26	1.354	.078	3.11	3.42	1	5
	Total	725	3.42	1.324	.049	3.32	3.52	1	5
26. Capacity Building Measures Service Delivery	Andhra Pradesh	424	3.56	1.285	.062	3.44	3.68	1	5
	Jammu & Kashmir	301	3.28	1.392	.080	3.12	3.44	1	5
	Total	725	3.45	1.336	.050	3.35	3.54	1	5
27. Improvement in Government - Citizen Relationships	Andhra Pradesh	424	3.60	1.281	.062	3.47	3.72	1	5
	Jammu & Kashmir	301	3.29	1.366	.079	3.13	3.44	1	5
	Total	725	3.47	1.325	.049	3.37	3.57	1	5
28. Reduction of Corruption	Andhra Pradesh	424	3.76	1.156	.056	3.65	3.87	1	5
	Jammu & Kashmir	301	3.41	1.350	.078	3.26	3.56	1	5
	Total	725	3.62	1.251	.046	3.52	3.71	1	5
29. Improvement in Govt - Citizen verses Corruption Reduction.	Andhra Pradesh	424	3.70	1.190	.058	3.58	3.81	1	5
	Jammu & Kashmir	301	3.35	1.347	.078	3.19	3.50	1	5
	Total	725	3.55	1.269	.047	3.46	3.64	1	5
30. Other Factors	Andhra Pradesh	424	3.73	1.184	.058	3.62	3.84	1	5
	Jammu & Kashmir	301	3.25	1.345	.078	3.10	3.41	1	5
	Total	725	3.53	1.275	.047	3.44	3.63	1	5
31. Cost Effectiveness and Timeliness	Andhra Pradesh	424	3.77	1.131	.055	3.66	3.88	1	5
	Jammu & Kashmir	301	3.49	1.316	.076	3.34	3.63	1	5
	Total	725	3.65	1.218	.045	3.56	3.74	1	5
32. Interactive Atmosphere in Public Sector.	Andhra Pradesh	424	3.72	1.093	.053	3.61	3.82	1	5
	Jammu & Kashmir	301	3.45	1.340	.077	3.30	3.60	1	5
	Total	725	3.61	1.208	.045	3.52	3.70	1	5

The overall emphasis on 725 respondents and their preference to the level of agreement and disagreement with the assumption of this study reveals the importance of each variable in respect of e – Governance satisfaction, awareness, performance, service delivery and efficiency. The total respondents are 725 and the valid respondents are 725 therefore 100% cases are processed for statistical analysis are valid and the data in SPSS is as per the appropriate scale. In order to understand the summary data and distribution of data the mean, mode, standard deviation was calculated. The summary of data represents the data statistics before the data is to be processed and shows information per variable, total count and missing count. The missing count shows the responses which are missing in the data software. However our data summary shows 0% missing cases. Therefore we can say that the data is present in fullest form and is ready for processing. The total number of respondent from sample state is studied and therefore shows the sample distribution in the Table 4.2. Hence the statistics depict the mean, standard deviation, minimum and maximum count from the data collected. The distribution of mean measures the distribution of preferences across the variables. However mean of above ‘3’ means that the variable is sufficiently impacted by e – Governance.

The above Table 4.2 shows the mean score of the 32 variables on which study has been done to illustrate the impact of e – Governance best practices on good governance and overall impact on reduction of the corruption. The mean score for each of item vary 1.0 to 5.0, where the mean score value of 1.0 indicate extremely disagreement with the impact of e – Governance. The mean score of 3.0 indicate the average impact of the variable on the good governance. The mean score of 4.0 indicate agreement that the variable of e – Governance has impact on good governance overall and the mean score of 5.0 indicate the total agreement that the variable of e -Governance has greater impact on achieving good governance.

An assessment of the mean score of the variable mentioned in Table 4.2 reveals that the mean score ranges between 2.77 and 3.65. The highest total mean value in the table is 3.65 of the variable statement number 31 ‘Cost effectiveness and timeliness’ and the lowest total mean value of 2.77 is of the statement 23 ‘standardization cross operability’. For the State of Andhra Pradesh the means score ranges between 2.64 and 3.77, while for the state of Jammu & Kashmir the mean



score ranges between 2.68 and 3.50. In the state of Andhra Pradesh the highest mean score of 3.77 is of the statement 31 the variable is ‘cost effectiveness and timeliness’ and the lowest mean score 2.64 is of statement 6 the variable is ‘availability of required infrastructure to access’. In the State of Jammu & Kashmir the highest mean score of 3.50 is of the statement 11 the variable is ‘restriction by infrastructure’ while as the lowest mean score of 2.68 is of the statement 22 the variable is ‘completeness and accuracy of information’. The highest total mean value of the variable ‘cost effectiveness and timeliness’ indicate that the stakeholders view process and procedural effectiveness as important pillar of basic e – Governance system and have better understanding that the e – Governance saves time as no queue system exist. The lowest total mean value of the variable ‘standardization and cross operability’ indicate that stakeholders view the cross functioning as an issue and the standards, formats and the degree of compatibility between the various web portals, kiosks and e – Services and an issue in achieving the possible good governance by implementing the functional e – governance system in Government – Citizen, Govt. – Business service delivery system. The mean score of the statement 18, variable ‘reach’ of the state of Andhra Pradesh and the statement 11 variable ‘restriction by infrastructure’ is 3.50 which predicts that people perceive reach of e – Governance in delivering the services in far flung areas as important as the lack of infrastructure in delivering promises of e – governance. Similarly the statement 28 ‘reduction in corruption’ of the state Jammu & Kashmir and the statement 9 ‘bridging gap’, statement 21 ‘Operationality’ have the mean score of 3.38. Which predicts that the people of Jammu & Kashmir perceive role of e – Governance in reducing corruption very much important and similarly the people of Andhra Pradesh perceive that the e – Governance can bridge gap created between the stand alone government departments, organizations and public offices and the common citizen will be bridged by the e – Governance System? In the state of Andhra Pradesh the statement 28 ‘reduction of corruption’ is second most important and have the mean value of 3.76, there by the people of Andhra Pradesh view corruption as their first priority which the e – Governance system can deliver. Similarly the people in Jammu & Kashmir view statement 31 ‘cost effectiveness and timeliness’ as their second most priority that the e – Governance can delivery and can have possible impact

upon. Whereas the statement 28 variable ‘reduction in corruption’ stands at 4<sup>th</sup> most important priority in Jammu & Kashmir State after infrastructural bottleneck, cost effectiveness and creation of interactive atmosphere. The statement 26 variable ‘capacity building measures in service delivery’ has mean value of 3.28 in Jammu & Kashmir State and the same variable has the mean value of 3.56 in Andhra Pradesh State, therefore the stakeholders view the capacity development as important issue in both the states. Taking overall note the variables of Andhra Pradesh has outperformed and therefore has higher mean value in comparison to the variables of Jammu & Kashmir. The statement 4 variable ‘transparency in dissemination of information’ has mean value of 3.27 in the Jammu & Kashmir State and the mean value of 3.54 in the Andhra Pradesh State. This indicates that the people of Jammu & Kashmir view government’s average role in transparent dissemination of information to the stake holders who use the various e – Services launched by the state government. The people of Andhra Pradesh view Government is committed in delivering transparent flow of information to the stakeholders. The statement 13 variable ‘transcending across demographic constraints’ has the higher mean value in Andhra Pradesh case and lower value in Jammu & Kashmir case, therefore clearing out that the various e – Governance services, initiatives launched by the government of Andhra Pradesh transcends across the various demographic constraints whether it be income level, gender, caste, religion, vested business groups and political hierarchy. Where as in the State of Jammu & Kashmir the impact of e – Governance seem to be limited only to people, groups, institutions who are well versed with the e – Governance system and have requisite infrastructure to access in place. The statement 15 variable ‘technical manpower’ as perceived by the respondents from Andhra Pradesh have mean value of 3.38 whereas respondents from the State of Jammu & Kashmir perceive the same variable differently and has the mean value of 3.04 therefore the respondents from Andhra Pradesh State perceive that the bottleneck created by lack of technical manpower and desired skill within the purview of government servants, users and end customers of e – Services is creating the biggest bottle neck in harnessing the benefits of the e – Governance based governance system. The statement ‘8’ variable ‘updated information availability’ is perceived by the respondents from the both the sample respondents very much

differently. The mean score of the variable is 2.70 in for Andhra Pradesh and the mean score for the State of Jammu & Kashmir is 3.30. The mean score predicts that the updated information for the respondents of Andhra Pradesh is no issue but it makes very much importance for the respondents of Jammu & Kashmir. The respondents of Jammu & Kashmir have given higher priority to availability of updated information from the e – Governance system. Coming to statement 19 variable ‘expansion of service magnitude’, the respondents from Andhra Pradesh has perceived the variable at the mean value of 3.48, whereas the respondents from Jammu & Kashmir perceive the same variable at the mean score of 3.25. Therefore the respondents from both the state perceive that the government service delivered through information outlets, web portals, kiosks has expanded service delivery magnitude of Government. The statement 17 variable ‘integration of offered services with department’ has the mean value of 3.29 for the state of Andhra Pradesh where as for the state of Jammu & Kashmir the mean value is 2.83. Therefore the mean value depicts that the various services across Andhra Pradesh are integrated across different departments. Whereas for the state of Jammu & Kashmir the mean value depicts that the services across are poorly integrated or no integration exists between the various departments. The departments work on standalone basis and cross integration is missing with other departments. The statement 12 variable ‘linguistic hindrances’ has the mean value of 3.26 in the case of Andhra Pradesh and for 2.77 for the Jammu & Kashmir State. The higher value predict that most of people who use electronic services in Andhra Pradesh belong to sub – urban to rural areas of the state and the language of communication is other than English language therefore the interactions between the user and the system are hindered. While for the Jammu & Kashmir the electronics service users are limited and who use the service are from the well educated class therefore the language poses no such hindrance. If the service magnitude of the e – Governance increases the requirement of use of common language as an interface of interaction will get importance. As the sample states are two and the number of respondents under study is more than 30, therefore the level of significance had to be determined by the use of ANOVA The analytical variances analyzes the variances across the variable between group and within group. As the basic pre-requisite of ANOVA is that the variance across the sample should be

homogenous. To test this homogeneity ‘Levene Statistic’ had to be used. In Statistics, Levene's test is an inferential statistic used to assess the equality of variances in different samples. Some common statistical procedures assume that variances of the populations from which different samples are drawn are equal. Levene's test assesses this assumption. It tests the null hypothesis that the population variances are equal (called homogeneity of variance). If the resulting p-value of Levene's test is less than some critical value (typically 0.05), the obtained differences in sample variances are unlikely to have occurred based on random sampling. Thus, the null hypothesis of equal variances is rejected and it is concluded that there is a difference between the variances in the population. Procedures which typically assume homogeneity of variance include analysis of variance and t-tests. One advantage of Levene's test is that it does not require normality of the underlying data. Levene's test is often used before a comparison of means. When Levene's test is significant, modified procedures are used that do not assume equality of variance. Levene's test may also test a meaningful question in its own right if a researcher is interested in knowing whether population group variances are different. It tests the equality of variance of mean score across the responses of the sample study states. The Levene Statistic was administered to the data and the level of significance for all the 32 statements of impact of best practices of e – Governance questionnaire depicting the status of various e – Governance variables. The results of this and the level of significance for all the 32 statements of e – governance and its impact on good governance questionnaire depict the status of various variables as:

The key variables which are important for research and study are: satisfaction, awareness, accuracy of information, capacity building, relationship management, efficiency, infrastructure and corruption reduction. The mean scores of these variables are above 3 for all of the 725 respondents. The mean score of Andhra Pradesh is on higher side as compared to Jammu & Kashmir. The reason is Andhra Pradesh has implemented number of e – Governance initiatives in the states and which are functional and delivering electronic services to far off villages. Most of departments are connected and hence satisfaction and awareness index for State of Andhra Pradesh is higher as compared to State of Jammu & Kashmir, where e – Governance is in infancy stage.

	<b>Levene Statistic</b>	<b>df1</b>	<b>df2</b>	<b>Sig.</b>
1. Satisfaction	4.454	1	723	.035
2. Awareness	7.573	1	723	.006
3. Resistance to Change	5.250	1	723	.022
4. Transparency in Dissemination of Information	.698	1	723	.404
5. Navigability and Friendly design	.072	1	723	.788
6. Availability of Required Infrastructure to Access	.175	1	723	.676
7. Information Encryption, Protection and Security	.071	1	723	.790
8. Updated Information Availability	.002	1	723	.960
9. Bridging Gap	.502	1	723	.479
10. Delivering Promises	1.508	1	723	.220
11. Restriction by Infrastructure	9.117	1	723	.003
12. Linguistic Hindrance	2.204	1	723	.138
13. Transcending Across Demographic Constraints	1.779	1	723	.183
14. Open Process and Functions of Working.	1.437	1	723	.231
15. Technical Manpower and Desired Skills Bottleneck	5.838	1	723	.016
16. Offering of Varied Centralized Services	1.904	1	723	.168
17. Integration of Offered Services with Departments	.199	1	723	.655
18. Reach	4.472	1	723	.035
19. Expansion of Service Delivery Magnitude	.235	1	723	.628
20. Lessening Role of Human resource in Delivery of Services	1.595	1	723	.207
21. Operationality	.005	1	723	.944
22. Completeness and Accuracy of Information	.648	1	723	.421
23. Standardization and Cross Operability	.886	1	723	.347
24. Impediment by poor infrastructure	1.730	1	723	.189
25. Functional Failure by Poor Technical Skills and Will	2.222	1	723	.136
26. Capacity Building Measures Service Delivery	5.645	1	723	.018
27. Improvement in Government - Citizen Relationships	5.428	1	723	.020
28. Reduction of Corruption	22.051	1	723	.000
29. Improvement in Govt - Citizen Relationships Account For More Corruption Reduction.	14.662	1	723	.000
30. Other Factors	17.273	1	723	.000
31. Cost Effectiveness and Timeliness	21.037	1	723	.000
32. Interactive Atmosphere in Public Sector.	28.096	1	723	.000

The entire variance analyzed across 32 variable 725 respondents was found homogenous from the sample study states. Thereafter ANOVA was applied to the data and the 'F Value' together with significance of the each statement in the questionnaire and each variable under study were arrived, which are depicted in the Table 4.4. In order to analyze Variance, a large group of techniques that analyzes

observed variance and breaks it down into components. The different components are the sources of variance. ANOVA is generally used to determine if two or more means are equal. ANOVA performs analysis on the variance of two or more data sets to determine if the data sets have the same means. ANOVA calculates whether or not two or more means are within a certain percent chance (confidence level) of being the same based upon the actual and expected levels of variance within each data set. ANOVA is normally used to test three or more means. If a variance test is being performed on only two means, the desired test would be the Students two-sample t- test. Performing two-sample t-test multiple times on more than two means could result in a much higher probability of type 1 error (rejecting the null hypothesis when it is actually true - that is - assuming that the means are different when they are not). For this reason, a single ANOVA test is preferable and was used in comparing more than two means. In order to compare only two means for analysis, the F test performed by ANOVA is equivalent to the t-test. The analysis of variance (ANOVA) of all 32 variables is shown in Table 4.4 which reveals the perceived preferences by the respondents from Andhra Pradesh and Jammu & Kashmir. The study concerns in evaluating impact system practices of e – Governance on good governance has been made with the objectives which are framed out in the Chapter 3<sup>rd</sup> – Research Design.

Keeping in view of research objective, the data interpretation of variables which are get impacted in both states by slight change in the system feature of e – Governance has been studied. The analysis has been performed in order to make comparative analysis of the data and to examine impact of e – Governance on good governance in the sample states. In statistics, analysis of variance (ANOVA) is a collection of statistical models, and their associated procedures, in which the observed variance in a particular variable is partitioned into components attributable to different sources of variation. In its simplest form, ANOVA provides a statistical test of whether or not the means of several groups are all equal, and therefore generalizes *t*-test to more than two groups. Doing multiple two-sample t-tests would result in an increased chance of committing a type I error. The ANOVA will also test the hypothesis which is framed out. Similarly Chi Square test was also used to

test hypothesis and the brief statistics of the variable is mentioned in Chi Square Table. The Table 4.4 reveals the ‘F’ values of the variables and significance at Alpha = 0.05. The brief statistics of ANOVA are shown in Table 4.4 as mentioned below.

		<b>Sum of Sq.</b>	<b>df</b>	<b>Mean Sq.</b>	<b>F</b>	<b>Sig.</b>
1. Satisfaction	Between Groups	15.561	1	15.561	9.149	.003*
	Within Groups	1229.680	723	1.701		
	Total	1245.241	724			
2. Awareness	Between Groups	16.042	1	16.042	10.129	.002*
	Within Groups	1145.056	723	1.584		
	Total	1161.098	724			
3. Resistance to Change	Between Groups	23.397	1	23.397	14.309	.000
	Within Groups	1182.211	723	1.635		
	Total	1205.608	724			
4. Transparency in Dissemination of Information	Between Groups	13.475	1	13.475	7.483	.006*
	Within Groups	1301.973	723	1.801		
	Total	1315.448	724			
5. Navigability and Friendly design	Between Groups	14.142	1	14.142	8.013	.005*
	Within Groups	1275.991	723	1.765		
	Total	1290.132	724			
6. Availability of Required Infrastructure to Access	Between Groups	23.167	1	23.167	13.604	.000
	Within Groups	1231.211	723	1.703		
	Total	1254.378	724			
7. Information Encryption, Protection and Security	Between Groups	16.630	1	16.630	9.324	.002*
	Within Groups	1289.502	723	1.784		
	Total	1306.132	724			
8. Updated Information Availability	Between Groups	15.545	1	15.545	8.777	.003*
	Within Groups	1280.557	723	1.771		
	Total	1296.102	724			
9. Bridging Gap	Between Groups	17.908	1	17.908	10.719	.001*
	Within Groups	1207.904	723	1.671		
	Total	1225.812	724			
10. Delivering Promises	Between Groups	10.187	1	10.187	5.923	.015*
	Within Groups	1243.462	723	1.720		
	Total	1253.650	724			
11. Restriction by Infrastructure	Between Groups	21.074	1	21.074	12.160	.001*
	Within Groups	1252.976	723	1.733		
	Total	1274.050	724			
12. Linguistic Hindrance	Between Groups	42.036	1	42.036	25.483	.000
	Within Groups	1192.645	723	1.650		
	Total	1234.681	724			
13. Transcending Across Demographic Constraints	Between Groups	19.369	1	19.369	12.967	.000
	Within Groups	1079.933	723	1.494		
	Total	1099.302	724			
14. Open Process and Functions of Working.	Between Groups	17.681	1	17.681	10.278	.001*
	Within Groups	1243.790	723	1.720		
	Total	1261.470	724			
15. Technical Manpower and Desired Skills Bottleneck	Between Groups	20.165	1	20.165	10.519	.001*
	Within Groups	1385.973	723	1.917		
	Total	1406.138	724			

16. Offering of Varied Centralized Services	Between Groups	18.368	1	18.368	9.773	.002*
	Within Groups	1358.874	723	1.879		
	Total	1377.241	724			
17. Integration of Offered Services with Departments	Between Groups	37.555	1	37.555	20.322	.000
	Within Groups	1336.095	723	1.848		
	Total	1373.650	724			
18. Reach	Between Groups	23.849	1	23.849	14.251	.000
	Within Groups	1209.944	723	1.674		
	Total	1233.793	724			
19. Expansion of Service Delivery Magnitude	Between Groups	9.358	1	9.358	5.097	.024*
	Within Groups	1327.571	723	1.836		
	Total	1336.930	724			
20. Lessening Role of Human resource in Delivery of Services	Between Groups	11.179	1	11.179	7.053	.008*
	Within Groups	1145.861	723	1.585		
	Total	1157.040	724			
21. Operationality	Between Groups	13.886	1	13.886	7.399	.007*
	Within Groups	1356.754	723	1.877		
	Total	1370.640	724			
22. Completeness and Accuracy of Information	Between Groups	38.089	1	38.089	20.485	.000
	Within Groups	1344.316	723	1.859		
	Total	1382.406	724			
23. Standardization and Cross Operability	Between Groups	10.584	1	10.584	5.259	.022**
	Within Groups	1455.021	723	2.012		
	Total	1465.606	724			
24. Impediment by poor infrastructure	Between Groups	10.748	1	10.748	5.989	.015*
	Within Groups	1297.533	723	1.795		
	Total	1308.281	724			
25. Functional Failure by Poor Technical Skills and Will	Between Groups	12.886	1	12.886	7.419	.007*
	Within Groups	1255.804	723	1.737		
	Total	1268.690	724			
26. Capacity Building Measures Service Delivery	Between Groups	13.696	1	13.696	7.739	.006*
	Within Groups	1279.402	723	1.770		
	Total	1293.098	724			
27. Improvement in Government - Citizen Relationships	Between Groups	16.663	1	16.663	9.608	.002*
	Within Groups	1253.889	723	1.734		
	Total	1270.552	724			
28. Reduction of Corruption	Between Groups	21.955	1	21.955	14.279	.000
	Within Groups	1111.679	723	1.538		
	Total	1133.633	724			
29. Improvement in Govt - Citizen Relationships Account for More Corruption Reduction.	Between Groups	21.885	1	21.885	13.838	.000
	Within Groups	1143.425	723	1.582		
	Total	1165.310	724			
30. Other Factors	Between Groups	40.329	1	40.329	25.663	.000
	Within Groups	1136.160	723	1.571		
	Total	1176.488	724			
31. Cost Effectiveness and Timeliness	Between Groups	14.417	1	14.417	9.833	.002*
	Within Groups	1059.992	723	1.466		
	Total	1074.408	724			
32. Interactive Atmosphere in Public Sector.	Between Groups	12.597	1	12.597	8.723	.003*
	Within Groups	1044.153	723	1.444		
	Total	1056.750	724			



The 'F' values mentioned in Table 4.4 compiled after analysis are compared to the tabled 'F' Values and therefore significance is found. Lower stands the 'F' value by table value higher chances of rejection of statement. The Chi – Square was used to prove / disapprove hypothesis. The values of significance in the Table 4.4 ANOVA table in most of the cases are 0.000. However values marked by asterisk \* are significant at 5 % level of significance and also at 1% level of significance. In order to access the impact of best practices of e – Governance on good governance in the entirety separately for each state, combined mean scores in each case were required to be calculated together with combined standard deviation where after 'F' values and the level of significance has been worked out. An attempt was made to determine the confidence interval of mean for each of the state at 95% confidence level, results of the same are mentioned in the Table 4.5 for the State of Andhra Pradesh and Table 4.6 for the State of Jammu & Kashmir. Accordingly the confidence interval of mean was constructed by virtue of which we are 95% confident that the population mean for each of the variable of the sample state lies upper and lower end of the confidence interval of differences for each of the state. Referring to Table 4.4 ANOVA Table the statement 1 variable 'satisfaction' has the 'F' value of 9.149 and significance .003 where as the table value of 'F' is 3.84 at 1 and 723 degree of freedom therefore the calculated value of 'F' is more than the table value and the significance is less than ( $\alpha = 5\%$ ) the variable satisfaction has therefore has impact on the delivering good governance by opting e – Governance. The highest value of 'F' in the ANOVA table is 25.663 of the statement 30 variable 'interactive atmosphere in public sphere' and the significance value is 0.000 the calculated value of 'F' is much higher than table value and the level of significance is less than 5% therefore the variable has significant impact on the good governance. Similarly the 'F' value of statement 23 variable 'standardization and cross operability' the 'F' value is 5.097 and the significance level 0.024 which is less than 0.05 ( $\alpha = 5\%$ ) . A view of the values of significance in the Table 4.4 reveals that the significance value is 0.000 which is significant at 1%. All of the 32 variables under study have alpha ( $\alpha$ ) value below the 0.05 therefore results portray that there is exist significant impact of best practices of e – governance on good governance. The

results reject the null hypothesis (Ho) - The system practices of e – governance have no role in improvement in government – citizen relations and reduction of corruption. The results accept alternate hypothesis (H1) e - Governance initiatives are positively related to improvement of government– citizen relationships and corruption reduction. (H2) Improvements in government-citizen relationships account for more corruption reduction as compared to other variables.

An attempt was made to verify whether the mean score of all the 32 statements on e – Governance was significantly higher or lower and different then the assumed good mean score of 3.00 on the basis of which it had been decided to test the validity of the impact of best practices of e – Governance on good governance in State of Andhra Pradesh and Jammu & Kashmir. Accordingly ‘One Sample Test’ was conducted and the results are shown in Table 4.5.

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Diff.	95% Confidence Interval of the Difference	
					Lower	Upper
1. Satisfaction	55.583	423	.000	3.427	3.31	3.55
2. Awareness	61.875	423	.000	3.611	3.50	3.73
3. Resistance to Change	60.074	423	.000	3.604	3.49	3.72
4. Transparency in Dissemination of Information	54.663	423	.000	3.542	3.42	3.67
5. Navigability and Friendly design	47.706	423	.000	3.092	2.96	3.22
6. Availability of Required Infrastructure to Access	42.711	423	.000	2.644	2.52	2.77
7. Information Encryption, Protection and Security	41.829	423	.000	2.663	2.54	2.79
8. Updated Information Availability	42.821	423	.000	2.703	2.58	2.83
9. Bridging Gap	54.523	423	.000	3.382	3.26	3.50
10. Delivering Promises	52.266	423	.000	3.241	3.12	3.36
11. Restriction by Infrastructure	47.317	423	.000	3.156	3.02	3.29
12. Linguistic Hindrance	51.751	423	.000	3.259	3.14	3.38
13. Transcending Across Demographic Constraints	58.588	423	.000	3.392	3.28	3.51
14. Open Process and Functions of Working.	54.631	423	.000	3.403	3.28	3.53
15. Technical Manpower and Desired Skills Bottleneck	52.494	423	.000	3.375	3.25	3.50

16. Offering of Varied Centralized Services	44.388	423	.000	2.969	2.84	3.10
17. Integration of Offered Services with Departments	50.992	423	.000	3.292	3.17	3.42
18. Reach	58.100	423	.000	3.498	3.38	3.62
19. Expansion of Service Delivery Magnitude	53.134	423	.000	3.476	3.35	3.61
20. Lessening Role of Human resource in Delivery of Services	58.205	423	.000	3.465	3.35	3.58
21. Operationality	53.033	423	.000	3.557	3.42	3.69
22. Completeness and Accuracy of Information	48.430	423	.000	3.146	3.02	3.27
23. Standardization and Cross Operability	38.256	423	.000	2.665	2.53	2.80
24. Impediment by poor infrastructure	55.586	423	.000	3.566	3.44	3.69
25. Functional Failure by Poor Technical Skills and Will	56.330	423	.000	3.533	3.41	3.66
26. Capacity Building Measures Service Delivery	57.070	423	.000	3.561	3.44	3.68
27. Improvement in Government - Citizen Relationships	57.818	423	.000	3.597	3.47	3.72
28. Reduction of Corruption	67.026	423	.000	3.762	3.65	3.87
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	63.972	423	.000	3.698	3.58	3.81
30. Other Factors	64.869	423	.000	3.731	3.62	3.84
31. Cost Effectiveness and Timeliness	68.677	423	.000	3.771	3.66	3.88
32. Interactive Atmosphere in Public Sector.	70.051	423	.000	3.719	3.61	3.82
a. State = Andhra Pradesh						

The test results are shown in two tables one of the State of Andhra Pradesh and other table of the State of Jammu & Kashmir. Table 4.5 represents the one sample test for the state of Andhra Pradesh and Table 4.6 represents the sample distribution for the State of Andhra Pradesh. The Table 4.5 depicts the perception of respondents from the State of Andhra Pradesh across the variables used to study impact of e – Governance on delivering good governance. The data reveals that mean difference is 3.771 for the variable ‘cost effectiveness and timeliness’ and the lowest mean difference of 2.644 is for the variable ‘availability of required infrastructure’. In all the 32 cases the significance is 0.000 for both of the states,

which signifies that the impact of e – Governance mean score in all the 32 variables significantly differs. The variables portray difference in the ‘t’ values. The single ‘t’ test reveals that highest ‘t’ value of 70.051 is for the variable ‘interactive atmosphere in public sector’ and the lowest mean value of 41.829 is for the variable ‘information protection, encryption and security’. The alpha values reveals the significance of the across the means and from the data it can be perceived that the significance across mean is not because of chance. Table 4.6 depicts the one sample ‘t’ test statistics across 32 variables 301 respondents from the state of Jammu & Kashmir as below:

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Diff.	95% Confidence Interval of the Difference	
					Lower	Upper
1. Satisfaction	40.175	300	.000	3.130	2.98	3.28
2. Awareness	43.019	300	.000	3.309	3.16	3.46
3. Resistance to Change	42.013	300	.000	3.239	3.09	3.39
4. Transparency in Dissemination of Information	41.894	300	.000	3.266	3.11	3.42
5. Navigability and Friendly design	44.371	300	.000	3.375	3.23	3.53
6. Availability of Required Infrastructure to Access	38.738	300	.000	3.007	2.85	3.16
7. Information Encryption, Protection and Security	37.624	300	.000	2.970	2.81	3.13
8. Updated Information Availability	37.893	300	.000	3.000	2.84	3.16
9. Bridging Gap	40.451	300	.000	3.063	2.91	3.21
10. Delivering Promises	38.301	300	.000	3.000	2.85	3.15
11. Restriction by Infrastructure	49.317	300	.000	3.502	3.36	3.64
12. Linguistic Hindrance	37.957	300	.000	2.771	2.63	2.91
13. Transcending Across Demographic Constraints	42.015	300	.000	3.060	2.92	3.20
14. Open Process and Functions of Working.	39.628	300	.000	3.086	2.93	3.24
15. Technical Manpower and Desired Skills Bottleneck	35.940	300	.000	3.037	2.87	3.20
16. Offering of Varied Centralized Services	41.948	300	.000	3.292	3.14	3.45
17. Integration of Offered Services with Departments	35.067	300	.000	2.831	2.67	2.99
18. Reach	39.742	300	.000	3.130	2.97	3.28

19. Expansion of Service Delivery Magnitude	41.224	300	.000	3.246	3.09	3.40
20. Lessening Role of Human resource in Delivery of Services	42.732	300	.000	3.213	3.06	3.36
21. Operationality	41.969	300	.000	3.276	3.12	3.43
22. Completeness and Accuracy of Information	33.242	300	.000	2.681	2.52	2.84
23. Standardization and Cross Operability	36.171	300	.000	2.910	2.75	3.07
24. Impediment by poor infrastructure	42.169	300	.000	3.319	3.16	3.47
25. Functional Failure by Poor Technical Skills and Will	41.793	300	.000	3.262	3.11	3.42
26. Capacity Building Measures Service Delivery	40.921	300	.000	3.282	3.12	3.44
27. Improvement in Government - Citizen Relationships	41.771	300	.000	3.289	3.13	3.44
28. Reduction of Corruption	43.806	300	.000	3.409	3.26	3.56
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	43.100	300	.000	3.346	3.19	3.50
30. Other Factors	41.950	300	.000	3.252	3.10	3.41
31. Cost Effectiveness and Timeliness	45.961	300	.000	3.485	3.34	3.63
32. Interactive Atmosphere in Public Sector.	44.697	300	.000	3.452	3.30	3.60
33. a. State = Jammu & Kashmir						

The values signify that the alpha is 0.000; hence the mean difference is not because of chance and signifies the mean scores in two states differed significantly. The highest mean difference is 3.502 for the variable ‘restriction by infrastructure’ and the lowest mean value is 2.681 for the variable ‘completeness and accuracy of information’ for the state of Jammu & Kashmir across 301 respondents. Correspondingly it is analyzed that the mean difference values if higher for the state of Andhra Pradesh as compared to state of Jammu & Kashmir. Therefore it signifies that the mean difference across the two states significantly differs. The upper mean interval difference line plot at the 95% confidence of State of Andhra Pradesh and Jammu & Kashmir shows the mean interval differs between 2.5 and 3.5 and depicts the respective mean of all the 32 variables.

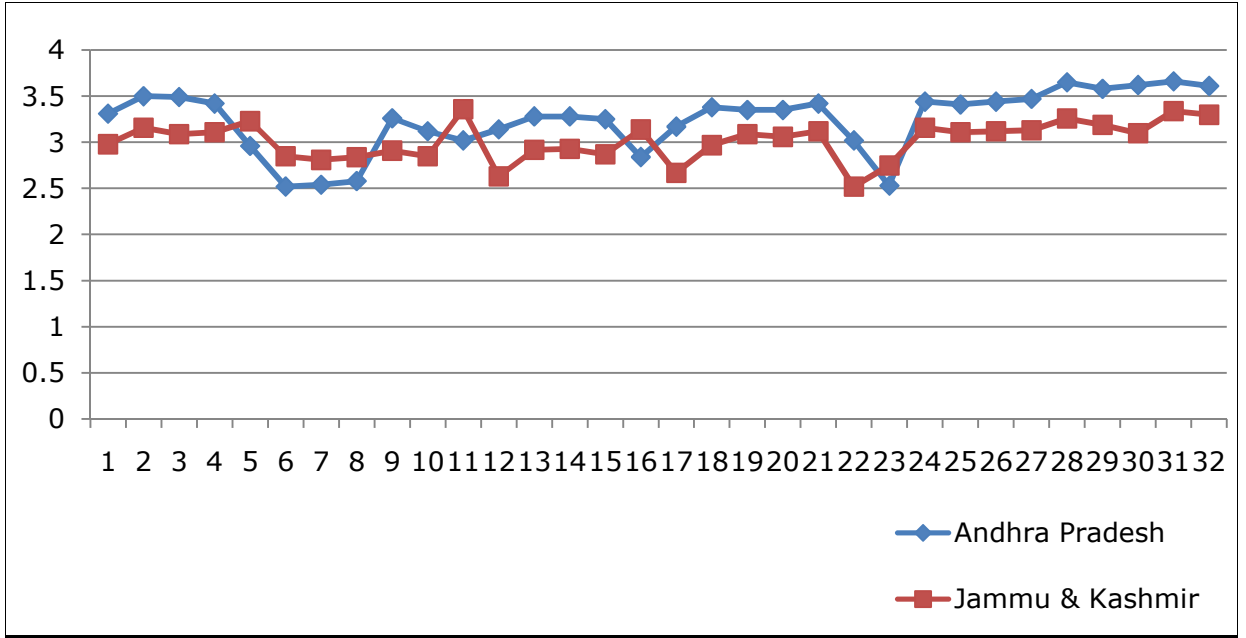


Figure 4.7 Statement wise e – Governance Practices in the sample states (Upper Mean Interval Difference)

The lower mean interval line plot at the confidence interval of 95% of the state of Andhra Pradesh and Jammu & Kashmir depicts that the mean difference vary between 2.5 – 3.5

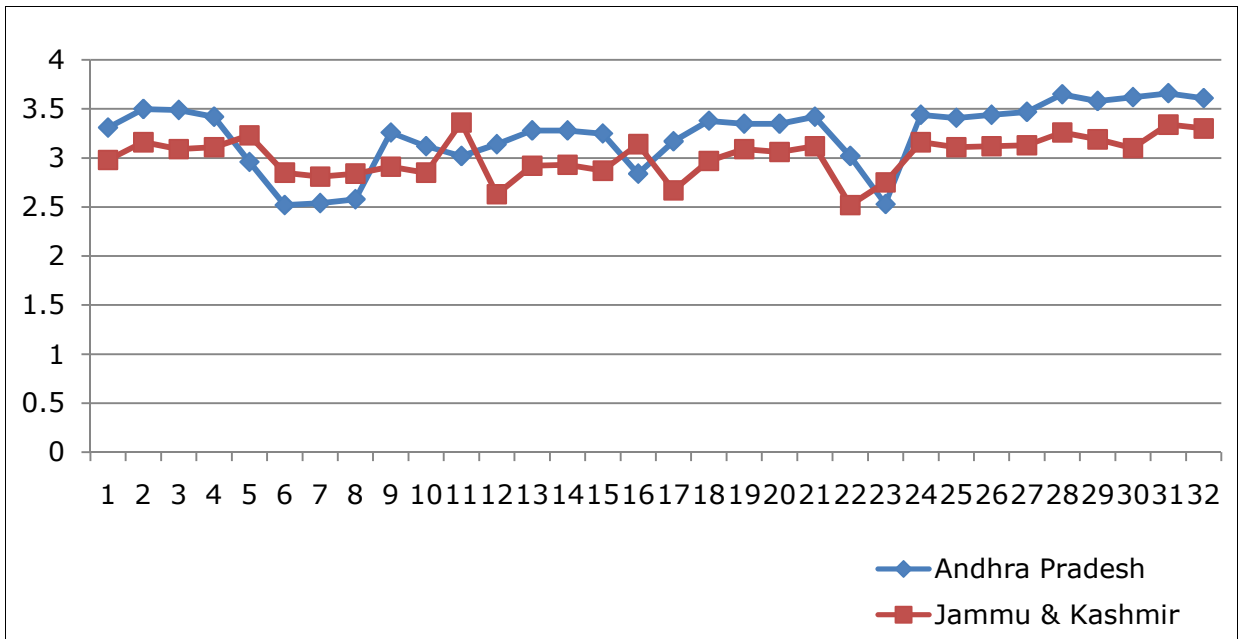


Figure 4.8 Statement wise e – Governance Practices in the sample states (Lower Mean Interval Difference)

The Table 4.7 shows the standard error of mean for the 32 statements of the questionnaire for which the survey was conducted in the State of Andhra Pradesh and Jammu & Kashmir.

	State		
	Andhra Pradesh	J & K	Total
1. Satisfaction	.062	.078	.049
2. Awareness	.058	.077	.047
3. Resistance to Change	.060	.077	.048
4. Transparency in Dissemination of Information	.065	.078	.050
5. Navigability and Friendly design	.065	.076	.050
6. Availability of Required Infrastructure to Access	.062	.078	.049
7. Information Encryption, Protection and Security	.064	.079	.050
8. Updated Information Availability	.063	.079	.050
9. Bridging Gap	.062	.076	.048
10. Delivering Promises	.062	.078	.049
11. Restriction by Infrastructure	.067	.071	.049
12. Linguistic Hindrance	.063	.073	.048
13. Transcending Across Demographic Constraints	.058	.073	.046
14. Open Process and Functions of Working.	.062	.078	.049
15. Technical Manpower and Desired Skills Bottleneck	.064	.084	.052
16. Offering of Varied Centralized Services	.067	.078	.051
17. Integration of Offered Services with Departments	.065	.081	.051
18. Reach	.060	.079	.048
19. Expansion of Service Delivery Magnitude	.065	.079	.050
20. Lessening Role of Human resource in Delivery of Services	.060	.075	.047
21. Operationality	.067	.078	.051
22. Completeness and Accuracy of Information	.065	.081	.051
23. Standardization and Cross Operability	.070	.080	.053
24. Impediment by poor infrastructure	.064	.079	.050
25. Functional Failure by Poor Technical Skills and Will	.063	.078	.049
26. Capacity Building Measures Service Delivery	.062	.080	.050
27. Improvement in Government - Citizen Relationships	.062	.079	.049
28. Reduction of Corruption	.056	.078	.046
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	.058	.078	.047
30. Other Factors	.058	.078	.047
31. Cost Effectiveness and Timeliness	.055	.076	.045
32. Interactive Atmosphere in Public Sector.	.053	.077	.045

As the Sampling error means was calculated for all of the 725 respondents distributed across two states. As per conventions the lesser the value of sampling

error of mean lesser is the error in the sample. As is evident from the Table 4.7 all the values of the sampling error mean are in the between 0.053 – 0.070 for the state of Andhra Pradesh and between 0.071 – 0.084. The values indicate that the sampling errors were negligible.

#### **4.1 Impact of e – Governance**

The research study has divided the variables into groups, whereas each group represents certain set of characteristic. In order to reveal the variables with a particular group and its overall impact on the e – governance group wise study is being performed followed by variables wise study. The group variable like ‘general view’ reveals the general perception of the respondents in corresponding to variables who represent the general view facets. Similarly ‘functional issue’ deals with the functional efficacies and issues which exist and need to be addressed. Group variable ‘performance’ reveals the performance checks which are important to ascertain the impact of e – Governance on good governance. Group Variable ‘cross features’ reveal the resemblance, cross – operability and compatibility features of e – Governance standards, features and availability. Group variables ‘service delivery’ and ‘service content’ represent the operational issues concerned to e – Governance and content of information that is available through the e – Governance portals, kiosks and other service delivery modes. To understand issues which pertain to working of e – Governance group variable ‘working’ has been framed out to deal with working issues of e – Governance. Finally to study impact of e- Governance on information sharing, corruption reduction, relationship betterment and cost effectiveness group variable ‘Impact’ reveals the impact of e – Governance on good performance of governments across the sample states.

#### **4.2 Quality Assessment Statistics of Variables**

In regard to other research objectives the research focus is aimed to make comparative study between the state of Andhra Pradesh and Jammu & Kashmir to evaluate basic trends in overall satisfaction, awareness, resistance to change and other related subject. Accordingly a model of analysis was developed to determine the impact of electronic governance on the whole governance system within the state



of Andhra Pradesh and Jammu & Kashmir. The variables under study represent the statements of questionnaire for which responses had been collected and analyzed. The added advantage is that the data representation is given on the lines of sector also. The tables shown here under are the data summaries of the various variables and depict the impact of e – Governance within two sample states.

#### 4.2.1 Satisfaction with e – Governance initiatives

The variable satisfaction has been judged across 725 respondents from two states of Andhra Pradesh and Jammu & Kashmir. The study involves study across 424 respondents from the state of Andhra Pradesh and 301 respondents from the state of Jammu & Kashmir. Whereas 195 respondents from the government sector, 282 from the private sector and 248 respondents from the other sector. The variable measure satisfaction of stakeholders, employees and common people to e – Governance initiatives launched by state government in Tax Collection, Transport , Secretariat, Complaint Monitoring, Agriculture, Planning, Revenue and High Court. The level of satisfaction varies across the states and sectoral domain and the representation of the data is given in state wise and sector wise distribution of perceived preferences by the respondents.

The Table 4.8.1 depicts the distribution of responses from 725 respondents across two state Andhra Pradesh and Jammu & Kashmir and Table 4.8.2 depicts the responses across three sectors government, private and others.

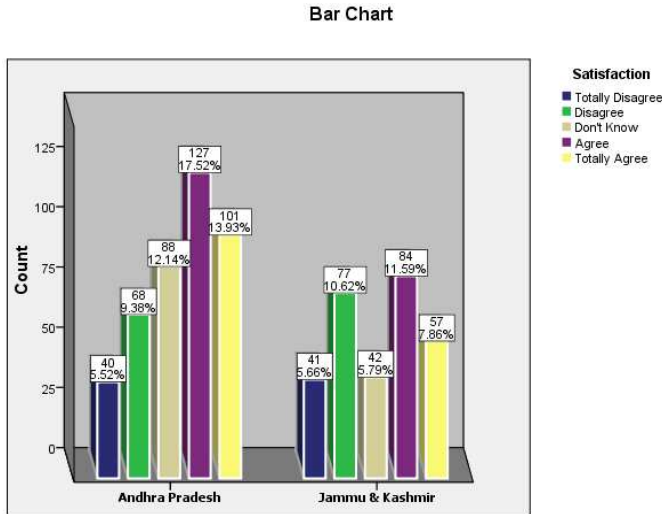
**Table 4.8.1 State Wise Crosstabulation of Variable Satisfaction**

		Satisfaction					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	40	68	88	127	101	424
	% within State	9.4%	16.0%	20.8%	30.0%	23.8%	100.0%
	% of Total	5.5%	9.4%	12.1%	17.5%	13.9%	58.5%
Jammu & Kashmir	Count	41	77	42	84	57	301
	% within State	13.6%	25.6%	14.0%	27.9%	18.9%	100.0%
	% of Total	5.7%	10.6%	5.8%	11.6%	7.9%	41.5%
Total	Count	81	145	130	211	158	725
	% within State	11.2%	20.0%	17.9%	29.1%	21.8%	100.0%
	% of Total	11.2%	20.0%	17.9%	29.1%	21.8%	100.0%

Whereas the Table 4.8.1 shows the percentage of responses across each degree of acceptance and rejection by the respondents. Taking note of the statistical figure 58.5% responses are from the state of Andhra Pradesh and 41.5% are from the state

of Jammu & Kashmir. The total count for Andhra Pradesh State is 424 and total count for Jammu & Kashmir State is 301. The

Table 4.8.1 shows that 127 (30%) in Andhra Pradesh are satisfied with the various e – Governance initiatives launched by the Govt. of Andhra Pradesh

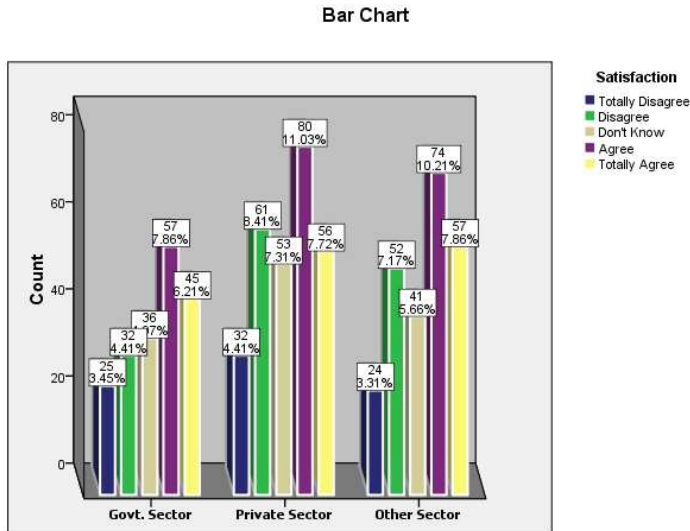


in various departments. While as 101 (23.8%) respondents totally agree in respect of satisfaction with the various e – service initiatives. Whereas in Jammu & Kashmir the 84 (27.9%) of the respondents agree and 57 (18.9%) are totally satisfied with the e – Governance initiatives.

**Table 4.8.2 Sector Wise Crosstabulation of Variable Satisfaction**

		Satisfaction					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	25	32	36	57	45	195
	% within Sector	12.8%	16.4%	18.5%	29.2%	23.1%	100.0%
	% of Total	3.4%	4.4%	5.0%	7.9%	6.2%	26.9%
Private Sector	Count	32	61	53	80	56	282
	% within Sector	11.3%	21.6%	18.8%	28.4%	19.9%	100.0%
	% of Total	4.4%	8.4%	7.3%	11.0%	7.7%	38.9%
Other Sector	Count	24	52	41	74	57	248
	% within Sector	9.7%	21.0%	16.5%	29.8%	23.0%	100.0%
	% of Total	3.3%	7.2%	5.7%	10.2%	7.9%	34.2%
Total	Count	81	145	130	211	158	725
	% within Sector	11.2%	20.0%	17.9%	29.1%	21.8%	100.0%
	% of Total	11.2%	20.0%	17.9%	29.1%	21.8%	100.0%

The Table 4.8.2 represents the distribution across the sector. The total respondents across three sectors are 725 and the distribution is as: 195 are from Government Sector, 282 from Private Sector and 248 are from Other Sector. The



sectoral profile depicts that 57 (29.2%) of the respondent from Government Sector are satisfied with the various e – Governance initiatives and 45 (23.1%) of the respondents are totally satisfied with the e – Governance Services.

The figure of satisfaction is on higher side in the Government Sector as compared to the Private and Other Sector respondents. The figure of satisfaction in the private sector depicts 80 (28.4%) respondents are satisfied with the e – Governance. Whereas the total agreement is at 56 (19.9%) in the private sector. Coming to other sector the number of respondents who are satisfied with e – Governance services is at 23.0% which is much similar to satisfaction index of government sector. The total disagreement is higher in this sector, 9.7% of the respondents from other sector are totally dissatisfied and those somehow satisfied are at 21%

**4.2.2 Awareness of e – Governance initiatives**

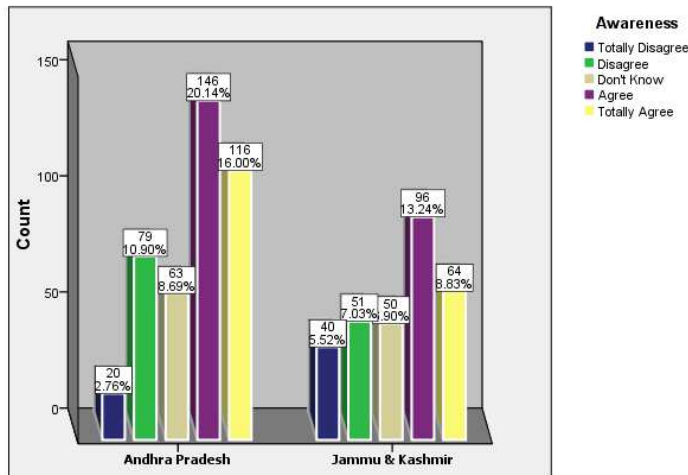
The variable awareness analyzes the respondent’s awareness of the various e – Governance initiatives, policies and programmes launched recently in the sample States by Central and State Governments. The variables also measures the awareness of State & Central Government’s policy on creating sustainable infrastructure like State Wide Network, State Data Centre, and Networking Departments etc. which will render best e – Governance services in sample states. The Table 4.9.1 depicts the state wise perceived preference from respondents of State of Andhra Pradesh and

Jammu & Kashmir. Table 4.9.1 shows the awareness within State of Andhra Pradesh and Jammu & Kashmir and Table 4.9.2 depicts the perceived preferences sector wise in respect to e – Governance.

**Table 4.9.1 State Wise Crosstabulation of Variable Awareness**

		Awareness					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	20	79	63	146	116	424
	% within State	4.7%	18.6%	14.9%	34.4%	27.4%	100.0%
	% of Total	2.8%	10.9%	8.7%	20.1%	16.0%	58.5%
Jammu & Kashmir	Count	40	51	50	96	64	301
	% within State	13.3%	16.9%	16.6%	31.9%	21.3%	100.0%
	% of Total	5.5%	7.0%	6.9%	13.2%	8.8%	41.5%
Total	Count	60	130	113	242	180	725
	% within State	8.3%	17.9%	15.6%	33.4%	24.8%	100.0%
	% of Total	8.3%	17.9%	15.6%	33.4%	24.8%	100.0%

**Bar Chart**



The statistics from the Table 4.9.1 reveal that respondents who are aware of e – Governance are 242 respondents (33.4%) and 180 (24.8%) are fully aware of the e – Governance.

Whereas the awareness in the State of Andhra Pradesh rests at 146 (34.4%) and those of respondents who are fully aware of e – Governance is 116 (27.4%) of the total 424 sample population of Andhra Pradesh. The unawareness is fairly low in the state of Andhra Pradesh. Taking look at State of Jammu & Kashmir statistics the awareness falls at 31.9% and total awareness is 21.3% of the total population of 301 respondents which is 41.5% of total population under sample

study. The sectoral distribution of respondents reveals percentage of respondents who are aware of various e – Governance initiatives and services.

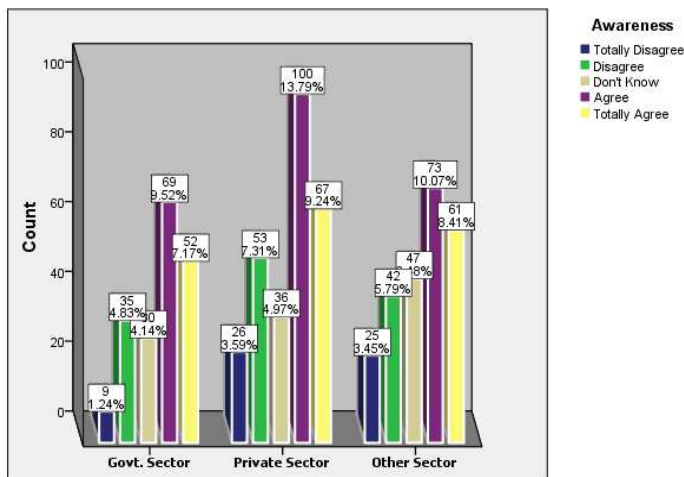
The Table 4.9.2 reveals the status of awareness within the three sectors of employment . The figures are given as :

**Table 4.9.2 Sector Wise Crosstabulation of Variable Awareness**

		Awareness					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	9	35	30	69	52	195
	% within Sector	4.6%	17.9%	15.4%	35.4%	26.7%	100.0%
	% of Total	1.2%	4.8%	4.1%	9.5%	7.2%	26.9%
Private Sector	Count	26	53	36	100	67	282
	% within Sector	9.2%	18.8%	12.8%	35.5%	23.8%	100.0%
	% of Total	3.6%	7.3%	5.0%	13.8%	9.2%	38.9%
Other Sector	Count	25	42	47	73	61	248
	% within Sector	10.1%	16.9%	19.0%	29.4%	24.6%	100.0%
	% of Total	3.4%	5.8%	6.5%	10.1%	8.4%	34.2%
Total	Count	60	130	113	242	180	725
	% within Sector	8.3%	17.9%	15.6%	33.4%	24.8%	100.0%
	% of Total	8.3%	17.9%	15.6%	33.4%	24.8%	100.0%

The statistical figures of the state of Andhra Pradesh and Jammu & Kashmir depicts that 18.6% are unaware of e – Governance services and initiatives in the state of Andhra Pradesh out of 424 respondent which account to 58.5% of the total population.

**Bar Chart**



The percentage of respondents who are totally unaware in about e – Governance in the state of Andhra Pradesh is 4.7%. Whereas the unawareness of e – Governance services and initiatives in Jammu & Kashmir is 16.9% and total unawareness is

13.3% within the sample population of 301 respondents selected for study in Jammu & Kashmir. Taking look at the overall figure the respondents who are aware is 16.0% out and stakeholders who are totally aware are 20.1% out of total 725 respondents. Therefore the overall awareness in Andhra Pradesh is 36.1% in Andhra Pradesh and in Jammu & Kashmir is 22%. The overall figure of un-awareness in Andhra Pradesh is 13.7% and in Jammu & Kashmir is 12.5% out of total 725 respondents.

Table 4.9.2 depicts the awareness on the basis of sectoral lines i.e. government sector, private sector and other sector. The respondents from government sector who are aware of the e – Governance initiatives and services account to 35.4% and respondents who are totally aware account to 26.7% out of total 195 respondents of government sector which account to 26.9% of the total population of 725 respondents. The unawareness in government sector is limited to 17.9% and total unawareness account to 4.6% of the total population of 195 respondents of Government sector. Taking look of private sector the people who are aware of the e – Governance services and initiatives total to 35.5% and who are totally aware is 23.8% of the total 282 respondents which account to 38.9% of the total number of respondents under study. The level of unawareness in private sector is 18.8% and total unawareness is 9.2% of the total population of 282 respondents. Taking note of unawareness in private sector is 7.3% and total unawareness is 3.6% out of total 725 respondents. The figures of private sector depicts that out of 248 respondents 29.4% are aware and 24.6% are fully aware of e – Governance services and initiatives and unawareness is 16.9% and total unawareness is 10.1%. The overall scenario of awareness variable is that respondents from government sector are more aware about e – Governance services and initiatives then private sector respondents and other sector where respondents come from primary sector of employment figure at lower side. The total number of respondents who are aware of e – Governance in all the three sectors amount to 58.2% which depicts that the overall awareness of the respondents is more and hence shows good signs of development.

### 4.2.3 Resistance to change

The variable resistance to change depicts the respondent’s perceived importance of resistance to change as an obstacle in implementation of functional e – Governance System. The resistance to change poses an serious obstacle in the modern governance system, where the shift occurs from traditional to new technology. Whereas the resistance to change is more likely to act as a hindrance in setting up environment for workable e – Governance services. However the necessary change management is done on the part of Government institutions to make e – governance service delivery possible.

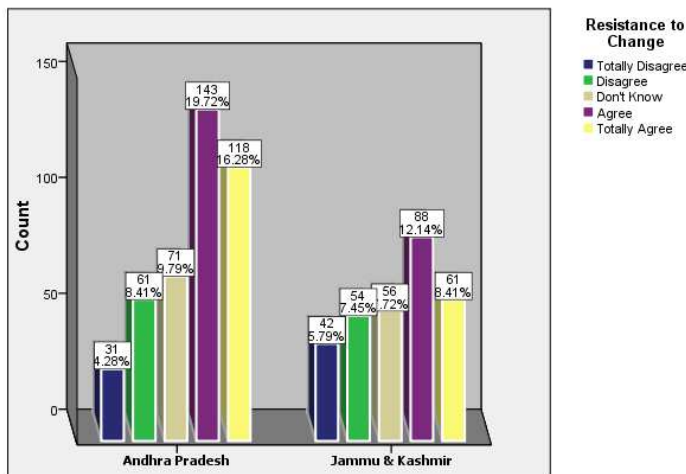
**Table 5.0.1 State Wise Crosstabulation of Variable Resistance to Change**

		Resistance to Change					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	31	61	71	143	118	424
	% within State	7.3%	14.4%	16.7%	33.7%	27.8%	100.0%
	% of Total	4.3%	8.4%	9.8%	19.7%	16.3%	58.5%
Jammu & Kashmir	Count	42	54	56	88	61	301
	% within State	14.0%	17.9%	18.6%	29.2%	20.3%	100.0%
	% of Total	5.8%	7.4%	7.7%	12.1%	8.4%	41.5%
Total	Count	73	115	127	231	179	725
	% within State	10.1%	15.9%	17.5%	31.9%	24.7%	100.0%
	% of Total	10.1%	15.9%	17.5%	31.9%	24.7%	100.0%

The Table 5.0.1 depicts the distribution of respondents across two states. 58.5% and 41.5% respondents are from State of Andhra Pradesh and Jammu & Kashmir. 33.7 %

of the state of Andhra Pradesh agrees that resistance to change, whereas 27.8% totally agree that resistance to change act as hindrance in delivering e – Governance services. Out of total 424 respondents of

**Bar Chart**



Andhra Pradesh 19.7% agrees and 16.3% totally agree with change management act as an obstacle. Taking note of Jammu & Kashmir state 20.3% agrees and 29.2% out of 301 respondents totally agree that e – Governance act as obstacle in delivering e-Governance services. Whereas the disagreement in the state of Jammu & Kashmir is higher as compared to state of Andhra Pradesh. The statistics in the state of Andhra Pradesh is at 14.4% disagreeing and 7.3% totally agreeing that change management act as an obstacle in delivering e – governance services. Whereas the figures in Jammu & Kashmir is on the higher side 17.9% disagree and 14.0% totally disagree that change management act as an obstacle in delivering e – governance services in the State of Jammu & Kashmir. Out of 301 respondents of Jammu & Kashmir State the level of disagreement 7.4% agreeing and 5.8% totally disagreeing with change management acting as an obstacle in delivering e – Governance services.

Table 5.0.2 depicts the distribution of respondents sector wise. Whereas the number of respondents who agree that resistance to change is hindrance in implementation of functional e – Governance system. The percentage of respondents who agree resistance to change as hindrance decreases with the sector concern. The agreement with the statement is 33.7% and total agreement is 27.8% for the 424 respondents from the government sector.

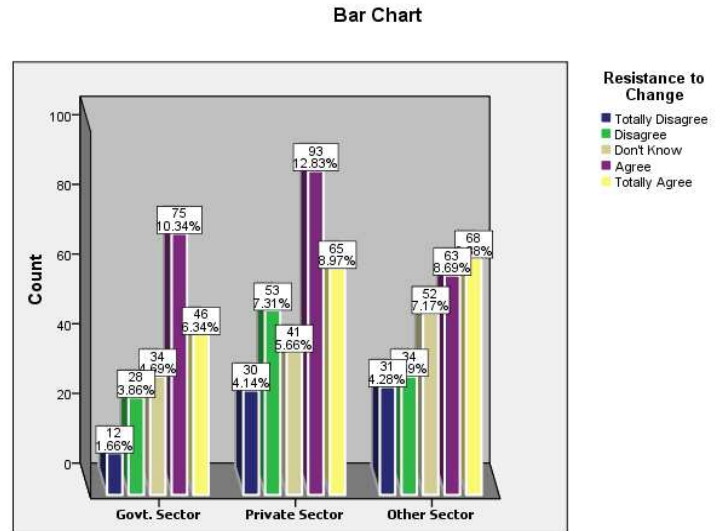
**Table 5.0.2 Sector Wise Crosstabulation of Variable Resistance to Change**

		Resistance to Change					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	12	28	34	75	46	195
	% within Sector	6.2%	14.4%	17.4%	38.5%	23.6%	100.0%
	% of Total	1.7%	3.9%	4.7%	10.3%	6.3%	26.9%
Private Sector	Count	30	53	41	93	65	282
	% within Sector	10.6%	18.8%	14.5%	33.0%	23.0%	100.0%
	% of Total	4.1%	7.3%	5.7%	12.8%	9.0%	38.9%
Other Sector	Count	31	34	52	63	68	248
	% within Sector	12.5%	13.7%	21.0%	25.4%	27.4%	100.0%
	% of Total	4.3%	4.7%	7.2%	8.7%	9.4%	34.2%
Total	Count	73	115	127	231	179	725
	% within Sector	10.1%	15.9%	17.5%	31.9%	24.7%	100.0%
	% of Total	10.1%	15.9%	17.5%	31.9%	24.7%	100.0%



As per statistics given in Table 5.0.2 the disagreement is 14.4% and total disagreement is 6.2% of the total government sector respondents. Similarly in correspondence to private sector the 33.0% agree and 23.0% totally agree with the statement and 18.8% disagree and 10.6% totally disagree with the statement out of the total 282 respondents from the private sector. Coming to other sector 31.9% agree and 24.7% totally agree where as the disagreement is on higher side, it is 13.7% disagree and 12.5% totally disagree with the statement. Therefore the total of 56.6% agrees that resistance

to change act as bottle neck in delivering of e – Governance services. Therefore most of respondents perceive resistance to change as an obstacle.



#### 4.2.4 Transparency in Dissemination of Information

This variable depicts the perceived agreement and disagreement with the statement that e – Governance system disseminates information in a very transparent manner. The representation of respondents for the variable transparency in dissemination of information is mentioned in the below Table 5.1.1 for State wise representation and Table 5.1.2 for sector wise perceived views on the transparency in information flow.

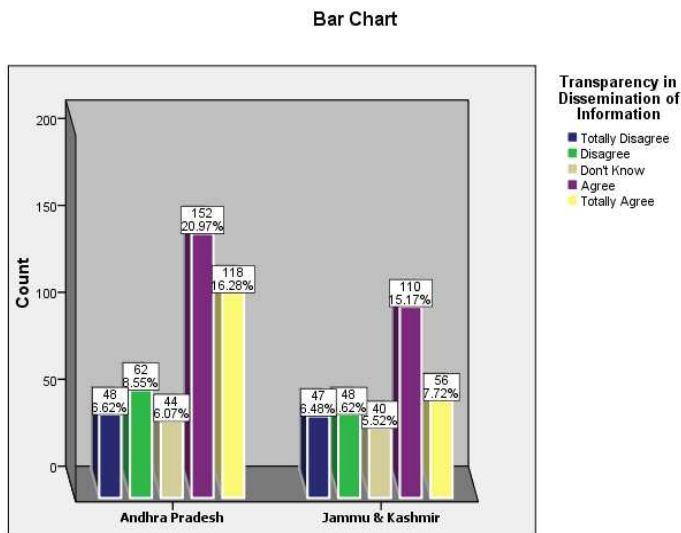
The Table 5.1.1 depicts that out of total count of 725 respondents 36.1% agree and 24.0% totally agree that e – Governance helps in transparent information dissemination. The figures from State of Andhra Pradesh gives is the view that 35.8% and 27.8% out of the total population of 424 respondents i.e. 58.5% of the total sample population agree that e – Governance helps in transparent information dissemination. The level of disagreement is 15.2% and total disagreement is 13.1% out of the total of 725 respondents. The respondent’s perceived disagreement from

the State of Andhra Pradesh is lower than as compared to State of Jammu & Kashmir. The perceived agreement by the respondents from the state of Jammu & Kashmir depicts that 36.5% agree and 18.6% totally agree with the statement out of total of 301 respondents. Whereas the figures of disagreement with the state as perceived by respondents from Jammu & Kashmir is 15.9% and total disagreement is 15.6%. The total disagreement shown by the respondents of Jammu & Kashmir is 13.1% out of total sample population of 301 respondents.

**Table 5.1.1 State Wise Crosstabulation of Variable Transparency in Dissemination of Information**

		Transparency in Dissemination of Information					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	48	62	44	152	118	424
	% within State	11.3%	14.6%	10.4%	35.8%	27.8%	100.0%
	% of Total	6.6%	8.6%	6.1%	21.0%	16.3%	58.5%
Jammu & Kashmir	Count	47	48	40	110	56	301
	% within State	15.6%	15.9%	13.3%	36.5%	18.6%	100.0%
	% of Total	6.5%	6.6%	5.5%	15.2%	7.7%	41.5%
Total	Count	95	110	84	262	174	725
	% within State	13.1%	15.2%	11.6%	36.1%	24.0%	100.0%
	% of Total	13.1%	15.2%	11.6%	36.1%	24.0%	100.0%

The overall table figure for the state of Andhra Pradesh represents that 37.3% overall agrees and 20.7% agree from the state of Jammu & Kashmir out of total of 725 respondents. The total agreement within the states jointly shown by the respondents from Andhra Pradesh is 63.6% and those from Jammu and Kashmir are 55.1%. Therefore it depicts that the already initiatives launched by the state of Andhra Pradesh are delivering services in a most transparent way. The Table 5.1.2 depicts

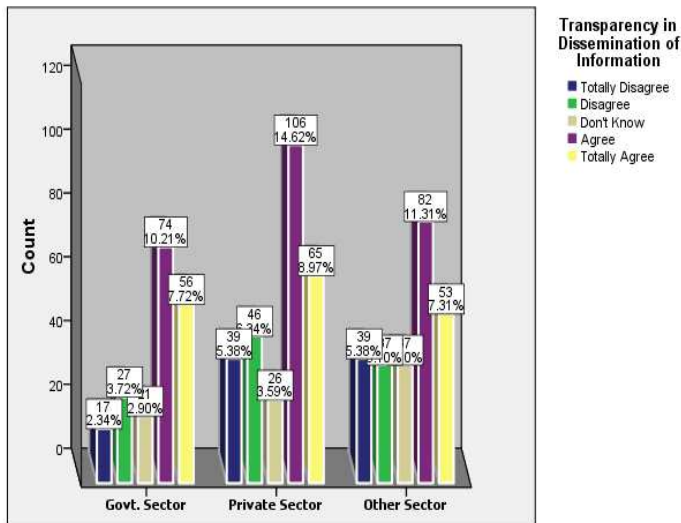


the perceived assessment of respondents from government, private and other sectors of society. The statistics depicts that the respondents from the government sectors perceive much higher as compared to respondents from private and other sector of employment, that e – Governance delivers information in a very transparent way.

**Table 5.1.2 Sector Wise Crosstabulation of Variable Transparency in Dissemination of Information**

		Transparency in Dissemination of Information					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	17	27	21	74	56	195
	% within Sector	8.7%	13.8%	10.8%	37.9%	28.7%	100.0%
	% of Total	2.3%	3.7%	2.9%	10.2%	7.7%	26.9%
Private Sector	Count	39	46	26	106	65	282
	% within Sector	13.8%	16.3%	9.2%	37.6%	23.0%	100.0%
	% of Total	5.4%	6.3%	3.6%	14.6%	9.0%	38.9%
Other Sector	Count	39	37	37	82	53	248
	% within Sector	15.7%	14.9%	14.9%	33.1%	21.4%	100.0%
	% of Total	5.4%	5.1%	5.1%	11.3%	7.3%	34.2%
Total	Count	95	110	84	262	174	725
	% within Sector	13.1%	15.2%	11.6%	36.1%	24.0%	100.0%
	% of Total	13.1%	15.2%	11.6%	36.1%	24.0%	100.0%

Bar Chart



The sector wise breakup of the respondents perceived assessment of e – Governance in delivery of transparent services depict 10.2% agree while 7.7% totally agree out of 725 the total respondents. Out of 195 respondents from Government Sector 37.9% agree and 28.7% totally agree that e – Governance disseminates information in

transparent way. Whereas the disagreement 13.8% and total disagreement is 8.7%.

In comparison to Government Sector, Private Sector respondents show similar views where 37.6% agree and 23.0% totally agree with the statement. The level of disagreement within sector is 16.3% and total disagreement is 13.8%. Therefore the level of disagreement within private sector is on higher side as compared to that of Government sector. Coming to other sector employment, the trend depicts that 33.1% agree and 21.4% totally agree with the statement out of 248 respondents. The level of disagreement is 14.9% disagree and 15.7% totally disagree with the statement. The cumulative view of the statistics depict that 60.1% of the total 725 respondents agree with that e – Governance brings in transparent dissemination of information.

**4.2.5 Navigability and friendly design**

The variable navigability and friendly design represents respondent’s level of agreement and disagreement with the ease of maneuverability across the government service delivery mechanism, which includes government information portals, websites, orders, policies, rules and regulations and their ease with navigability and friendly design. The relevance of this variable in study is to understand what features are relevant and navigable. The Table 5.2.1 depicts the distribution of respondents across the state of Andhra Pradesh and Jammu & Kashmir. The figures depict the number of respondents who agree that the e – Portal are navigable and design friendly.

**Table 5.2.1 State Wise Crosstabulation of Variable Navigability and Friendly Design**

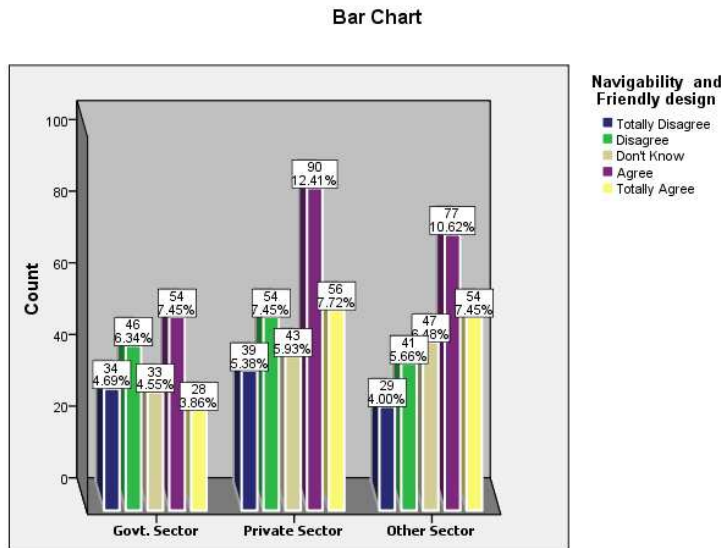
		Navigability and Friendly design					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	64	95	75	118	72	424
	% within State	15.1%	22.4%	17.7%	27.8%	17.0%	100.0%
	% of Total	8.8%	13.1%	10.3%	16.3%	9.9%	58.5%
Jammu & Kashmir	Count	38	46	48	103	66	301
	% within State	12.6%	15.3%	15.9%	34.2%	21.9%	100.0%
	% of Total	5.2%	6.3%	6.6%	14.2%	9.1%	41.5%
Total	Count	102	141	123	221	138	725
	% within State	14.1%	19.4%	17.0%	30.5%	19.0%	100.0%
	% of Total	14.1%	19.4%	17.0%	30.5%	19.0%	100.0%

Therefore the combined disagreement is 37.5% within the state of Andhra Pradesh. Coming to Jammu & Kashmir the statistics depict that the level of agreement with the statement 34.2% agree whereas 21.9% totally agree. Therefore the cumulative agreement with the 301 respondents from Jammu & Kashmir is 56.1% and the total level of disagreement is 15.3% disagree and 12.6% totally disagree. The cumulative figure for disagreement with the statement is 27.9%. In reference to statistics we can figure out that respondents from Jammu & Kashmir perceive that the government portal is easy to access and navigable. Table 5.2.2 represents the sector wise breakup of the respondents and their agreement and disagreement with the statement that e – Governance e – portals are navigable and friendly to access information and services.

**Table 5.2.2 Sector Wise Crosstabulation of Variable Navigability and Friendly Design**

		Navigability and Friendly design					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	34	46	33	54	28	195
	% within Sector	17.4%	23.6%	16.9%	27.7%	14.4%	100.0%
	% of Total	4.7%	6.3%	4.6%	7.4%	3.9%	26.9%
Private Sector	Count	39	54	43	90	56	282
	% within Sector	13.8%	19.1%	15.2%	31.9%	19.9%	100.0%
	% of Total	5.4%	7.4%	5.9%	12.4%	7.7%	38.9%
Other Sector	Count	29	41	47	77	54	248
	% within Sector	11.7%	16.5%	19.0%	31.0%	21.8%	100.0%
	% of Total	4.0%	5.7%	6.5%	10.6%	7.4%	34.2%
Total	Count	102	141	123	221	138	725
	% within Sector	14.1%	19.4%	17.0%	30.5%	19.0%	100.0%
	% of Total	14.1%	19.4%	17.0%	30.5%	19.0%	100.0%

The sector wise break as shown by Table 5.2.2 depicts that the level of agreement with the statement in private sector is higher as compared to government sector and that of other sector of employment is higher as compared to both government sector and private sector. Out of 195 government respondents 27.7% agree and 14.4% totally agree that e – Governance portals, kiosks and other service delivery mechanism is navigable to access and have friendly design. The disagreement within the government sector is 23.6% and total disagreement is 17.4% therefore the cumulative disagreement within the sector is 41%. The figures from



private sectors depict that the respondents perceive 31.9% agreement with the statement and 19.9% total agreement with the statement. Therefore the cumulative agreement is 51.8% out of 282 private sector

respondents. The figures from other sector of employment which is primary sector and unorganized sector the statistics depict that the 31.0% agree where as 21.8% totally agree therefore the cumulative agreement for the variable navigability and transparency out of 248 respondents. The disagreement with the statement figures at 16.5% and total disagreement is 11.7% and the cumulative figure is 28.2%. Taking note of the overall table value 49.5% therefore the sample has shown divergent views about navigability and friendly design of government e – service portals.

#### 4.2.6 Availability of Required Infrastructure to Access

The statement perceives the respondents agreement and disagreement for availability of required infrastructure to access the e – Governance system and it’s available with public domain. Table 5.3.1 represents the perceived assessment by the 725 respondents from the state of Andhra Pradesh and Jammu & Kashmir. Out of 424 respondents of Andhra Pradesh 34.4% respondents disagree and 20.3% totally disagree. The cumulative percentage of disagreement within the state of Andhra Pradesh is 54.7% where as the cumulative agreement is 29.5%. Out of total 725 respondents 20.1% disagree and 11.9% totally disagree that there is availability of required infrastructure to access e – Governance system. Taking look at Jammu & Kashmir Statistics the figure depict that out of 301 respondents 28.9% disagree and 13.6% totally disagree, therefore the cumulative figure is 42.5% disagree with the state. This means that there is no proper infrastructure in place to access the e –

governance services or interfaces. The overall figure depicts that out of 725 respondents, J&K represent 12.0% disagreement and 5.7% total disagreement that there exist required infrastructure in place. The agreeeness with the statement depicts that 19.6% of Andhra Pradesh agrees where as 9.9% totally agrees with the statement. In J&K the 16.3% of respondents agree and 20.3% totally agrees. This depicts the knowledge of e- Governance in J&K respondents are very limited.

**Table 5.3.1 State Wise Crosstabulation of Variable Availability of Required Infrastructure to Access**

		Availability of Required Infrastructure to Access					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	86	146	67	83	42	424
	% within State	20.3%	34.4%	15.8%	19.6%	9.9%	100.0%
	% of Total	11.9%	20.1%	9.2%	11.4%	5.8%	58.5%
Jammu & Kashmir	Count	41	87	63	49	61	301
	% within State	13.6%	28.9%	20.9%	16.3%	20.3%	100.0%
	% of Total	5.7%	12.0%	8.7%	6.8%	8.4%	41.5%
Total	Count	127	233	130	132	103	725
	% within State	17.5%	32.1%	17.9%	18.2%	14.2%	100.0%
	% of Total	17.5%	32.1%	17.9%	18.2%	14.2%	100.0%

**Table 5.3.2 Sector Wise Crosstabulation of Variable Availability of Required Infrastructure to Access**

		Availability of Required Infrastructure to Access					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	46	57	32	43	17	195
	% within Sector	23.6%	29.2%	16.4%	22.1%	8.7%	100.0%
	% of Total	6.3%	7.9%	4.4%	5.9%	2.3%	26.9%
Private Sector	Count	54	88	50	48	42	282
	% within Sector	19.1%	31.2%	17.7%	17.0%	14.9%	100.0%
	% of Total	7.4%	12.1%	6.9%	6.6%	5.8%	38.9%
Other Sector	Count	27	88	48	41	44	248
	% within Sector	10.9%	35.5%	19.4%	16.5%	17.7%	100.0%
	% of Total	3.7%	12.1%	6.6%	5.7%	6.1%	34.2%
Total	Count	127	233	130	132	103	725
	% within Sector	17.5%	32.1%	17.9%	18.2%	14.2%	100.0%
	% of Total	17.5%	32.1%	17.9%	18.2%	14.2%	100.0%

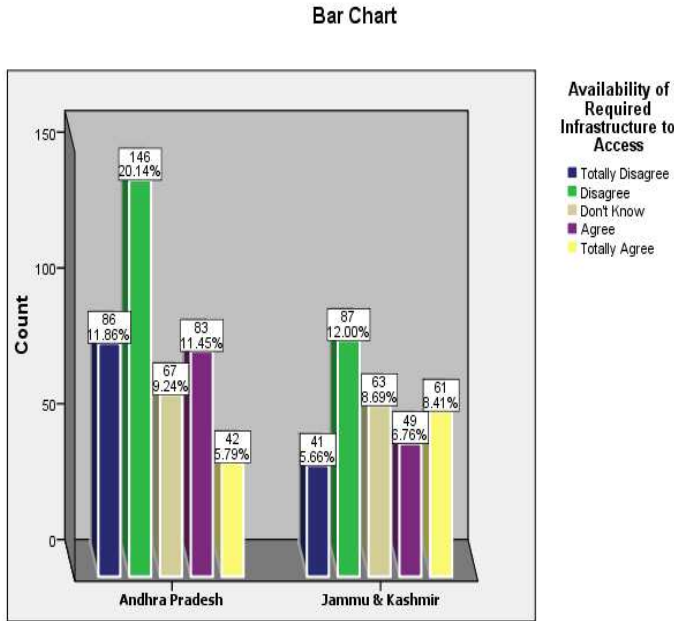
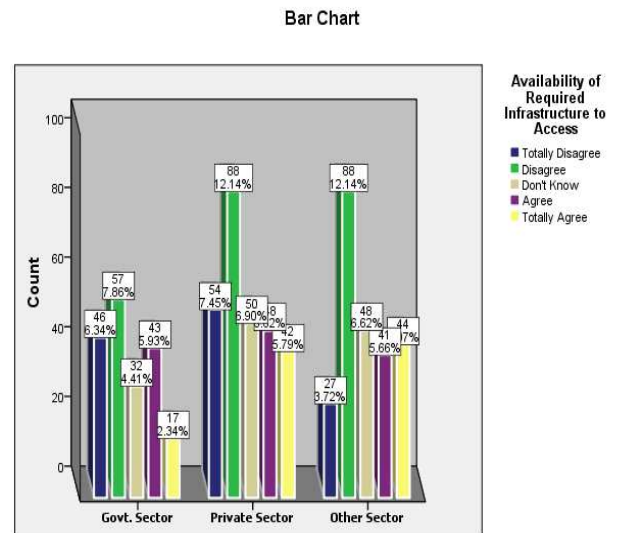


Table 5.3.2 depicts the sector wise perceived assessment made by the respondents from government, private and other sectors of employment. Whereas out of 195 government respondents 29.2% disagree and 23.6% totally disagree therefore the cumulative of the two is 52.8%. This depicts that the

government employees are much sure that the availability of infrastructure is scarce.

Coming to private sector out of 282 respondents 31.2% disagree and 19.1% totally disagree with the statement that there is availability of infrastructure to access e – governance with public. The figures from other sector shows different scenario, out of 248 respondents 35.5% disagree and 10.9% totally disagree; the cumulative figure for disagreement in other sector of employment is 46.4%. The other sector perceives that the basic infrastructure is not available for accessing the information and government services.



#### 4.2.7 Information Encryption, Protection and Security

The variable information encryption, protection and security represents depicts that the information available through online medium is, encrypted, protected and secure for the use of end – users. The same question was put forward to 725 respondents from three sectors and there perceived responses are mentioned in the Table 5.4.1. figures from the table depicts that out 424 respondents from the State of

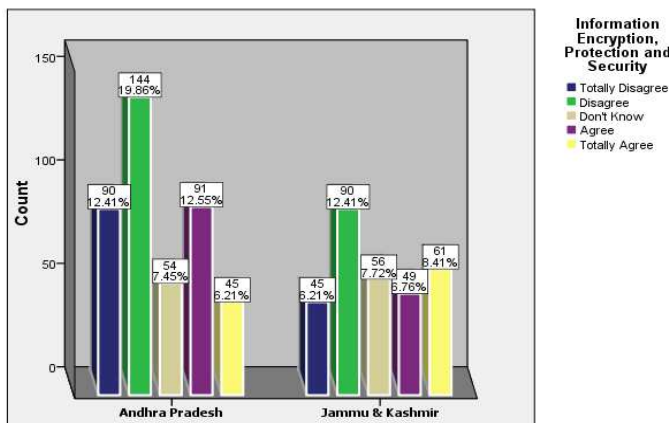


Andhra Pradesh 34.0% disagree where as 21.2% totally disagree therefore the assessment depicts that the information which is available through online medium is not encrypted, protected or secure. Whereas the agreement with the statement shows representation that out of 424 respondents 21.5% agree and 10.6% totally agree with the statement. The cumulative disagreement with the statement is 55.2% for the 424 respondents from the state of Andhra Pradesh. The figures from respondents of state of Jammu & Kashmir depicts that 29.9% and 15.0% out of 301 respondents disagree and totally disagree, therefore putting the cumulative figure to 44.9% for the state of Jammu & Kashmir. The data reveals that most of the respondents from the state of Andhra Pradesh as well as Jammu & Kashmir perceive that the information available through the online medium by the government agencies is not fully protected, encrypted or secure and hence have concern about use of same.

**Table 5.4.1 State Wise Crosstabulation of Variable Information Encryption, Protection and Security**

		Information Encryption, Protection and Security					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	90	144	54	91	45	424
	% within State	21.2%	34.0%	12.7%	21.5%	10.6%	100.0%
	% of Total	12.4%	19.9%	7.4%	12.6%	6.2%	58.5%
Jammu & Kashmir	Count	45	90	56	49	61	301
	% within State	15.0%	29.9%	18.6%	16.3%	20.3%	100.0%
	% of Total	6.2%	12.4%	7.7%	6.8%	8.4%	41.5%
Total	Count	135	234	110	140	106	725
	% within State	18.6%	32.3%	15.2%	19.3%	14.6%	100.0%
	% of Total	18.6%	32.3%	15.2%	19.3%	14.6%	100.0%

Bar Chart



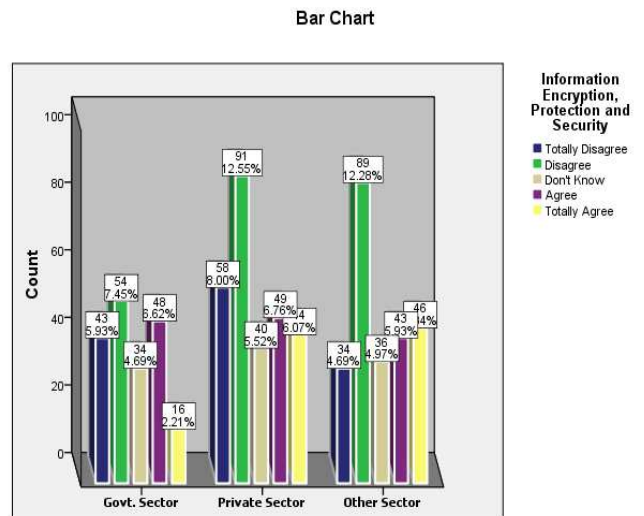
Taking note of level of agreement perceived by the respondents from the state of Andhra Pradesh is double as compared to Jammu & Kashmir. The statistical figures for the state of Andhra Pradesh is

21.5% and 10.6% totally agree out of 424 respondents. Whereas out of total 725 12.6% agree and 6.2% disagree from the state of Andhra Pradesh. Whereas out of 725 respondents 19.9% agree and 12.4% totally agree. Therefore the cumulative figure of agreement for overall 725 respondents is 32.3%. Table 5.4.2 depicts the perceived representation by the total sample population of 725 respondents across the three sectors, namely government sector, private sector and other sector of employment.

**Table 5.4.2 Sector Wise Crosstabulation of Variable Information Encryption, Protection and Security**

		Information Encryption, Protection and Security					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	43	54	34	48	16	195
	% within Sector	22.1%	27.7%	17.4%	24.6%	8.2%	100.0%
	% of Total	5.9%	7.4%	4.7%	6.6%	2.2%	26.9%
Private Sector	Count	58	91	40	49	44	282
	% within Sector	20.6%	32.3%	14.2%	17.4%	15.6%	100.0%
	% of Total	8.0%	12.6%	5.5%	6.8%	6.1%	38.9%
Other Sector	Count	34	89	36	43	46	248
	% within Sector	13.7%	35.9%	14.5%	17.3%	18.5%	100.0%
	% of Total	4.7%	12.3%	5.0%	5.9%	6.3%	34.2%
Total	Count	135	234	110	140	106	725
	% within Sector	18.6%	32.3%	15.2%	19.3%	14.6%	100.0%
	% of Total	18.6%	32.3%	15.2%	19.3%	14.6%	100.0%

Out of total of 195 respondents from government sector 27.7% disagree and 22.1 % totally disagree that the information available through medium is protected, encrypted or secure. Where statistics from the private sector are reveals that out of 282 respondents out of 725 respondents 32.3% disagrees and 20.6% totally disagree. Therefore putting the cumulative to 52.9% of disagreement with the statement that information available through online medium is protected encrypted or secure.248 respondents from other sector out of total 725 respondents perceive 35.9%



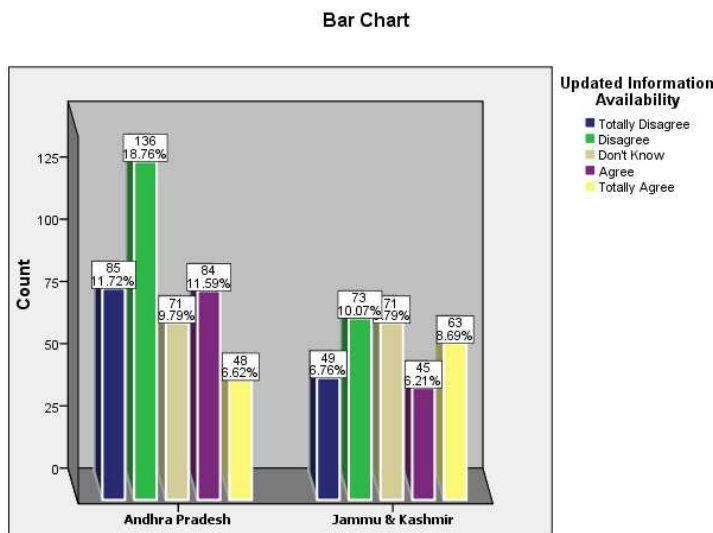
disagreement and 13.7% total disagreement; therefore the cumulative figure is 49.6%. From the above statistics we can derive that the overall percentage of the respondents disagree that the information available through the online medium if encrypted, protected or secure.

**4.2.8 Updated Information Availability**

The variable updated information availability represents that connotation that the departments have fully updated information available on internet. Whereas out of 725 respondents shown against two states namely Andhra Pradesh and Jammu & Kashmir. The assessment reveals that out of total of 725 respondents 424 respondents from the state of Andhra Pradesh perceive that information available from the government departments on the web is not fully updated. The Table 5.5.1 reveals that 32.1% disagree and 20.0% totally disagree, hence the total disagreement with the statement is 50.1% which mean that half of population disagree that the information available on the web from the government functionaries, departments, agencies is updated. The representation of state of Jammu & Kashmir in the Table 5.5.1 depicts that 24.3% disagree and 16.3% totally disagree out of 301 total

respondents from the state of Jammu & Kashmir. Whereas the level of agreement is 15.0% and total agreement is 20.9%, therefore the cumulative percentage of agreement is 35.9% and cumulative percentage of disagreement is 40.6%, therefore the analysis

reveals that information available on the government web portals is incomplete and not updated as per requirements of users and stakeholders.



**Table 5.5.1 State Wise Crosstabulation of Variable Updated Information Availability**

		Updated Information Availability					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	85	136	71	84	48	424
	% within State	20.0%	32.1%	16.7%	19.8%	11.3%	100.0%
	% of Total	11.7%	18.8%	9.8%	11.6%	6.6%	58.5%
Jammu & Kashmir	Count	49	73	71	45	63	301
	% within State	16.3%	24.3%	23.6%	15.0%	20.9%	100.0%
	% of Total	6.8%	10.1%	9.8%	6.2%	8.7%	41.5%
Total	Count	134	209	142	129	111	725
	% within State	18.5%	28.8%	19.6%	17.8%	15.3%	100.0%
	% of Total	18.5%	28.8%	19.6%	17.8%	15.3%	100.0%

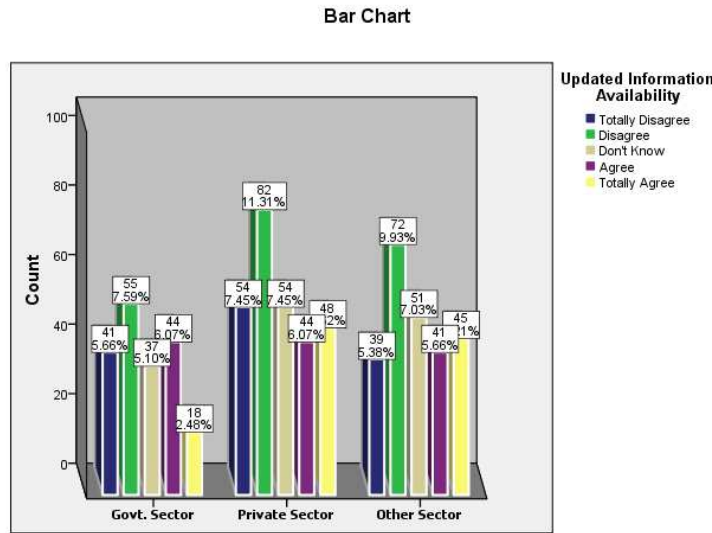
The disagreement within the state of Andhra Pradesh is far higher as compared to the state of Jammu & Kashmir. However the level of agreement with the statement is higher in case of Jammu & Kashmir as compared to the state of Andhra Pradesh.

Table 5.5.2 represents the distribution of respondents in across the three sectors. Out of 725 respondents 195 are from government side and 282 are from private sector and 248 are from other sector of employment.

**Table 5.5.2 Sector Wise Crosstabulation of Variable Updated Information Availability**

		Updated Information Availability					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	41	55	37	44	18	195
	% within Sector	21.0%	28.2%	19.0%	22.6%	9.2%	100.0%
	% of Total	5.7%	7.6%	5.1%	6.1%	2.5%	26.9%
Private Sector	Count	54	82	54	44	48	282
	% within Sector	19.1%	29.1%	19.1%	15.6%	17.0%	100.0%
	% of Total	7.4%	11.3%	7.4%	6.1%	6.6%	38.9%
Other Sector	Count	39	72	51	41	45	248
	% within Sector	15.7%	29.0%	20.6%	16.5%	18.1%	100.0%
	% of Total	5.4%	9.9%	7.0%	5.7%	6.2%	34.2%
Total	Count	134	209	142	129	111	725
	% within Sector	18.5%	28.8%	19.6%	17.8%	15.3%	100.0%
	% of Total	18.5%	28.8%	19.6%	17.8%	15.3%	100.0%

The table 5.5.2 depicts that out of 195 government sector respondents 32.1% disagree and 20.0% totally disagree that the information available on the web by the government departments in fully updated. The cumulative figure of disagreement within the government sector is 52.1%. The figure of agreement reveals that 22.6%



agree and 9.2% totally agree that there exist updated information on the web by the government departments. Therefore the cumulative agreement is 31.8%, which is therefore much lower than the percentage of disagreement. Having a look at statistics of private

sector the percentage of agreement is 15.6% agree and 17.0% totally agree, the cumulative percentage is 32.6%, where as the percentage of disagreement reveals that 29.1% disagree and 19.1% totally disagree out of the population of 282 respondents. The cumulative percentage of the disagreement among respondents from private sector is 48.2%.

The figures from other sector reveals that out 248 respondents 29.0% disagree and 15.7% totally disagree that there exists updated information from the government departments on the web; whereas the cumulative percentage of disagreement is 44.7% among the other sector respondents. The level of agreement reveals that the 16.5% agree and 18.1% totally agree that information available is updated. The cumulative agreement is 34.3%, which is lower as compared to percentage of disagreement. Hence from the analysis we can understand that the information available on the internet is not fully updated by the government departments, public offices and field functionaries.

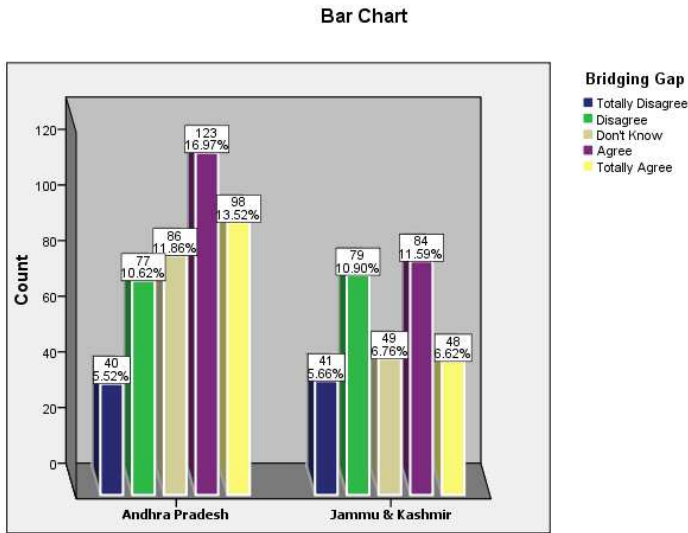
### 4.2.9 Bridging Gap

The variable ‘bridging gap’ represents respondents perceived possibility in viewing role of e – Governance in bridging gaps created by redundant, poor functional and standalone working of government organizations. The variable depicts the distribution of responses for functional gap created by the working of government departments on standalone basis. Table 5.6.1 depicts the distribution of respondent’s state wise i.e. Andhra Pradesh and Jammu & Kashmir. The percentage of respondents who perceive that e – governance bridges gaps created by standalone departments in the state of Andhra Pradesh who agree is 29.0% and those who totally agree is 23.1%. Therefore the total percentage of users who think e – Governance bridges gaps is 52% out of 424 respondents. Therefore it can be ascertained that respondents from Andhra Pradesh perceive strongly that e – Governance can definitely help in bridging gaps in order to deliver utmost efficiency and responsiveness in the governance system.

**Table 5.6.1 State Wise Crosstabulation of Variable Bridging Gap**

		Bridging Gap					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	40	77	86	123	98	424
	% within State	9.4%	18.2%	20.3%	29.0%	23.1%	100.0%
	% of Total	5.5%	10.6%	11.9%	17.0%	13.5%	58.5%
Jammu & Kashmir	Count	41	79	49	84	48	301
	% within State	13.6%	26.2%	16.3%	27.9%	15.9%	100.0%
	% of Total	5.7%	10.9%	6.8%	11.6%	6.6%	41.5%
Total	Count	81	156	135	207	146	725
	% within State	11.2%	21.5%	18.6%	28.6%	20.1%	100.0%
	% of Total	11.2%	21.5%	18.6%	28.6%	20.1%	100.0%

However for the state of Jammu & Kashmir the percentage of respondents who agree that e – Governance bridges gap is 27.9%, whereas the percentage of users who totally agree that e – Governance bridges gap is 15.9%. Therefore the cumulative percentage of agreement for the state of Jammu & Kashmir is 43.1%. Therefore it proves that the percentage of users who perceive strongly that e – Governance bridges gaps between standalone departments is higher for the state of



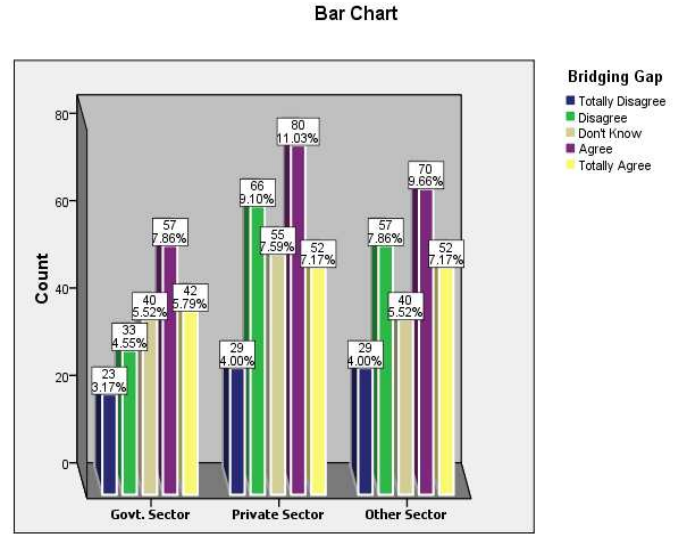
Andhra Pradesh as compared to Jammu & Kashmir. Taking note of disagreement in the State of Andhra Pradesh, 18.2% disagree and 9.4% totally disagree out of 424 total respondents, for the state of Jammu & Kashmir 26.2% disagrees and 13.6% totally disagree out of 301

respondents. The percentage of respondents who disagree that e – Governance can possibly bridge the gap is higher in the state of Andhra Pradesh as compared to the state of Jammu & Kashmir. Table 5.6.2 depicts the sector wise distribution of perceived responses from the 725 respondents. For government sector out of 195 respondents 29.2% agree and 21.5% totally agree, therefore the total respondents who agree are 50.7%. Taking look of private sector out of 282 respondents 28.4% agree and 18.4% totally agree, therefore the total figure is 46.8% who agree that e – Governance bridges gap between the standalone departments.

**Table 5.6.2 Sector Wise Crosstabulation of Variable Bridging Gap**

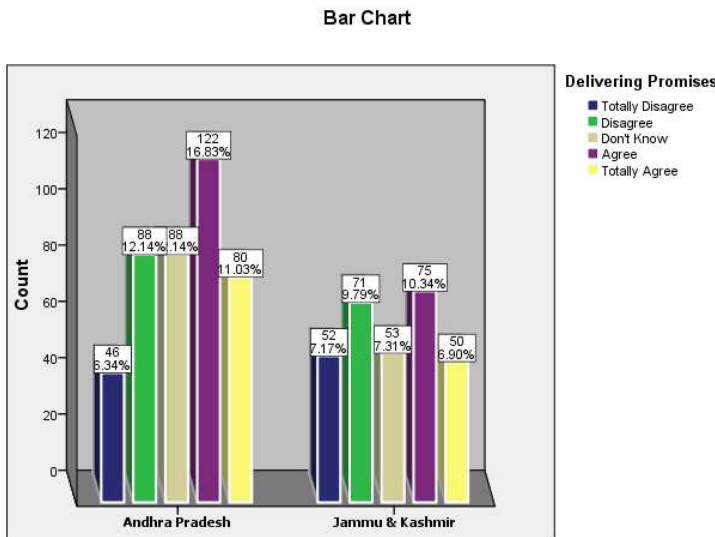
		Bridging Gap					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	23	33	40	57	42	195
	% within Sector	11.8%	16.9%	20.5%	29.2%	21.5%	100.0%
	% of Total	3.2%	4.6%	5.5%	7.9%	5.8%	26.9%
Private Sector	Count	29	66	55	80	52	282
	% within Sector	10.3%	23.4%	19.5%	28.4%	18.4%	100.0%
	% of Total	4.0%	9.1%	7.6%	11.0%	7.2%	38.9%
Other Sector	Count	29	57	40	70	52	248
	% within Sector	11.7%	23.0%	16.1%	28.2%	21.0%	100.0%
	% of Total	4.0%	7.9%	5.5%	9.7%	7.2%	34.2%
Total	Count	81	156	135	207	146	725
	% within Sector	11.2%	21.5%	18.6%	28.6%	20.1%	100.0%
	% of Total	11.2%	21.5%	18.6%	28.6%	20.1%	100.0%

The figures from other sector depict that out of 248 respondents, 28.8% of the respondents agree and 21.0% respondents totally agree that e – Governance bridges gap. Therefore the total percentage of respondent who perceive e – Governance bridges gaps is 49.8%. From the results of study out of 725 respondents 48.7% perceive that the e – Governance bridges gaps.



### 4.3.0 Delivering Promises

The variable ‘delivering promises’ represents statement in questionnaire “e – Governance delivers the promises of good governance on time and through efficient mechanism”. Table 5.7.1 for depicts state wise and table 5.7.2 depicts sector wise distribution of the respondents from Andhra Pradesh and Jammu & Kashmir. The Table 5.7.1 reveals the perceived preference by the respondents, where as the table



reveals 28.8% out of the total of 424 respondents of Andhra Pradesh perceive that e – Governance delivers promises of efficiency and timely bound service delivery and the number of respondents who totally agree are 18.9%. Therefore the total percentage of

respondents who perceive that e – governance delivers promises are 47.7% out of total of 424 respondents from Andhra Pradesh. The percentages of respondents who



disagree are 31.6% out of total of 424 respondents. Therefore it depicts that the higher number of respondents agrees that e – Governance brings in efficiency in the service delivering system of government offices. The statistics from Jammu & Kashmir reveals that out of 301 respondents 41.5% of agree that e – Governance deliver promises of efficient and timely services. Whereas the total percentage of respondents who disagree are 40.9%. The respondents perceive that there are some other factors which are hindrance and hence e – Governance itself is not solely responsible for efficient and timely service delivery.

**Table 5.7.1 State Wise Crosstabulation of Variable Delivering Promises**

		Delivering Promises					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	46	88	88	122	80	424
	% within State	10.8%	20.8%	20.8%	28.8%	18.9%	100.0%
	% of Total	6.3%	12.1%	12.1%	16.8%	11.0%	58.5%
Jammu & Kashmir	Count	52	71	53	75	50	301
	% within State	17.3%	23.6%	17.6%	24.9%	16.6%	100.0%
	% of Total	7.2%	9.8%	7.3%	10.3%	6.9%	41.5%
Total	Count	98	159	141	197	130	725
	% within State	13.5%	21.9%	19.4%	27.2%	17.9%	100.0%
	% of Total	13.5%	21.9%	19.4%	27.2%	17.9%	100.0%

**Table 5.7.2 Sector Wise Crosstabulation of Variable Delivering Promises**

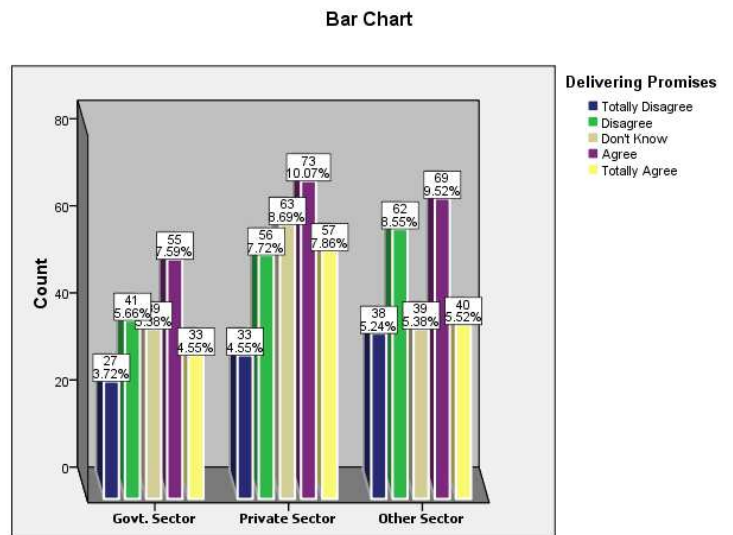
		Delivering Promises					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	27	41	39	55	33	195
	% within Sector	13.8%	21.0%	20.0%	28.2%	16.9%	100.0%
	% of Total	3.7%	5.7%	5.4%	7.6%	4.6%	26.9%
Private Sector	Count	33	56	63	73	57	282
	% within Sector	11.7%	19.9%	22.3%	25.9%	20.2%	100.0%
	% of Total	4.6%	7.7%	8.7%	10.1%	7.9%	38.9%
Other Sector	Count	38	62	39	69	40	248
	% within Sector	15.3%	25.0%	15.7%	27.8%	16.1%	100.0%
	% of Total	5.2%	8.6%	5.4%	9.5%	5.5%	34.2%
Total	Count	98	159	141	197	130	725
	% within Sector	13.5%	21.9%	19.4%	27.2%	17.9%	100.0%
	% of Total	13.5%	21.9%	19.4%	27.2%	17.9%	100.0%

Table 5.7.2 reveals the perceived preference of the respondents from the three sectors namely government sector, private sector and other sector. The respondents from the government sector perceive that out of 195 respondents 28.2% agree and 16.9% totally agree. The total percentages of respondents who agree with the statement are 45.1%.

The total percentage of respondents who disagree with view that e – Governance delivers promises of efficient and timely services to its stakeholders is 34.8% out of which 21.0% disagree and 13.8% totally disagree with the statement. Whereas the private sector statistics

reveals that of the total percentage of 46.1% agree that e – Governance brings in efficiency and timeliness in the service delivery system. The percentage of disagreement within the private sector depicts that the 31.6% out of the total population of 282 respondents in private sector disagree that e – Governance can deliver promise. The statistics from the other sector reveal 27.8% agree whereas

16.1% totally agree, therefore the total percentage of respondents who agree that the e – governance can bring in efficiency and transparency in the system of delivery of services to the stake holder is 43.9%. The percentage of respondents who disagree is 40.3%, out of which 25.0% disagree and 15.3% totally disagree that e – Governance can delivery promises of efficiency and timeliness in the service delivery system. The figures reveal that the people who disagree are on higher side in the private sector as compare to government and other sector.



#### 4.3.1 Restriction by Infrastructure

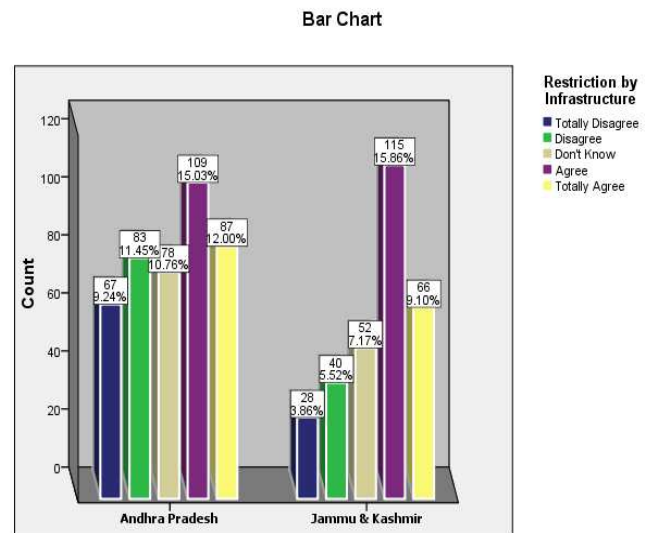
The variable restriction by infrastructure depicts that the performance of e – Governance is restricted to only those who have requisite connectivity and infrastructure in place. The respondents from Andhra Pradesh State and Jammu &

Kashmir State perceive the restriction by infrastructure differently as the infrastructure issue is much concern for Jammu & Kashmir and so for Andhra Pradesh. Table 5.8.1 depicts the perceived representation by the respondents from the state of Andhra Pradesh and Jammu & Kashmir.

**Table 5.8.1 State Wise Crosstabulation of Variable Restriction by Infrastructure**

		Restriction by Infrastructure					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	67	83	78	109	87	424
	% within State	15.8%	19.6%	18.4%	25.7%	20.5%	100.0%
	% of Total	9.2%	11.4%	10.8%	15.0%	12.0%	58.5%
Jammu & Kashmir	Count	28	40	52	115	66	301
	% within State	9.3%	13.3%	17.3%	38.2%	21.9%	100.0%
	% of Total	3.9%	5.5%	7.2%	15.9%	9.1%	41.5%
Total	Count	95	123	130	224	153	725
	% within State	13.1%	17.0%	17.9%	30.9%	21.1%	100.0%
	% of Total	13.1%	17.0%	17.9%	30.9%	21.1%	100.0%

The figures depict that 25.7% agree, whereas 20.5% respondents totally agree. The total percentage of respondents who perceive that the performance is restricted by the infrastructure is 46.2% out of 424 respondents from the state of Andhra Pradesh. The figures from Jammu & Kashmir depict that out of 301 respondents 38.2% agree and the respondents who totally agree is 21.9%. The total percentage of respondents who perceive that the restriction is because of lack of connectivity and infrastructure in place is 60.1%. Therefore the respondents from Jammu & Kashmir see the lack of infrastructure and requisite connectivity in place as the basic restriction to access e - Governance. The total percentage of respondents who disagree that the lack of connectivity and infrastructure is hindrance for Andhra Pradesh is 35.4%. Whereas the for the state of Jammu & Kashmir the figures



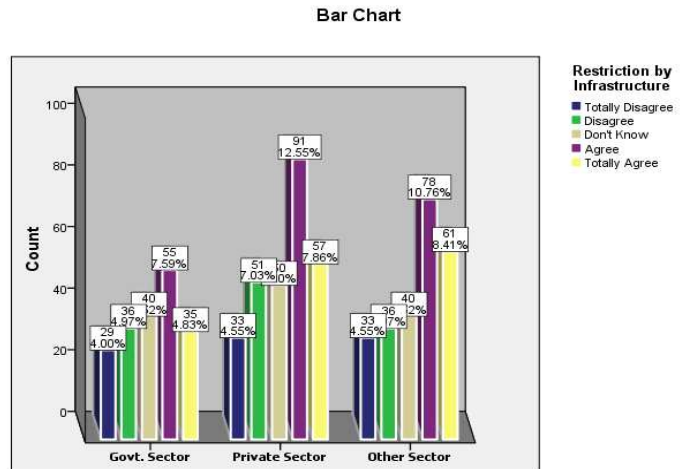
reveal that percentage of respondents who disagree with the statement is 22.6% out of 301 respondents. Therefore in comparison between two states reveal that the most of the respondents see restriction by infrastructure as a basic hindrance to the functional e – Governance System. Table 5.8.2 represents the perceived preferences by the respondents from the three sectors.

**Table 5.8.2 Sector Wise Crosstabulation of Variable Restriction by Infrastructure**

		Restriction by Infrastructure					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	29	36	40	55	35	195
	% within Sector	14.9%	18.5%	20.5%	28.2%	17.9%	100.0%
	% of Total	4.0%	5.0%	5.5%	7.6%	4.8%	26.9%
Private Sector	Count	33	51	50	91	57	282
	% within Sector	11.7%	18.1%	17.7%	32.3%	20.2%	100.0%
	% of Total	4.6%	7.0%	6.9%	12.6%	7.9%	38.9%
Other Sector	Count	33	36	40	78	61	248
	% within Sector	13.3%	14.5%	16.1%	31.5%	24.6%	100.0%
	% of Total	4.6%	5.0%	5.5%	10.8%	8.4%	34.2%
Total	Count	95	123	130	224	153	725
	% within Sector	13.1%	17.0%	17.9%	30.9%	21.1%	100.0%
	% of Total	13.1%	17.0%	17.9%	30.9%	21.1%	100.0%

Taking view of government sector the percentage of respondents who perceive lack of infrastructure as an issue is 46.1% out of 195 respondents. Out of which 28.2% of respondents agree where as 17.9% totally agree with the statement. The total percentage of respondents who disagree and see lack of infrastructure and connectivity as not a hindrance is 33.4%. Out of which 18.5% respondents disagree and 14.9%

totally disagree with the statement. Therefore respondents from government sector see restriction by infrastructure as not an issue. The statistics from private sector depict that 52.5% respondents perceive restriction by infrastructure as an issue. The



percentages of respondents who disagree with the issue are 29.8% out of 282 respondents. 56.1% respondents from other sector perceive that the restriction is by the lack of infrastructure and connectivity in place. The percentage of respondents who perceive that the lack of infrastructure is not issue is about 27.8% out of 248 respondents. Out of which 14.5% disagree with the statement and 13.3% totally disagree. Taking a look at overall figures 52% out of all the 725 respondents agree that restriction by infrastructure is the issues which need to be addressed by creating basic connectivity and option of infrastructure for the people who are in sub – urban and rural areas.

### 4.3.2 Linguistic Hindrance

The linguistic hindrance represents the statement of the questionnaire, which depicts the use of English language as medium of exchange of information act as a hindrance to citizens who are not well versed with English. To understand the linguistic hindrance a study has been conducted across 725 respondents from two state and three sectors of employment. The Table 5.91 depicts the statistics from 725 respondents from the two states i.e. Andhra Pradesh and Jammu and Kashmir. The Table 5.9.1 depicts the representation of 725 respondents statewise. Out of 725 respondents 424 respondents are from the state of Andhra Pradesh and 301 respondents are from the state of Jammu & Kashmir.

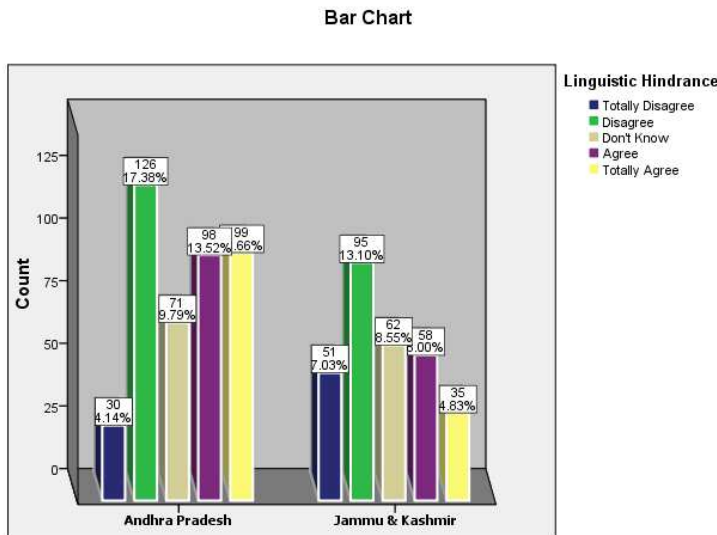
**Table 5.9.1 State Wise Crosstabulation of Variable Linguistic Hindrance**

		Linguistic Hindrance					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	30	126	71	98	99	424
	% within State	7.1%	29.7%	16.7%	23.1%	23.3%	100.0%
	% of Total	4.1%	17.4%	9.8%	13.5%	13.7%	58.5%
Jammu & Kashmir	Count	51	95	62	58	35	301
	% within State	16.9%	31.6%	20.6%	19.3%	11.6%	100.0%
	% of Total	7.0%	13.1%	8.6%	8.0%	4.8%	41.5%
Total	Count	81	221	133	156	134	725
	% within State	11.2%	30.5%	18.3%	21.5%	18.5%	100.0%
	% of Total	11.2%	30.5%	18.3%	21.5%	18.5%	100.0%

As per Table 5.9.1 for the state of Andhra Pradesh the total 46.4% out of 424 respondents from Andhra Pradesh agree that use of English language do act as hindrance. Out of 46.4% total percent 23.1% agree and 23.3% totally agree with linguistic hindrance. Whereas the total percentage who disagree with the linguistic hindrance is 36.8%. Out of total percentage of disagree of 36.8%, 30.8% disagree with the statement and 6.7% totally disagree. Keeping in view the above statistics higher percentage of respondents from the state of Andhra Pradesh does agree that the linguistic hindrance is the issue.

The statistics from Jammu & Kashmir depicts that the total percentage of respondents who agree that linguistic hindrance pose a challenge is 30.9%, which is on lower side as compared to other Andhra Pradesh. Out of this total percentage 30.9%, 19.3% agree and 11.6% totally agree with the statement. Whereas the total percentage of the respondents who disagree that the linguistic pose no hindrance in

interaction with the e – Governance System is lower and hence it can be judged that overall linguistic hindrance pose an serious challenge to the functioning of e – Governance System. The total percentage of the respondents who disagree in the state of Jammu & Kashmir is



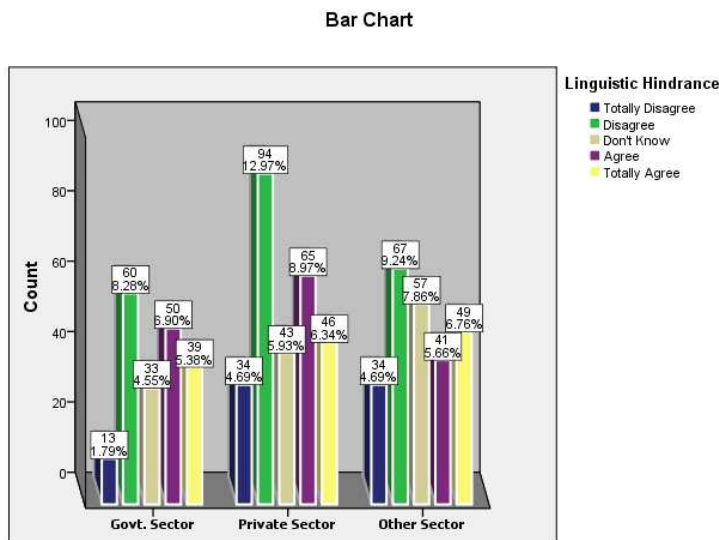
48.5% out of 301 respondents. Out of 48.5% percentage of respondents, 31.6% disagree and 16.9% totally disagree. Taking overall stock of the statistics the respondents from Andhra Pradesh perceive linguistic hindrance as an obstacle, whereas the respondents from Jammu & Kashmir perceive the linguistic hindrance not applicable. The linguistic hindrance occurs during transfer and exchange of information from the public kiosks and information outlets.

**Table 5.9.2 Sector Wise Crosstabulation of Variable Linguistic Hindrance**

		Linguistic Hindrance					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	13	60	33	50	39	195
	% within Sector	6.7%	30.8%	16.9%	25.6%	20.0%	100.0%
	% of Total	1.8%	8.3%	4.6%	6.9%	5.4%	26.9%
Private Sector	Count	34	94	43	65	46	282
	% within Sector	12.1%	33.3%	15.2%	23.0%	16.3%	100.0%
	% of Total	4.7%	13.0%	5.9%	9.0%	6.3%	38.9%
Other Sector	Count	34	67	57	41	49	248
	% within Sector	13.7%	27.0%	23.0%	16.5%	19.8%	100.0%
	% of Total	4.7%	9.2%	7.9%	5.7%	6.8%	34.2%
Total	Count	81	221	133	156	134	725
	% within Sector	11.2%	30.5%	18.3%	21.5%	18.5%	100.0%
	% of Total	11.2%	30.5%	18.3%	21.5%	18.5%	100.0%

Table 5.9.2 reveals the preferences as perceived by the respondents from the three sectors i.e. government sector, private sector and other sector. The data reveals

that the overall 45.6% of the respondents from the government sector perceive that the linguistic hindrance is applicable in the interaction with the e – governance system. Whereas out of 195 respondents 45.6%, 25.6% agree and 20.0% totally agree with the



statement. The figures of disagreement reveal that 37.5% of the respondents of government sector perceive that linguistic hindrance pose no hindrance. Out of 282 respondents 37.5% of respondents have disagreement with the linguistic hindrance, out of which 30.8% disagree and 6.7% totally disagree. The figures from private sector reveal that out of 248 respondents depict that 36.3% agree that linguistic hindrance pose an issue, where as 40.7% totally disagrees that linguistic hindrance

pose a threat. The overall statistics reveal that respondents from the government sector perceive that linguistic hindrance poses an issue for a functional e – Governance. Whereas the respondents from private sector perceive that language does not act as hindrance.

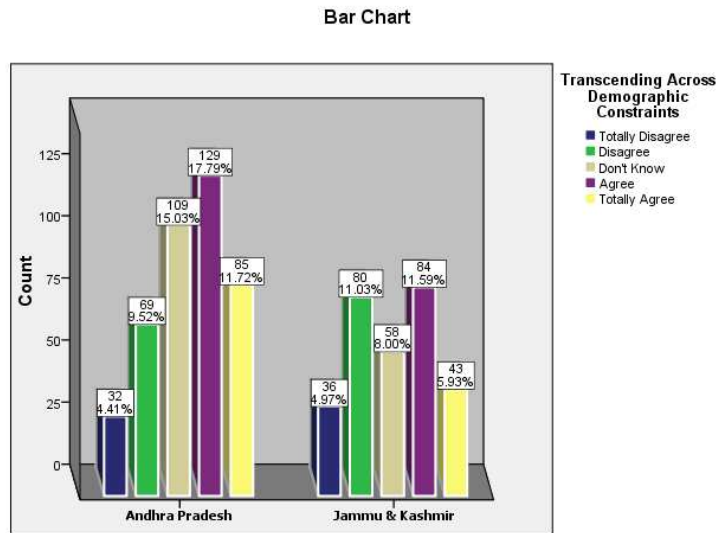
### 4.3.3 Transcending Across Demographic Constraints

The variable transcending across demographic constraints represents statement in questionnaire e – Governance transcends across gender, geography, income level, socioeconomic status, vested business interests, and political hierarchies. The study has been conducted across 725 respondents, out of which 424 respondents are from Andhra Pradesh and 301 respondents are from Jammu & Kashmir. Table 6.0.1 depicts the distribution of respondents across two states of Andhra Pradesh and Jammu & Kashmir. The statistics depict 50.4% respondents out of 424 respondents from the state of Andhra Pradesh perceive that the e – Governance transcends across demographic constraints. Out of total figure of 50.4% the respondents who agree are 30.4% and those who totally agree is 20.0%. The percentage of respondents who disagree that the demographic constraints have no implications in total is 23.8% out of 424 respondents. Out of which 19.5% of respondents disagree and 9.7% totally disagree with the statement that the e – Governance transcends across demographic constraints.

**Table 6.0.1 State Wise Crosstabulation of Variable Transcending Across Demographic Constraints**

		Transcending Across Demographic Constraints					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	32	69	109	129	85	424
	% within State	7.5%	16.3%	25.7%	30.4%	20.0%	100.0%
	% of Total	4.4%	9.5%	15.0%	17.8%	11.7%	58.5%
Jammu & Kashmir	Count	36	80	58	84	43	301
	% within State	12.0%	26.6%	19.3%	27.9%	14.3%	100.0%
	% of Total	5.0%	11.0%	8.0%	11.6%	5.9%	41.5%
Total	Count	68	149	167	213	128	725
	% within State	9.4%	20.6%	23.0%	29.4%	17.7%	100.0%
	% of Total	9.4%	20.6%	23.0%	29.4%	17.7%	100.0%

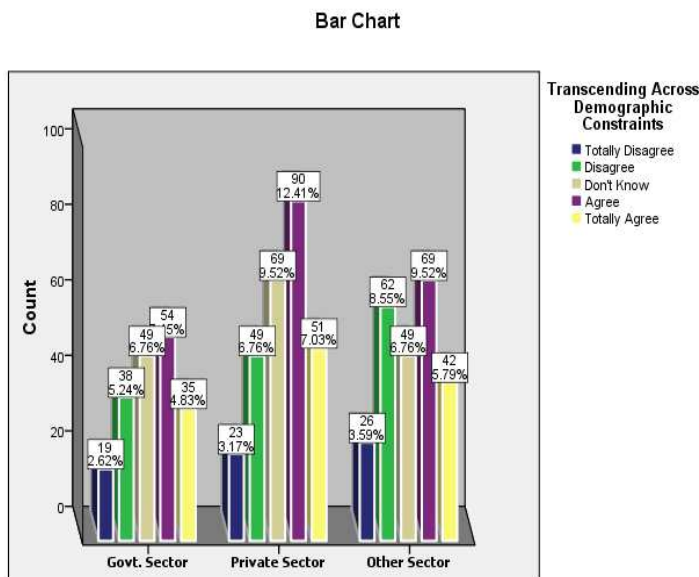




The statistics from Jammu & Kashmir as depicted in the Table 6.0.1 reveals the out of 301 total numbers of respondents from Jammu & Kashmir, the respondents who perceive that e – Governance transcends across demographic

constraints is about 42.2%. Out of which 27.9% agree, whereas 14.3% totally agree. The percentage of respondents who disagree with the statement is 38.6% out of 301 respondents. Out of total percentage 26.6% disagree and 12.0% totally disagree. Therefore from the statistics it is clear that the percentage of respondents who perceive that e – Governance transcends across the demographic constraints is higher in the state of Andhra Pradesh as compared to Jammu & Kashmir.

Table 6.0.2 represents the distribution of respondents across three sectors i.e.



government sector, private sector and other sector. The figures reveal that the percentage of respondents out of total 195 people from government sector who perceive e – Governance transcends across demographic constraints 45.6% and those perceive e – Governance doesn't transcend across

demographic constraints is 29.2%. Therefore the respondents from government sector perceive e – Governance transcends across population, religion, gender and income. The statistics from private sector reveal that out of 282 respondents, total percentages of respondents who perceive that e – Governance transcends across demographic constraints is 50% and those who perceive no relevance is 25.6%.

**Table 6.0.2 Sector Wise Crosstabulation of Variable Transcending Across Demographic Constraints**

		Transcending Across Demographic Constraints					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	19	38	49	54	35	195
	% within Sector	9.7%	19.5%	25.1%	27.7%	17.9%	100.0%
	% of Total	2.6%	5.2%	6.8%	7.4%	4.8%	26.9%
Private Sector	Count	23	49	69	90	51	282
	% within Sector	8.2%	17.4%	24.5%	31.9%	18.1%	100.0%
	% of Total	3.2%	6.8%	9.5%	12.4%	7.0%	38.9%
Other Sector	Count	26	62	49	69	42	248
	% within Sector	10.5%	25.0%	19.8%	27.8%	16.9%	100.0%
	% of Total	3.6%	8.6%	6.8%	9.5%	5.8%	34.2%
Total	Count	68	149	167	213	128	725
	% within Sector	9.4%	20.6%	23.0%	29.4%	17.7%	100.0%
	% of Total	9.4%	20.6%	23.0%	29.4%	17.7%	100.0%

The data from other sector of employment reveals that out of 248 respondents, 44.7% perceive e – Governance transcends across the demographic constraints and 35.5% percent of respondents perceive opposite. Therefore taking note of all the figures sector wise the respondents of private sector perceive much strongly that e – Governance perceive across demographic variables and constraints.

#### 4.3.4 Open Process and Functions of Working:

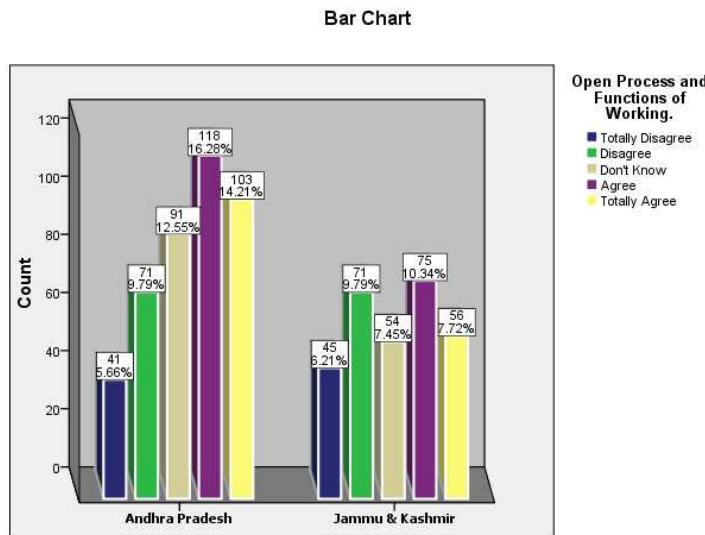
The variable open process and functions of working represent the statement in the questionnaire e - Government will bring structural changes in governance system and create more open process and functions of working. The study conducted across 725 respondents from the state of Andhra Pradesh and Jammu & Kashmir reveals the preference across the respondents in regard to role of e – Governance in creating more open process of working.

**Table 6.1.1 State Wise Crosstabulation of Variable Open Process and Functions of Working.**

		Open Process and Functions of Working.					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	41	71	91	118	103	424
	% within State	9.7%	16.7%	21.5%	27.8%	24.3%	100.0%
	% of Total	5.7%	9.8%	12.6%	16.3%	14.2%	58.5%
Jammu & Kashmir	Count	45	71	54	75	56	301
	% within State	15.0%	23.6%	17.9%	24.9%	18.6%	100.0%
	% of Total	6.2%	9.8%	7.4%	10.3%	7.7%	41.5%
Total	Count	86	142	145	193	159	725
	% within State	11.9%	19.6%	20.0%	26.6%	21.9%	100.0%
	% of Total	11.9%	19.6%	20.0%	26.6%	21.9%	100.0%

The Table 6.1.1 reveals the preference of the respondents from the state of Andhra Pradesh and from the state of Jammu & Kashmir. The figures from the state of Andhra Pradesh reveal that out of 424 respondents 52.1% perceive that e-

Governance creates more open process and function of working. Out of 52.1% 27.8% agree whereas the 20.0% totally agree with the statement. The total percentage of respondents who disagree is 30.3% which depicts that greater share of respondents from the state of Andhra Pradesh perceive that e –



Governance creates more open process and functions of working.

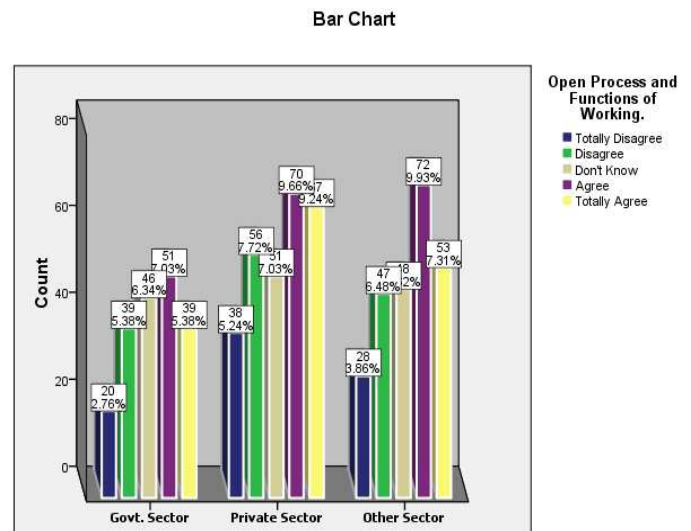
The statistics from Jammu & Kashmir reveals that out of 301 respondents 43.5% perceive that e – Governance plays a major role in creating more open processes and functions of working. Out of 43.5%, 24.8% agree where ad 23.8% totally agree. The cumulative percentage of the respondents who disagree is 38.6%. The breakup of the figure of disagree reveals that 23.6% percent of respondents disagree and 15.0%

strongly disagree. Therefore we can perceive that respondents from Andhra Pradesh strongly perceive that e – Governance creates open processes and functions as compared to those from Jammu & Kashmir state respondents.

**Table 6.1.2 Sector Wise Crosstabulation of Variable Open Process and Functions of Working.**

		Open Process and Functions of Working.					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	20	39	46	51	39	195
	% within Sector	10.3%	20.0%	23.6%	26.2%	20.0%	100.0%
	% of Total	2.8%	5.4%	6.3%	7.0%	5.4%	26.9%
Private Sector	Count	38	56	51	70	67	282
	% within Sector	13.5%	19.9%	18.1%	24.8%	23.8%	100.0%
	% of Total	5.2%	7.7%	7.0%	9.7%	9.2%	38.9%
Other Sector	Count	28	47	48	72	53	248
	% within Sector	11.3%	19.0%	19.4%	29.0%	21.4%	100.0%
	% of Total	3.9%	6.5%	6.6%	9.9%	7.3%	34.2%
Total	Count	86	142	145	193	159	725
	% within Sector	11.9%	19.6%	20.0%	26.6%	21.9%	100.0%
	% of Total	11.9%	19.6%	20.0%	26.6%	21.9%	100.0%

Table 6.1.2 represents the sector wise distribution of the respondents and their preference in regard to role of e – Governance in creating more open process and function of working. The figures reveal that out of 195 total government sector respondents 46.2% agree and 30.3% disagree. The statistics from private sector reveals that out of total 282 respondents 48.6% percent agree and 33.4% disagree and those from other sector reveal that out of 248 respondents total respondents who agree is 50.4% and total respondents who disagree is 30.3%. Therefore the figures



reveal that overall the respondents from private sector strongly perceive that e – Governance has an important role in creating the system of open processes and functions than those of government sector and other sector respondents.

#### 4.3.5 Technical Manpower and Desired Skills Bottleneck:

The variable technical manpower and desired skill bottleneck represents the statistics as perceived by respondents for the lack of technical manpower and desired skills as biggest bottleneck in delivering promises of e – Governance. The study has been done across 725 respondents from two states of Andhra Pradesh and Jammu & Kashmir and three sectors. The perceived preference by the respondents is shown in the

**Table 6.2.1 State Wise Crosstabulation of Variable Technical Manpower and Desired Skills Bottleneck**

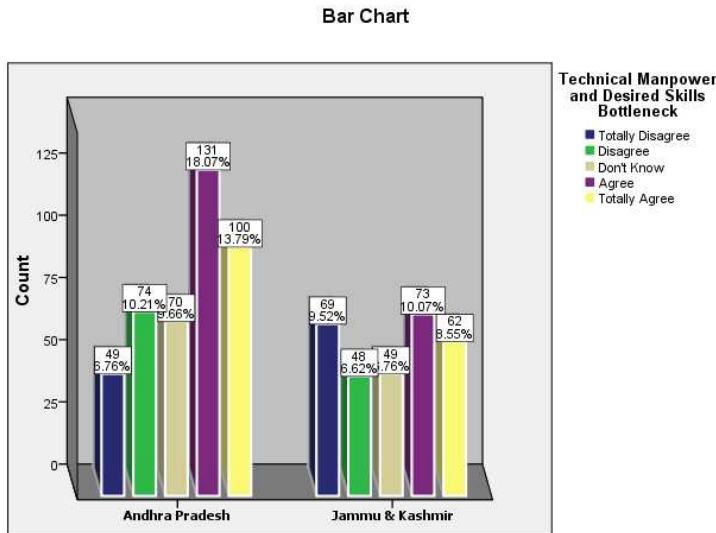
		Technical Manpower and Desired Skills Bottleneck					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	49	74	70	131	100	424
	% within State	11.6%	17.5%	16.5%	30.9%	23.6%	100.0%
	% of Total	6.8%	10.2%	9.7%	18.1%	13.8%	58.5%
Jammu & Kashmir	Count	69	48	49	73	62	301
	% within State	22.9%	15.9%	16.3%	24.3%	20.6%	100.0%
	% of Total	9.5%	6.6%	6.8%	10.1%	8.6%	41.5%
Total	Count	118	122	119	204	162	725
	% within State	16.3%	16.8%	16.4%	28.1%	22.3%	100.0%
	% of Total	16.3%	16.8%	16.4%	28.1%	22.3%	100.0%

Table 6.2.1 which depicts that out of 424 respondents from Andhra Pradesh 30.9% agree and 23.6% totally agree that technical manpower and the lack of desired skill as bottle neck. The total percentage of respondents who agree that technical manpower and desired skill as bottle neck is 54.5%. The percentage of respondents from the state of Andhra Pradesh who disagree that the lack of technical manpower or desired skill act as bottleneck is 29.1%, out of which 15.5% disagree and 11.6% totally disagree. The statistics from Jammu & Kashmir reveal that the out of 301 respondents 44.9% agree that the lack of the technical manpower and lack of the desired skill act as the bottleneck. Out of 44.9% respondents who agree is 24.3% and

those who totally agree is 20.6%. Whereas the respondents who disagree that the lack of technical expertise and skill is not a bottleneck is about 38.8%. Out of which

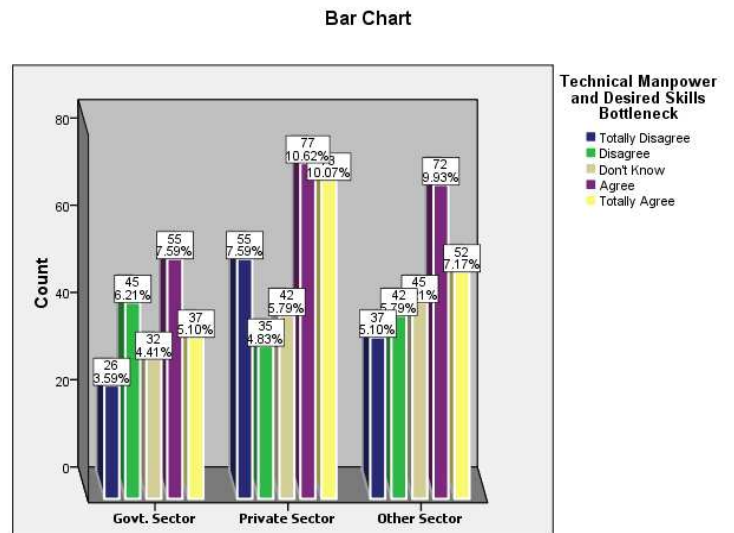
15.9% disagree and 22.9% totally disagree.

Therefore from the figures it is perceived that the percentage of respondents who sees lack of technical manpower and desired skill is bottleneck is higher in Andhra Pradesh as compared to Jammu & Kashmir.



However respondents from both the states perceive the lack of technical manpower and skills as hindrance to e – Governance in delivering e- Governance Services.

Table 6.2.2 depicts the sector wise distribution as perceived by the respondents from the three sectors i.e. government sector, private sector and other sector of employment. Taking view of the preference of the respondents from government sector, the figures reveal that out of 195 respondents 47.2% perceive that technical manpower and the lack of desired skill act as the bottleneck. Whereas 36.1% percent of respondents perceive that the technical



manpower and lack of desired pose no bottleneck to functional e – Governance system. The figures from private sector reveal that out of 282 respondents 53.2% of

the total respondents do perceive that lack of technical man power and the desire skill do pose a serious bottleneck to e – Governance system. Whereas the total number of respondents who disagree with this argument from the private sector is 31.9%. The figures of respondents from other sector reveal that out of 248 respondents 50% do perceive that lack of technical manpower and desired skill to pose a challenge to e- Governance. Similarly out of 248 other sector respondents 31.8% totally disagree and perceive that lack of technical manpower and desired skill poses no serious issue. Therefore the data reveals that respondents from private sector strongly feel that the lack of technical manpower and desired skill is major issue for an e – Governance. Whereas the respondents from government sector have no strong response in regard to the statement.

**Table 6.2.2 Sector Wise Crosstabulation of Variable Technical Manpower and Desired Skills Bottleneck**

		Technical Manpower and Desired Skills Bottleneck					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	26	45	32	55	37	195
	% within Sector	13.3%	23.1%	16.4%	28.2%	19.0%	100.0%
	% of Total	3.6%	6.2%	4.4%	7.6%	5.1%	26.9%
Private Sector	Count	55	35	42	77	73	282
	% within Sector	19.5%	12.4%	14.9%	27.3%	25.9%	100.0%
	% of Total	7.6%	4.8%	5.8%	10.6%	10.1%	38.9%
Other Sector	Count	37	42	45	72	52	248
	% within Sector	14.9%	16.9%	18.1%	29.0%	21.0%	100.0%
	% of Total	5.1%	5.8%	6.2%	9.9%	7.2%	34.2%
Total	Count	118	122	119	204	162	725
	% within Sector	16.3%	16.8%	16.4%	28.1%	22.3%	100.0%
	% of Total	16.3%	16.8%	16.4%	28.1%	22.3%	100.0%

#### 4.3.6 Offering of Varied Centralized Services

The variable offering of varied centralized services depict the preference of respondents to varied centralized services offered by e – Governance portals, kiosks, information outlets, common information centers offer under single roof. The 725 respondents reveal their preference from the state of Andhra Pradesh and Jammu & Kashmir in the Table 6.3.1.

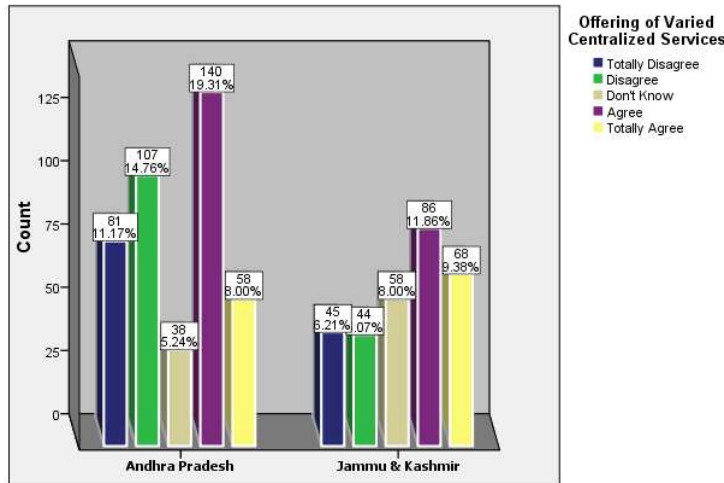
**Table 6.3.1 State Wise Crosstabulation of Variable Offering of Varied Centralized Services**

		Offering of Varied Centralized Services					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	81	107	38	140	58	424
	% within State	19.1%	25.2%	9.0%	33.0%	13.7%	100.0%
	% of Total	11.2%	14.8%	5.2%	19.3%	8.0%	58.5%
Jammu & Kashmir	Count	45	44	58	86	68	301
	% within State	15.0%	14.6%	19.3%	28.6%	22.6%	100.0%
	% of Total	6.2%	6.1%	8.0%	11.9%	9.4%	41.5%
Total	Count	126	151	96	226	126	725
	% within State	17.4%	20.8%	13.2%	31.2%	17.4%	100.0%
	% of Total	17.4%	20.8%	13.2%	31.2%	17.4%	100.0%

The data reveals that out of 424 respondents from the Andhra Pradesh state the total percentage of the respondents who agree that the e – Governance delivers centralized services under a single

roof is 46.7%. Out of which 33.0% of respondents agree and 13.7% of respondents totally agree with the statement. Whereas the respondents who disagree and feel that the various services delivered under a single roof are not centralized is 44.6%.

Bar Chart



Out of which 25.2% disagree and 19.1% strongly disagree. Therefore it can be perceived that the higher percentage of respondents agree that e – Governance services are centralized also higher percentage of respondents disagree that the e – Governance services delivered through information outlets, kiosks and other service delivery mechanism is centralized. The figures from Jammu & Kashmir reveal that out of 301 respondents 51.2% of the respondents agree that the e – Governance



serviced offered are centralized in nature, whereas out of 52.1% 28.6% agree and 22.6% totally agree with the existence of centralized e – Governance services.

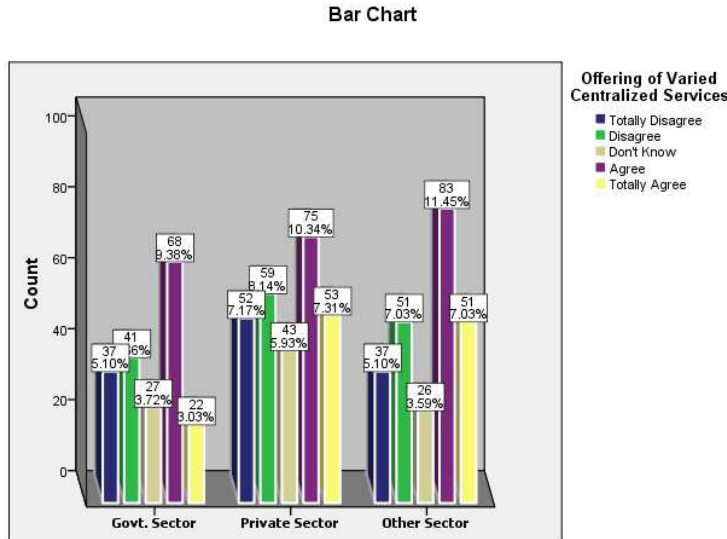
Similarly the respondents who perceive that the services delivered through e – Governance portals are not centralized are 29.6% out of 301 respondents of Jammu & Kashmir state. Out 29.6% 14.6% disagree and 15.0% totally disagree. From the statistics it can be figured out higher percentage of respondents from Jammu & Kashmir perceive that e – Governance can deliver centralized services as compared to Andhra Pradesh state.

Table 6.3.2 depicts the distribution of 725 respondents sector wise and their perceived preference in consonance to three sectors i.e. government sector, private sector and other sector. The data reveals that out of 195 government sector respondents 46.2% agree that e – Governance service delivery options can deliver centralized services under a single roof. Out of 46.2% those respondents who agree is 34.9% and those who totally agree is 11.3%. The respondents who disagree are 40% from government sector. Out of 40% the respondents who disagree are 20.9% and who strongly disagree are 18.4%.

**Table 6.3.2 Sector Wise Crosstabulation of Variable Offering of Varied Centralized Services**

		Offering of Varied Centralized Services					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	37	41	27	68	22	195
	% within Sector	19.0%	21.0%	13.8%	34.9%	11.3%	100.0%
	% of Total	5.1%	5.7%	3.7%	9.4%	3.0%	26.9%
Private Sector	Count	52	59	43	75	53	282
	% within Sector	18.4%	20.9%	15.2%	26.6%	18.8%	100.0%
	% of Total	7.2%	8.1%	5.9%	10.3%	7.3%	38.9%
Other Sector	Count	37	51	26	83	51	248
	% within Sector	14.9%	20.6%	10.5%	33.5%	20.6%	100.0%
	% of Total	5.1%	7.0%	3.6%	11.4%	7.0%	34.2%
Total	Count	126	151	96	226	126	725
	% within Sector	17.4%	20.8%	13.2%	31.2%	17.4%	100.0%
	% of Total	17.4%	20.8%	13.2%	31.2%	17.4%	100.0%

The figures from private sector reveal that out of 282 respondents 45.4% perceive that e – Governance can deliver centralized services that too under a single roof. Out of 45.4% respondents who agree are 20.9% and respondents who strongly agree are 18.4%. Whereas the figures from other sector reveal that 48.6% out of 248



respondents perceive that offering of varied centralized services is possibility by e – Governance system. Out of 48.6% respondents who agree are 20.6% and those who strongly agree are 14.9%. Therefore from the interpretation of the data it can be

concluded that respondents from other sector perceive strongly that e – Governance delivers centralized services under a single roof.

**4.3.7 Integration of Offered Services with Departments**

The variable integration of offered services across the departments depicts the services offered through the service outlets are integrated across with various departments. The study was conducted across 725 respondents from Andhra Pradesh and Jammu & Kashmir state. The preferences as perceived by the respondents are depicted in the Table 6.4.1 state wise and 6.4.2 for sector wise.

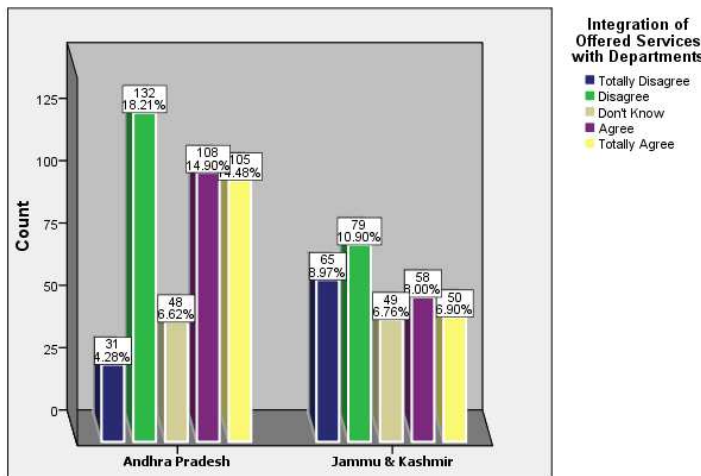
The statistics from the Table 6.4.1 reveals the preference state wise. The data reveals that out of 424 respondents 50.3% perceive that services offered through various service outlets are integrated across with various department. Out of 50.3% the respondents who agree are 25.5% and those who totally agree are 24.8%. While as those respondents who disagree are 38.4%. Out of 38.4% the respondents who disagree are 31.1% and those who totally disagree are 7.3%.

**Table 6.4.1 State Wise Crosstabulation of Variable Integration of Offered Services with Departments**

		Integration of Offered Services with Departments					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	31	132	48	108	105	424
	% within State	7.3%	31.1%	11.3%	25.5%	24.8%	100.0%
	% of Total	4.3%	18.2%	6.6%	14.9%	14.5%	58.5%
Jammu & Kashmir	Count	65	79	49	58	50	301
	% within State	21.6%	26.2%	16.3%	19.3%	16.6%	100.0%
	% of Total	9.0%	10.9%	6.8%	8.0%	6.9%	41.5%
Total	Count	96	211	97	166	155	725
	% within State	13.2%	29.1%	13.4%	22.9%	21.4%	100.0%
	% of Total	13.2%	29.1%	13.4%	22.9%	21.4%	100.0%

The statistics from Jammu & Kashmir reveals that out of 301 respondents who perceive that e – Governance services are integrated across with various departments are 35.9%. Out of which 35.9% respondents who agree are 16.3% and those who totally agree are 19.3%. While statistics of respondents who disagree with the statement from the population of Jammu & Kashmir state are 47.8%. Out of which 26.2% disagree and 21.6% totally disagree.

Bar Chart



Therefore it can analyzed from comparison of data between Andhra Pradesh and Jammu & Kashmir that respondents from Andhra Pradesh perceive that e – Governance services are integrated across

departments, whereas the respondents from Jammu & Kashmir perceive that the services delivered by e – Governance are not integrated across departments.

Table 6.4.2 reveals the preferences of respondents across the three sectors i.e. government sector, private sector and other sector. The data depict that out of total of

195 government sector respondents, 50.3% perceive that e – Governance services are integrated across departments. Out of this total 50.3% respondents percentage of respondents who agree are 26.7% and those who totally agree are 24.8%. The total percentages of respondents who disagree are 35.4%. Out of this total percentage respondents who disagree are 30.8% and respondents who totally disagree are 4.6%.

**Table 6.4.2 Sector Wise Crosstabulation of Variable Integration of Offered Services with Departments**

		Integration of Offered Services with Departments					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	9	60	28	52	46	195
	% within Sector	4.6%	30.8%	14.4%	26.7%	23.6%	100.0%
	% of Total	1.2%	8.3%	3.9%	7.2%	6.3%	26.9%
Private Sector	Count	42	85	31	69	55	282
	% within Sector	14.9%	30.1%	11.0%	24.5%	19.5%	100.0%
	% of Total	5.8%	11.7%	4.3%	9.5%	7.6%	38.9%
Other Sector	Count	45	66	38	45	54	248
	% within Sector	18.1%	26.6%	15.3%	18.1%	21.8%	100.0%
	% of Total	6.2%	9.1%	5.2%	6.2%	7.4%	34.2%
Total	Count	96	211	97	166	155	725
	% within Sector	13.2%	29.1%	13.4%	22.9%	21.4%	100.0%
	% of Total	13.2%	29.1%	13.4%	22.9%	21.4%	100.0%

The statistics from private sector reveal that out of 282 respondents, 44% of the

respondents perceive that the e – Governance

services are integrated across the departments.

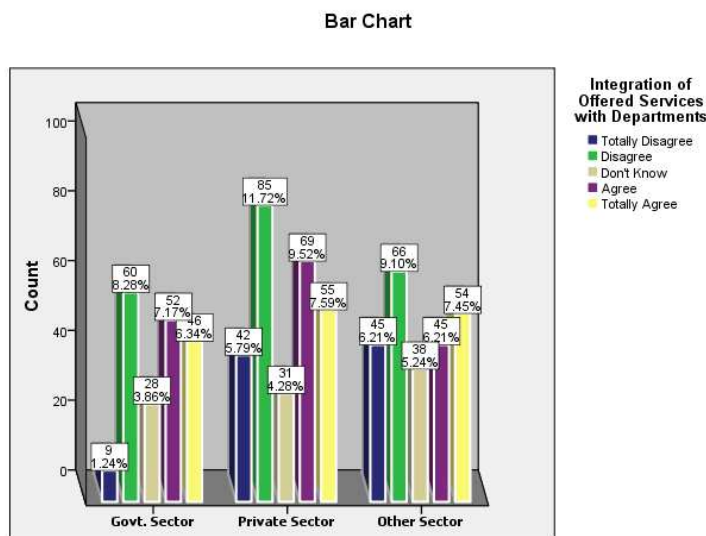
Out of 44% respondents who agree are 24.5%

and respondents who totally agree are 19.5%.

Total respondents who disagree are 45%, out of which 30.1% disagree

and 14.9% totally disagree.

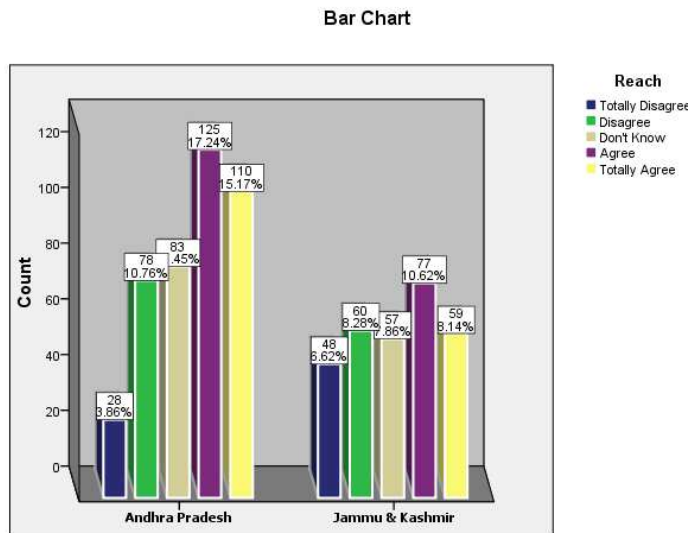
Similarly the respondents from other sector perceive that out of 248



respondents 39.9% agree while those respondents who disagree are 44.7%. Therefore it can analyzed that the data that respondents from government sector perceive that e – Governance services are integrated across departments where as the respondents from private and other sector perceive that e – Governance Services are not integrated and the departments work on standalone basis.

**4.3.8 Reach**

The variable reach depicts what far the community information centers are connected with market, mandi’s and therefore gives information of commodity prices in far off rural areas. The Table 6.5.1 depicts the distribution of respondents across the two states and the Table 6.5.2 depicts the distribution of respondents sector wise. As per the Table 6.5.1 that out of 424 respondents of Andhra Pradesh total respondents 55.4% perceive that the community information centers are



connected across the commodity markets. While as out of 55.4% the respondents who agree are 29.5% and the respondents who totally agree are 25.9%. While the total percentages of respondents who have different views and

perceive that community information centers are not connected to market and mandi’s are 25%. The figures from Jammu & Kashmir reveal that out of total 301 respondents, 45.2% perceive that community information centers are connected to market and mandi’s. Out of 45.2% the respondents who agree are 25.6% and respondents who totally agree are 19.6%. While the percentages of respondents who perceive that community information centers are not connected to mandi’s are

35.8%. Out of 35.8% the respondents who disagree are 19.9% and those who totally disagree are 15.9%. Therefore the higher percentage of respondents from Andhra Pradesh that e – Governance helps in delivering market information to rural areas.

**Table 6.5.1 State Wise Crosstabulation of Variable Reach**

		Reach					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	28	78	83	125	110	424
	% within State	6.6%	18.4%	19.6%	29.5%	25.9%	100.0%
	% of Total	3.9%	10.8%	11.4%	17.2%	15.2%	58.5%
Jammu & Kashmir	Count	48	60	57	77	59	301
	% within State	15.9%	19.9%	18.9%	25.6%	19.6%	100.0%
	% of Total	6.6%	8.3%	7.9%	10.6%	8.1%	41.5%
Total	Count	76	138	140	202	169	725
	% within State	10.5%	19.0%	19.3%	27.9%	23.3%	100.0%
	% of Total	10.5%	19.0%	19.3%	27.9%	23.3%	100.0%

**Bar Chart**

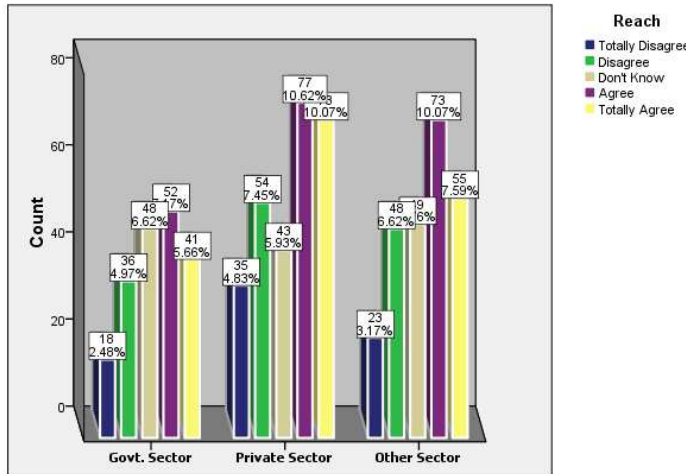


Table 6.5.2 reveals the responses from the respondents belonging to three sector i.e. government sector, private sector and other sector. The table reveals 47.7% of the total 195 respondents of government sector perceive that community

information centers are connected to the market and mandi's and providing information in the rural areas. Whereas 27.7% disagree with the argument and feel that the community information centers fail to provide market related information. The statistics from private sector reveals that out of 282 total respondents 53.2% perceive that community information delivers market related information in the rural areas. For respondents from other sector the out of total 248 respondents 51.6% perceive that community information delivers the market related information in the

rural areas. Therefore from the statistics it is clear that higher percentage of respondents from private sector perceive that the community information centers deliver the market related information in the rural areas and hence help the farmers and vendors from rural areas to sell off or retain their produce and finished products.

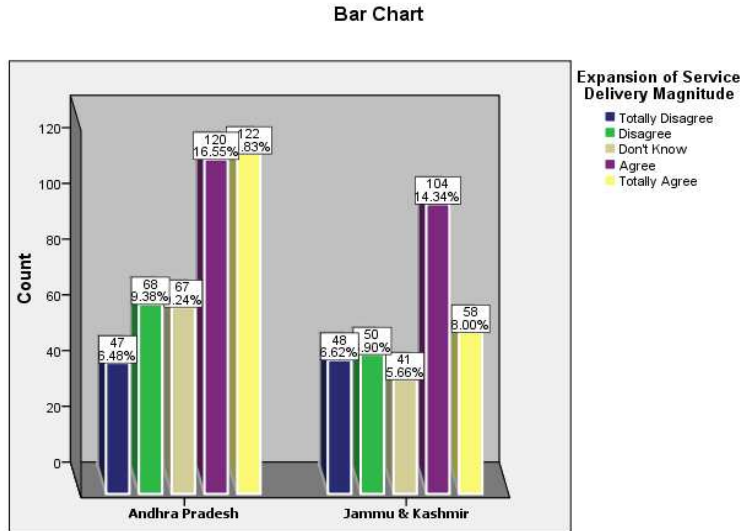
**Table 6.5.2 Sector Wise Crosstabulation of Variable Reach**

		Reach					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	18	36	48	52	41	195
	% within Sector	9.2%	18.5%	24.6%	26.7%	21.0%	100.0%
	% of Total	2.5%	5.0%	6.6%	7.2%	5.7%	26.9%
Private Sector	Count	35	54	43	77	73	282
	% within Sector	12.4%	19.1%	15.2%	27.3%	25.9%	100.0%
	% of Total	4.8%	7.4%	5.9%	10.6%	10.1%	38.9%
Other Sector	Count	23	48	49	73	55	248
	% within Sector	9.3%	19.4%	19.8%	29.4%	22.2%	100.0%
	% of Total	3.2%	6.6%	6.8%	10.1%	7.6%	34.2%
Total	Count	76	138	140	202	169	725
	% within Sector	10.5%	19.0%	19.3%	27.9%	23.3%	100.0%
	% of Total	10.5%	19.0%	19.3%	27.9%	23.3%	100.0%

#### 4.3.9 Expansion of Service Delivery Magnitude

The variable expansion of service delivery magnitude depicts the how the government service delivered through information outlets, web portals; kiosks have expanded service delivery magnitude of Government. Keeping this in view study across 725 respondents was conducted from two states i.e. Andhra Pradesh and Jammu & Kashmir and belonging to three sectors namely government sector, private sector and other sector. The findings are shown in Table 6.6.1 for state wise distribution of respondents and Table 6.6.2 for sector wise distribution. Table 6.6.1 depicts that out of 424 respondents from Andhra Pradesh 57.1% agree where as 27.1% disagree that e – Governance has expanded the service delivery magnitude of the government.

The statistics from Jammu & Kashmir reveals that out of 301 respondents 60.3% perceive that government service delivered through information outlets, web portals,



kiosks has expanded service delivery magnitude of Government and those who disagree are 25.2%. Therefore it is clear that overall higher percentage of respondents of Jammu & Kashmir perceive that the e – Governance has expanded the service

delivery magnitude of the government.

**Table 6.6.1 State Wise Crosstabulation of Variable Expansion of Service Delivery Magnitude**

		Expansion of Service Delivery Magnitude					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	47	68	67	120	122	424
	% within State	11.1%	16.0%	15.8%	28.3%	28.8%	100.0%
	% of Total	6.5%	9.4%	9.2%	16.6%	16.8%	58.5%
Jammu & Kashmir	Count	48	50	41	104	58	301
	% within State	15.9%	16.6%	13.6%	34.6%	19.3%	100.0%
	% of Total	6.6%	6.9%	5.7%	14.3%	8.0%	41.5%
Total	Count	95	118	108	224	180	725
	% within State	13.1%	16.3%	14.9%	30.9%	24.8%	100.0%
	% of Total	13.1%	16.3%	14.9%	30.9%	24.8%	100.0%

Table 6.6.2 reveals the sector wise statistics of 725 respondents. It is clear from the table that our of 195 government respondents 45.1% perceive that the information delivered through web portals, kiosks and other modes of e – Governance has expanded the service delivery magnitude of governments. Whereas those who disagree with argument are 37.5% of the respondents. Having a view of



data from private sector, out of 282 total respondents 60.3% perceive that services delivery has been expanded, whereby the respondent who perceives that government service delivered through information outlets, web portals, kiosks has not expanded service delivery magnitude of government is 25.2%.

The figures from other sector reveal that out of 248 respondents 58.9% perceive that government service delivered through information outlets, web portals, kiosks has expanded service delivery magnitude of government. The respondents who perceive there is no effect on expansion of service delivery magnitude are 27.8%.

Therefore it is clear from the data that respondents from private sector strongly perceive that government service delivered through information outlets, web portals, kiosks has expanded service delivery magnitude of government followed by other sector. The respondent from government sector perceives poorly that expansion of service delivery magnitude has happened.

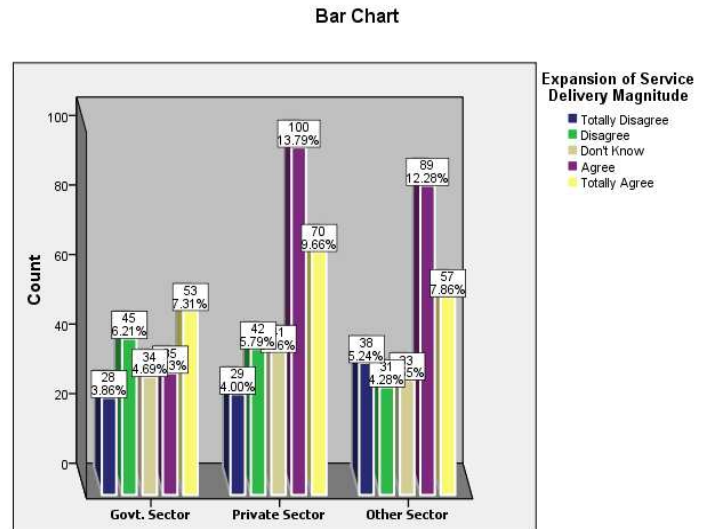


Table 6.6.2 Sector Wise Crosstabulation of Variable Expansion of Service Delivery Magnitude

		Expansion of Service Delivery Magnitude					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	28	45	34	35	53	195
	% within Sector	14.4%	23.1%	17.4%	17.9%	27.2%	100.0%
	% of Total	3.9%	6.2%	4.7%	4.8%	7.3%	26.9%
Private Sector	Count	29	42	41	100	70	282
	% within Sector	10.3%	14.9%	14.5%	35.5%	24.8%	100.0%
	% of Total	4.0%	5.8%	5.7%	13.8%	9.7%	38.9%
Other Sector	Count	38	31	33	89	57	248
	% within Sector	15.3%	12.5%	13.3%	35.9%	23.0%	100.0%
	% of Total	5.2%	4.3%	4.6%	12.3%	7.9%	34.2%
Total	Count	95	118	108	224	180	725
	% within Sector	13.1%	16.3%	14.9%	30.9%	24.8%	100.0%
	% of Total	13.1%	16.3%	14.9%	30.9%	24.8%	100.0%

**4.4.0 Lessening Role of Human resource in Delivery of Services**

The variable lessening role of human resource in delivery of services depicts role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance. Keeping in this view finding from 725 respondents across two states i.e. Andhra Pradesh and Jammu & Kashmir reveals their perceived preferences in Table 6.7.1 and sector wise perceived preferences are shown in Table 6.7.2.

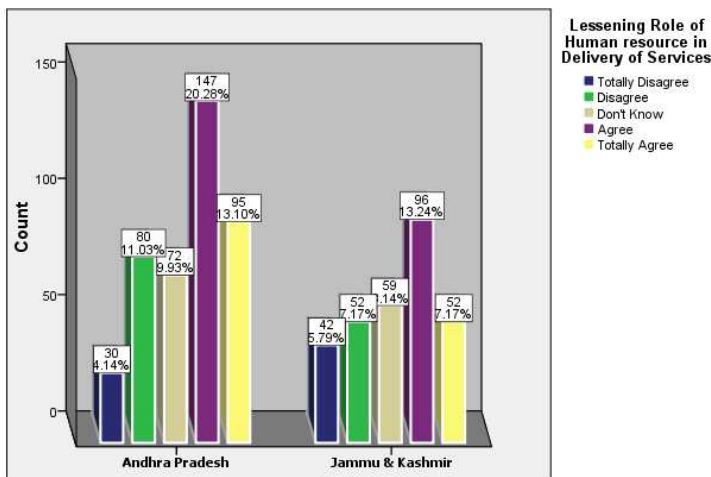
**Table 6.7.1 State Wise Crosstabulation of Variable Lessening Role of Human resource in Delivery of Services**

		Lessening Role of Human resource in Delivery of Services					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	30	80	72	147	95	424
	% within State	7.1%	18.9%	17.0%	34.7%	22.4%	100.0%
	% of Total	4.1%	11.0%	9.9%	20.3%	13.1%	58.5%
Jammu & Kashmir	Count	42	52	59	96	52	301
	% within State	14.0%	17.3%	19.6%	31.9%	17.3%	100.0%
	% of Total	5.8%	7.2%	8.1%	13.2%	7.2%	41.5%
Total	Count	72	132	131	243	147	725
	% within State	9.9%	18.2%	18.1%	33.5%	20.3%	100.0%
	% of Total	9.9%	18.2%	18.1%	33.5%	20.3%	100.0%

The statistics from Table 6.7.1 reveals that out of 424 respondents from Andhra Pradesh the respondents who perceive role of human resource agent is not valid in

delivery of e – governance services as human interaction is lessened by e – Governance are 57.1% and those who disagree with the statement are 26% in total. The figures from Jammu & Kashmir reveal that out of 301 total respondents the

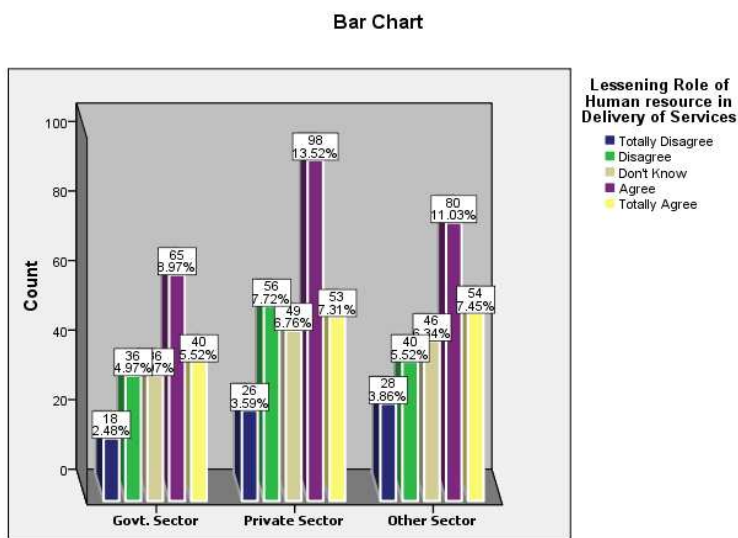
**Bar Chart**



respondent who perceives that role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance are 49.2% and those who disagree with the argument are 31.3%. Therefore it can be derived from the data that respondents from Andhra Pradesh perceive strongly that role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance than those of Jammu & Kashmir state respondents.

Table 6.7.2 depict the statistics of three sectors namely government, private and

others. It is derived from the table data that out of 195 respondents from government sector who perceive that role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance is 53.8%



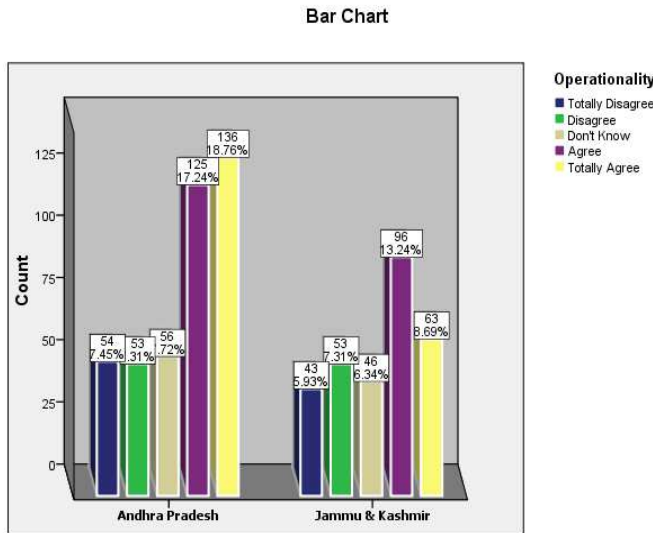
and those who disagree are 27.7%. The figures from private sector reveal that out of 282 respondents 53.6% perceive that role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance. While as respondents who disagree with the argument are 29.1%. The figures from other sector reveal that out of 248 respondents 53.8% perceive that human role is lessened in delivery of e – Governance services, whereas 27.4% respondents disagree with the argument that role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance. From the data it can analyzed that respondents from government and other sector perceive strongly that role of human resource agent is lessened by the functional e – Governance system.

**Table 6.7.2 Sector Wise Crosstabulation of Variable Lessening Role of Human resource in Delivery of Services**

			Lessening Role of Human resource in Delivery of Services					Total
			Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector	Govt. Sector	Count	18	36	36	65	40	195
		% within Sector	9.2%	18.5%	18.5%	33.3%	20.5%	100.0%
		% of Total	2.5%	5.0%	5.0%	9.0%	5.5%	26.9%
Private Sector	Private Sector	Count	26	56	49	98	53	282
		% within Sector	9.2%	19.9%	17.4%	34.8%	18.8%	100.0%
		% of Total	3.6%	7.7%	6.8%	13.5%	7.3%	38.9%
Other Sector	Other Sector	Count	28	40	46	80	54	248
		% within Sector	11.3%	16.1%	18.5%	32.3%	21.8%	100.0%
		% of Total	3.9%	5.5%	6.3%	11.0%	7.4%	34.2%
Total	Total	Count	72	132	131	243	147	725
		% within Sector	9.9%	18.2%	18.1%	33.5%	20.3%	100.0%
		% of Total	9.9%	18.2%	18.1%	33.5%	20.3%	100.0%

**4.4.1 Operationality**

The variable Operationality depict that the e – Governance service delivery mechanism operates on 24X7. The study was conducted across 725 respondents from Andhra Pradesh and Jammu & Kashmir. The detailed perceived preference by the respondents from the two states and from three sectors is given in Table 6.8.1 and 6.8.2. The data from Table 6.8.1 reveals



that out of 424 respondents from the state of Andhra Pradesh, 49.3% of total respondents perceive that e – Governance service delivery mechanism operates on 24X7. Whereas those who disagree with the argument are 25.2%. The statistics from

Jammu & Kashmir reveals that out of 301 respondents, 57.4% total respondents perceive that e – Governance service delivery mechanism operates on 24X7.

**Table 6.8.1 State Wise Crosstabulation of Variable Operationality**

		Operationality					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	54	53	56	125	136	424
	% within State	12.7%	12.5%	13.2%	29.5%	32.1%	100.0%
	% of Total	7.4%	7.3%	7.7%	17.2%	18.8%	58.5%
Jammu & Kashmir	Count	43	53	46	96	63	301
	% within State	14.3%	17.6%	15.3%	31.9%	20.9%	100.0%
	% of Total	5.9%	7.3%	6.3%	13.2%	8.7%	41.5%
Total	Count	97	106	102	221	199	725
	% within State	13.4%	14.6%	14.1%	30.5%	27.4%	100.0%
	% of Total	13.4%	14.6%	14.1%	30.5%	27.4%	100.0%

Whereas respondent who perceive that e – Governance service delivery mechanism doesn't operate on 24X7 basis are 31.9%. Therefore it can concluded from the data

that higher percentage of respondents from the state of Andhra Pradesh perceive that e – Governance delivers services on continuous basis. Therefore respondents from Andhra Pradesh strongly perceive Operationality of e – Governance.

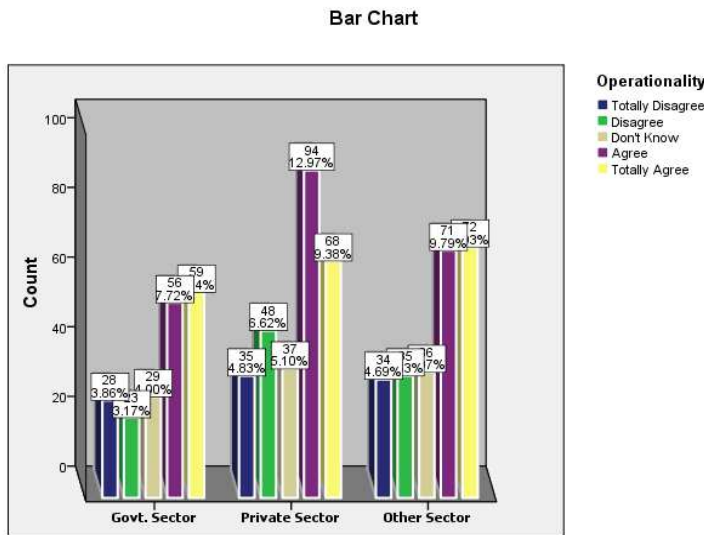


Table 6.8.2 reveals the preferences of the respondents sector wise. The data reveals that out of 195 respondents from the government sector, 59% of the total respondents perceive that e – Governance service delivery mechanism operates on 24X7. Whereas those who disagree with the argument are 26.2%. The statistics from

private sector reveal that out of 282 total private sector respondents 57.4% have perceived that e – Governance service delivery mechanism operates on 24X7.

**Table 6.8.2 Sector Wise Crosstabulation of Variable Operationality**

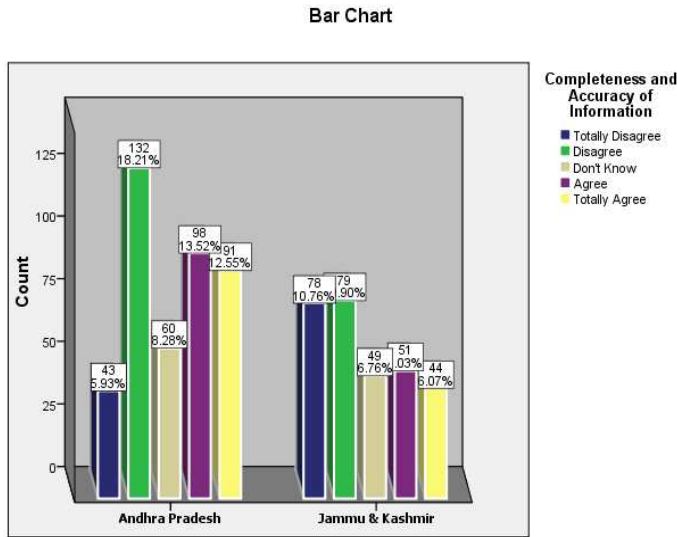
		Operationality					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	28	23	29	56	59	195
	% within Sector	14.4%	11.8%	14.9%	28.7%	30.3%	100.0%
	% of Total	3.9%	3.2%	4.0%	7.7%	8.1%	26.9%
Private Sector	Count	35	48	37	94	68	282
	% within Sector	12.4%	17.0%	13.1%	33.3%	24.1%	100.0%
	% of Total	4.8%	6.6%	5.1%	13.0%	9.4%	38.9%
Other Sector	Count	34	35	36	71	72	248
	% within Sector	13.7%	14.1%	14.5%	28.6%	29.0%	100.0%
	% of Total	4.7%	4.8%	5.0%	9.8%	9.9%	34.2%
Total	Count	97	106	102	221	199	725
	% within Sector	13.4%	14.6%	14.1%	30.5%	27.4%	100.0%
	% of Total	13.4%	14.6%	14.1%	30.5%	27.4%	100.0%

Whereas respondents from private sector who disagree that e – Governance services doesn't work on 24X7 bases are 29.4%. Coming to other sector figures, the data reveals that out of 248 respondents 57.6% perceive that e – Governance service delivery mechanism operates on 24X7, while as respondent who disagree out of 248 respondents with the operational working of e – Governance is 32.5% in total. Therefore after the interpretation of data it can be understood that respondent of government sector strongly perceive that e – Governance service delivery mechanism operates on 24X7 followed by other sector and finally private sector.

#### 4.4.2 Completeness and Accuracy of Information

The variable depicts the information available on e – governance websites, portals etc. of governments is complete in all respects and accurate. The study has been conducted across 725 respondents of two states i.e. Andhra Pradesh and Jammu & Kashmir and across three sectors namely government sector, private sector and others sector. The table 6.9.1 depicts that out of 424 respondents from Andhra Pradesh the total percentage of respondents who perceive that information available on e – governance websites, portals etc. of governments is complete in all respects

and accurate is 44.6%. Whereas respondents from Andhra Pradesh who disagree with the statement are 41.2% in total.



The figures from Jammu & Kashmir state respondents depict that out of 301 respondents under study 31.5% in total perceive that information available on e – governance websites, portals etc. of governments is complete in all respects and accurate. Respondents who perceive that

information available through e – Governance websites and portal is incomplete are 52.1% in total. Therefore from interpretation we can conceive that respondents from Andhra Pradesh perceive strongly that information available on e – governance websites, portals etc. of governments is complete in all respects and accurate, while as respondents from Jammu & Kashmir feel opposite and perceive that information available through e – Governance is incomplete and inaccurate.

**Table 6.9.1 State Wise Crosstabulation of Variable Completeness and Accuracy of Information**

			Completeness and Accuracy of Information					Total
			Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State	Andhra Pradesh	Count	43	132	60	98	91	424
		% within State	10.1%	31.1%	14.2%	23.1%	21.5%	100.0%
		% of Total	5.9%	18.2%	8.3%	13.5%	12.6%	58.5%
State	Jammu & Kashmir	Count	78	79	49	51	44	301
		% within State	25.9%	26.2%	16.3%	16.9%	14.6%	100.0%
		% of Total	10.8%	10.9%	6.8%	7.0%	6.1%	41.5%
Total		Count	121	211	109	149	135	725
		% within State	16.7%	29.1%	15.0%	20.6%	18.6%	100.0%
		% of Total	16.7%	29.1%	15.0%	20.6%	18.6%	100.0%

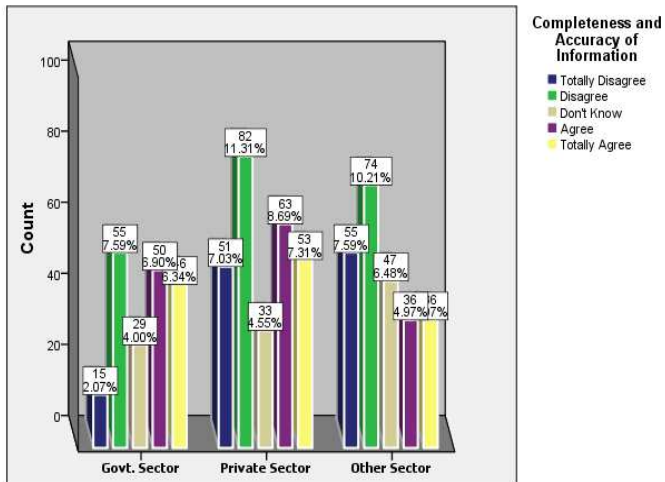
Table 6.9.2 represents the distribution of 725 respondents across the three sectors of employment. The figures reveal that out of 195 government sector respondents, 49.2% respondent perceive that information available on e – governance websites, portals etc. of governments is complete in all respects and accurate. Whereas those who disagree out of 195 respondents are 35.9% in total.

**Table 6.9.2 Sector Wise Crosstabulation of Variable Completeness and Accuracy of Information**

		Completeness and Accuracy of Information					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	15	55	29	50	46	195
	% within Sector	7.7%	28.2%	14.9%	25.6%	23.6%	100.0%
	% of Total	2.1%	7.6%	4.0%	6.9%	6.3%	26.9%
Private Sector	Count	51	82	33	63	53	282
	% within Sector	18.1%	29.1%	11.7%	22.3%	18.8%	100.0%
	% of Total	7.0%	11.3%	4.6%	8.7%	7.3%	38.9%
Other Sector	Count	55	74	47	36	36	248
	% within Sector	22.2%	29.8%	19.0%	14.5%	14.5%	100.0%
	% of Total	7.6%	10.2%	6.5%	5.0%	5.0%	34.2%
Total	Count	121	211	109	149	135	725
	% within Sector	16.7%	29.1%	15.0%	20.6%	18.6%	100.0%
	% of Total	16.7%	29.1%	15.0%	20.6%	18.6%	100.0%

The figures from private sector reveal that out 282 respondents 41.1% total respondents perceive that the information available on e – governance websites, portals etc. of governments is complete in all respects and accurate. Whereas those who disagree with the argument are 47.2% in total.

**Bar Chart**



and accurate. Whereas those who disagree with the argument are 47.2% in total. Taking look of private sector the data reveals the preference across 248 respondents. Whereas 29% of the total respondents agree that information



available on e – governance websites, portals etc. of governments are complete in all respects and accurate. The respondents who similarly disagree with the argument are 52% in total from other sector. Therefore it can be concluded that respondents from only government sector perceive that information available on e – governance websites, portals etc. of governments is complete in all respects and accurate, where as respondents from private sector and other sector perceive that information available through the web portals kiosks does not provide complete and accurate information.

### 4.4.3 Standardization and Cross Operability

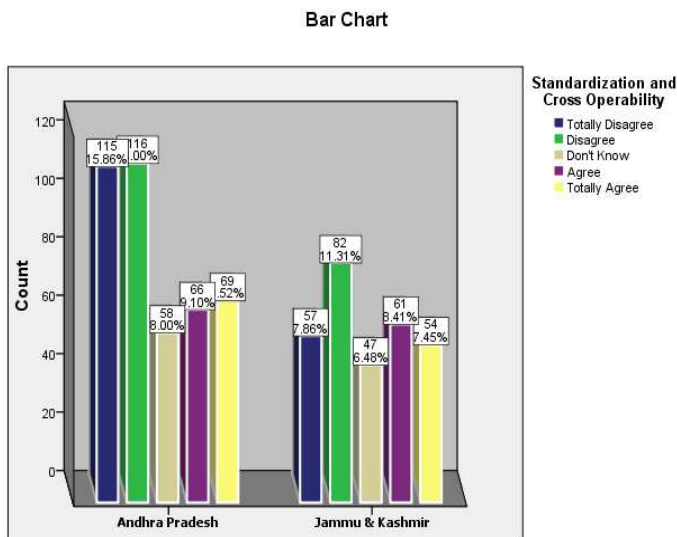
The variable depicts the design, content of information; file formats are of standard

type hence there exists no issue of cross operability.

To analyze the relevance of variable it has been studied across 725 respondents from two states and three sectors.

In table 7.1.1 data reveals that out of 424 respondents from state of Andhra Pradesh 31.9% of the total population perceive that design, content of

information, file formats are of standard type hence there exists no issue of cross operability. Whereas out of 424 respondents from the state of Andhra Pradesh 54.5% perceive that there exist issue of cross operability and the file formats and information content is not of standard type. The figures of Jammu & Kashmir reveal that out of 301 total respondents, 38.2% in total perceive that design, content of information, file formats are of standard type hence there exists no issue of cross operability. Whereas 51% of total respondents from Jammu & Kashmir perceive that the web information, content and file formats are not of the cross standard, hence issue of cross operability is a concern. Therefore from the analysis of the data it can



be figured out that higher percentage of respondents perceive that data, information content and file format standards used for information dissemination are not of the standard. Hence the issue cross operability is a concern for the respondents from the both of the states i.e. Andhra Pradesh and Jammu & Kashmir.

**Table 7.1.1 State Wise Crosstabulation of Variable Standardization and Cross Operability**

		Standardization and Cross Operability					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	115	116	58	66	69	424
	% within State	27.1%	27.4%	13.7%	15.6%	16.3%	100.0%
	% of Total	15.9%	16.0%	8.0%	9.1%	9.5%	58.5%
Jammu & Kashmir	Count	57	82	47	61	54	301
	% within State	18.9%	27.2%	15.6%	20.3%	17.9%	100.0%
	% of Total	7.9%	11.3%	6.5%	8.4%	7.4%	41.5%
Total	Count	172	198	105	127	123	725
	% within State	23.7%	27.3%	14.5%	17.5%	17.0%	100.0%
	% of Total	23.7%	27.3%	14.5%	17.5%	17.0%	100.0%

**Bar Chart**

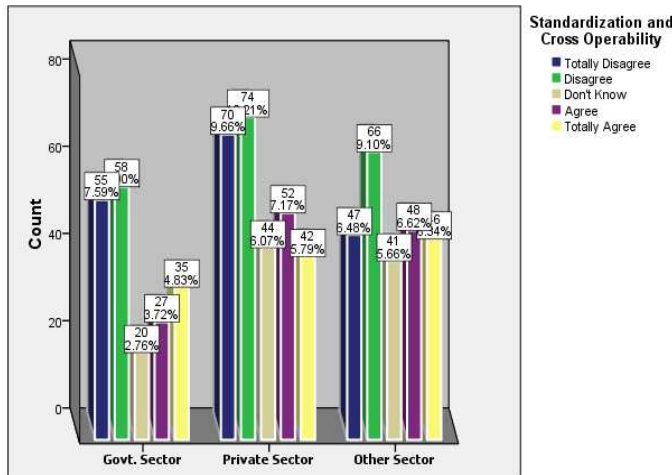


Table 7.1.2 represents the sectoral representation of the respondents from the three sectors i.e. government sector, private sector and other sectors of employment. From the table it can be perceived that out of 195 government respondents 31.7% of the total respondents agree that

design, content of information, file formats are of standard type hence there exists no issue of cross operability. While 57.9% of the total respondents disagree that information available on the web portals is of standard hence the issue of cross operability is a major concern. The statistics from the private sector reveals that out of 282 respondents 33.3% in total agree that design, content of information, file formats are of standard type hence there exists no issue of cross operability. While 51% in

total out of 282 respondents from private sector perceive that the information available through the e – Governance through various service interfaces is not of standard and hence the issue of cross operability is a concern. The statistics from the other sector respondents reveal that out of 248 respondents 37.9% of the total respondents from other sector perceive that design, content of information; file formats are of standard type hence there exists no issue of cross operability. Out of 248 respondents 51% of the respondents from the other sector perceive that information available through the e – Governance is not of standard hence the issue of cross operability is a concern.

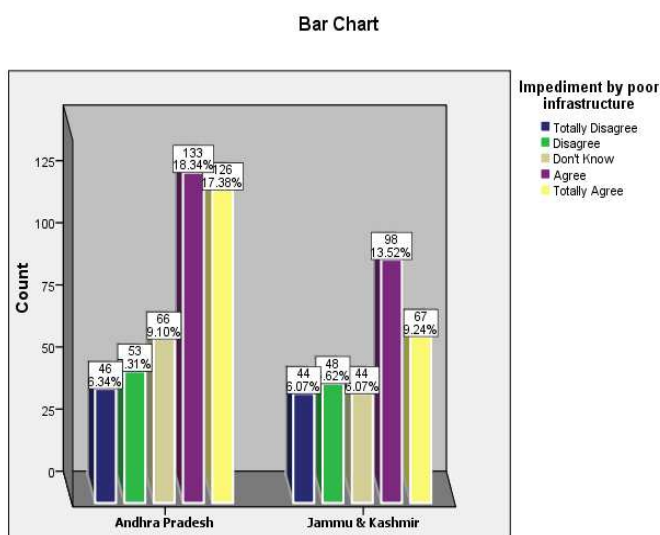
**Table 7.1.2 Sector Wise Crosstabulation of Variable Standardization and Cross Operability**

		Standardization and Cross Operability					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	55	58	20	27	35	195
	% within Sector	28.2%	29.7%	10.3%	13.8%	17.9%	100.0%
	% of Total	7.6%	8.0%	2.8%	3.7%	4.8%	26.9%
Private Sector	Count	70	74	44	52	42	282
	% within Sector	24.8%	26.2%	15.6%	18.4%	14.9%	100.0%
	% of Total	9.7%	10.2%	6.1%	7.2%	5.8%	38.9%
Other Sector	Count	47	66	41	48	46	248
	% within Sector	19.0%	26.6%	16.5%	19.4%	18.5%	100.0%
	% of Total	6.5%	9.1%	5.7%	6.6%	6.3%	34.2%
Total	Count	172	198	105	127	123	725
	% within Sector	23.7%	27.3%	14.5%	17.5%	17.0%	100.0%
	% of Total	23.7%	27.3%	14.5%	17.5%	17.0%	100.0%

Therefore it can be analyzed from the data that respondents from all the three sectors perceive that the information available through the web portals, kiosks is not of the standard format and therefore cross operability is a major concern for the end users and stake holders.

#### 4.4.4 Impediment by poor infrastructure

The study analyzes preferences of respondents in purview to evaluate role of poor infrastructure demand as impediment in delivering electronic services to citizens by functional e – Governance system. To understand and analyze responses from the respondents, 725 respondents were selected from the state of Andhra



Pradesh and Jammu & Kashmir. The secotral study was also conducted which depicted the responses for three sectors i.e. government sector, private sector and other sector. Table 7.2.1 depicts the distribution of 725 respondent's state wise i.e. 424 respondents from the state of Andhra Pradesh and

301 respondents from the state of Jammu & Kashmir. The table 7.2.2 depicts the distribution of respondents from three sectors i.e. 195 respondents from government sector, 282 respondents from private sector and 248 respondents from other sector of employment. The figures from the Table 7.2.1 reveals that our of 424 respondents from Andhra Pradesh of the total respondents 61.1% perceive that poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens.

**Table 7.2.1 State Wise Crosstabulation of Variable Impediment by poor infrastructure**

		Impediment by poor infrastructure					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	46	53	66	133	126	424
	% within State	10.8%	12.5%	15.6%	31.4%	29.7%	100.0%
	% of Total	6.3%	7.3%	9.1%	18.3%	17.4%	58.5%
Jammu & Kashmir	Count	44	48	44	98	67	301
	% within State	14.6%	15.9%	14.6%	32.6%	22.3%	100.0%
	% of Total	6.1%	6.6%	6.1%	13.5%	9.2%	41.5%
Total	Count	90	101	110	231	193	725
	% within State	12.4%	13.9%	15.2%	31.9%	26.6%	100.0%
	% of Total	12.4%	13.9%	15.2%	31.9%	26.6%	100.0%

While statistics from Jammu & Kashmir reveal that of the total 301 respondents, 54.9% of the total respondents perceive that poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens. Therefore the figures depict that respondents from both of the states

perceive poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens very strongly.

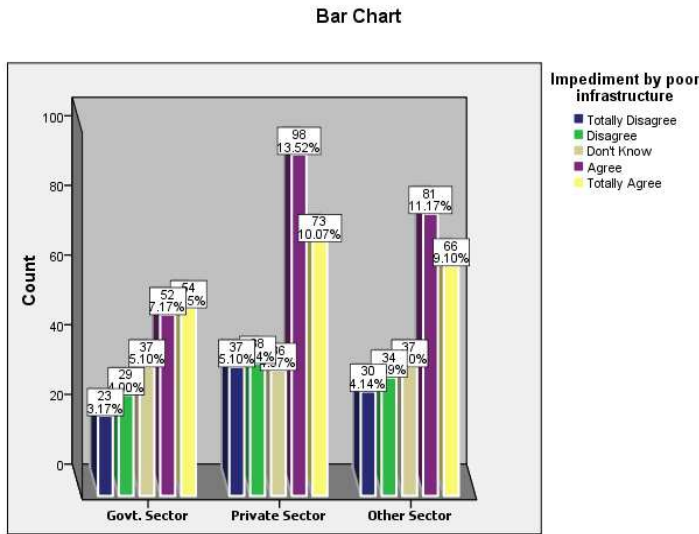


Table 7.2.2 reveals the sector wise perceived preference by the 725 respondents. The figures depict that out of 195 respondents from government sector 54.4% of the total respondents perceive poor infrastructure demand for functional e – Governance system act as impediment

in delivering electronic services to citizens. Similarly out of 282 respondents 60.7% of the total respondents perceive that poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens. The statistics from the other sector reveal that out of 248 respondents 59.9% of the total respondents perceive that poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens.

**Table 7.2.2 Sector Wise Crosstabulation of Variable Impediment by poor infrastructure**

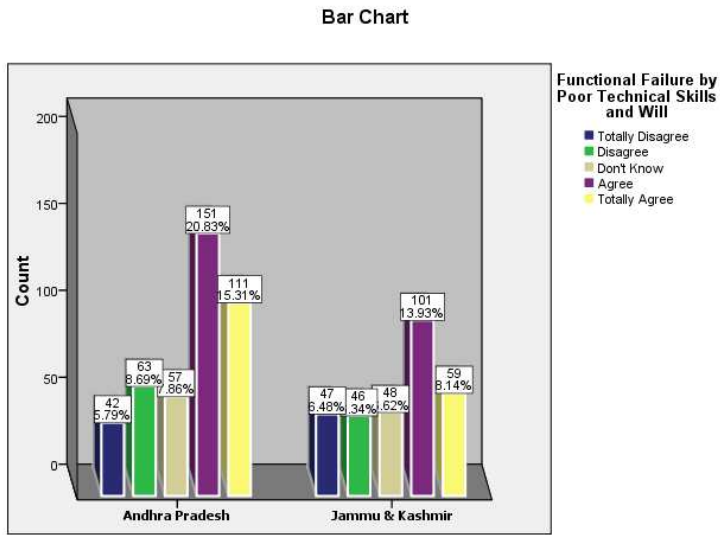
		Impediment by poor infrastructure					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	23	29	37	52	54	195
	% within Sector	11.8%	14.9%	19.0%	26.7%	27.7%	100.0%
	% of Total	3.2%	4.0%	5.1%	7.2%	7.4%	26.9%
Private Sector	Count	37	38	36	98	73	282
	% within Sector	13.1%	13.5%	12.8%	34.8%	25.9%	100.0%
	% of Total	5.1%	5.2%	5.0%	13.5%	10.1%	38.9%
Other Sector	Count	30	34	37	81	66	248
	% within Sector	12.1%	13.7%	14.9%	32.7%	26.6%	100.0%
	% of Total	4.1%	4.7%	5.1%	11.2%	9.1%	34.2%
Total	Count	90	101	110	231	193	725
	% within Sector	12.4%	13.9%	15.2%	31.9%	26.6%	100.0%
	% of Total	12.4%	13.9%	15.2%	31.9%	26.6%	100.0%

Therefore from the statistics it is depicted that respondents from private sector followed by other sector and finally respondents from government sector strongly perceive poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens.

**4.4.5 Functional failure by poor technical skills and will**

The variable functional failure by poor technical skill depicts the perceived preference of respondents to understand how poor technical skills and lack of will of e – Governance system result in total functional failure. The study conducted across

725 respondents from state of Andhra Pradesh and Jammu & Kashmir. Out of which 424 respondents are from Andhra Pradesh and 301 respondents are from the state of Jammu & Kashmir. Whereas sectoral distribution depicts the perceived preferences by the



respondents from the three sectors i.e. government sector, private sector and other sector of employment. Table 7.3.1 depicts the understanding of 424 respondents of Andhra Pradesh and Jammu & Kashmir in understanding impact of lack of technical skill and will within the implementing agency toward functional e – Governance system. Table 7.3.1 depicts that out of 424 respondents from state of Andhra Pradesh who perceive that poor technical skills and lack of will for implementing e – Governance system result in total functional failure is 61.8% in total. Similarly out of 301 respondents from Jammu & Kashmir 53.2% of respondents perceive that poor technical skills and lack of will of e – Governance system result in total functional failure. Therefore the data reveal that higher percentage of respondents of Andhra

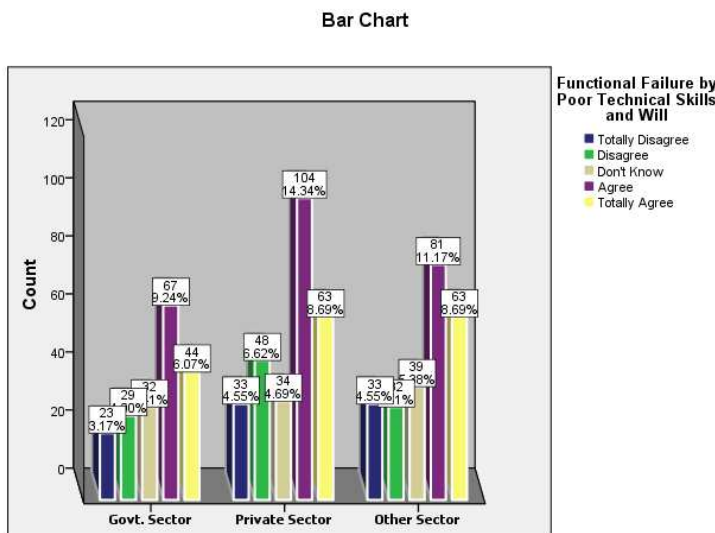
Pradesh perceive that poor technical skills and lack of will of e – Governance system result in total functional failure in comparison to respondents from Jammu & Kashmir.

**Table 7.3.1 State Wise Crosstabulation of Variable Functional Failure by Poor Technical Skills and Will**

		Functional Failure by Poor Technical Skills and Will					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	42	63	57	151	111	424
	% within State	9.9%	14.9%	13.4%	35.6%	26.2%	100.0%
	% of Total	5.8%	8.7%	7.9%	20.8%	15.3%	58.5%
Jammu & Kashmir	Count	47	46	48	101	59	301
	% within State	15.6%	15.3%	15.9%	33.6%	19.6%	100.0%
	% of Total	6.5%	6.3%	6.6%	13.9%	8.1%	41.5%
Total	Count	89	109	105	252	170	725
	% within State	12.3%	15.0%	14.5%	34.8%	23.4%	100.0%
	% of Total	12.3%	15.0%	14.5%	34.8%	23.4%	100.0%

Table 7.3.2 represent the distribution of respondents across three sectors i.e. government sector, private sector and other sector. The figures from government sector depict that out of 195 total respondents 57% perceive that poor technical skills and lack of will of e – Governance system result in total functional failure, while as figures from private sector reveals that out of 282 respondents from the private sector 59.2% of the total respondents perceive that poor technical skills and lack of will of e

– Governance system result in total functional failure, while as out of 248 respondents from other sector of employment 58.1% of the total perceive that poor technical skills and lack of will of e – Governance system result in total functional failure.



**Table 7.3.2 Sector Wise Crosstabulation of Variable Functional Failure by Poor Technical Skills and Will**

		Functional Failure by Poor Technical Skills and Will					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	23	29	32	67	44	195
	% within Sector	11.8%	14.9%	16.4%	34.4%	22.6%	100.0%
	% of Total	3.2%	4.0%	4.4%	9.2%	6.1%	26.9%
Private Sector	Count	33	48	34	104	63	282
	% within Sector	11.7%	17.0%	12.1%	36.9%	22.3%	100.0%
	% of Total	4.6%	6.6%	4.7%	14.3%	8.7%	38.9%
Other Sector	Count	33	32	39	81	63	248
	% within Sector	13.3%	12.9%	15.7%	32.7%	25.4%	100.0%
	% of Total	4.6%	4.4%	5.4%	11.2%	8.7%	34.2%
Total	Count	89	109	105	252	170	725
	% within Sector	12.3%	15.0%	14.5%	34.8%	23.4%	100.0%
	% of Total	12.3%	15.0%	14.5%	34.8%	23.4%	100.0%

Therefore from the statistics it can figures out respondents from private sector strongly perceive that poor technical skills and lack of will of e – Governance system result in total functional failure followed by respondents from other sector and then finally respondents from government sector.

#### 4.4.6 Capacity Building Measures Service Delivery

The variable capacity building measure depicts the requirement of capacity building measures and its importance to deliver e – Governance services. To understand the importance of capacity building measures and its importance in delivering e – Governance services to the stake holder study across 725 respondents was conducted from two states of Andhra Pradesh and Jammu & Kashmir as shown in the table 7.4.1 and sectoral wise distribution as shown in Table 7.4.2. Table 7.4.1 reveals the perceived preferences by 725 respondents, 424 respondents from Andhra Pradesh and 301 respondents from Jammu & Kashmir. As per the data shown in the table 7.4.1 out of 424 respondents from Andhra Pradesh perceive 63.9% of total respondents perceive that requirement of capacity building measures is important to deliver e – Governance services.

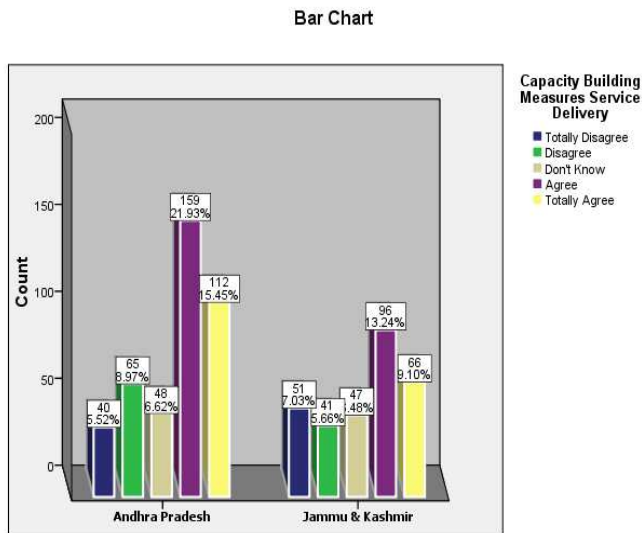


**Table 7.4.1 State Wise Crosstabulation of Variable Capacity Building Measures Service Delivery**

		Capacity Building Measures Service Delivery					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	40	65	48	159	112	424
	% within State	9.4%	15.3%	11.3%	37.5%	26.4%	100.0%
	% of Total	5.5%	9.0%	6.6%	21.9%	15.4%	58.5%
Jammu & Kashmir	Count	51	41	47	96	66	301
	% within State	16.9%	13.6%	15.6%	31.9%	21.9%	100.0%
	% of Total	7.0%	5.7%	6.5%	13.2%	9.1%	41.5%
Total	Count	91	106	95	255	178	725
	% within State	12.6%	14.6%	13.1%	35.2%	24.6%	100.0%
	% of Total	12.6%	14.6%	13.1%	35.2%	24.6%	100.0%

Similarly out of 301 respondents from the state of Jammu & Kashmir 53.8% of the

respondent perceive that requirement of capacity building measures is important to deliver e – Governance services. Therefore the higher percentage of respondents from Andhra Pradesh perceives that requirement of capacity building measures is important to deliver e – Governance services as compared to respondents from



Jammu & Kashmir.

Table 7.4.2 represents the sector wise distribution of the respondents across three sectors i.e. government sector, private sector and other sector. The figure reveals that out of 195 respondents 62.6% of the respondents perceive that requirement of capacity building measures is important to deliver e – Governance services.

**Table 7.4.2 Sector Wise Crosstabulation of Variable Capacity Building Measures Service Delivery**

		Capacity Building Measures Service Delivery					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	19	32	22	69	53	195
	% within Sector	9.7%	16.4%	11.3%	35.4%	27.2%	100.0%
	% of Total	2.6%	4.4%	3.0%	9.5%	7.3%	26.9%
Private Sector	Count	35	46	41	98	62	282
	% within Sector	12.4%	16.3%	14.5%	34.8%	22.0%	100.0%
	% of Total	4.8%	6.3%	5.7%	13.5%	8.6%	38.9%
Other Sector	Count	37	28	32	88	63	248
	% within Sector	14.9%	11.3%	12.9%	35.5%	25.4%	100.0%
	% of Total	5.1%	3.9%	4.4%	12.1%	8.7%	34.2%
Total	Count	91	106	95	255	178	725
	% within Sector	12.6%	14.6%	13.1%	35.2%	24.6%	100.0%
	% of Total	12.6%	14.6%	13.1%	35.2%	24.6%	100.0%

Whereas out of 282 respondents from private sector perceive 56.8% that requirement of capacity building measures is important to deliver e – Governance

services. Similarly out of 248% respondents 60.9% from other sector perceive

that requirement of capacity building measures

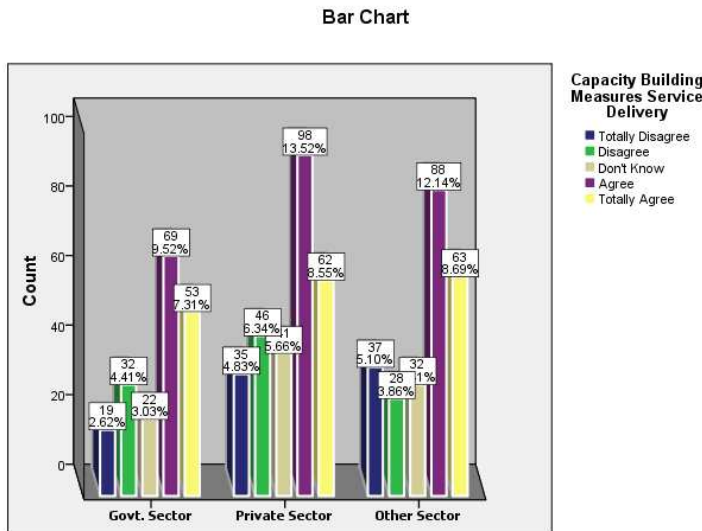
is important to deliver e – Governance

services. Therefore respondents from government sector

perceive strongly followed by respondents from other

sector firm perceive that

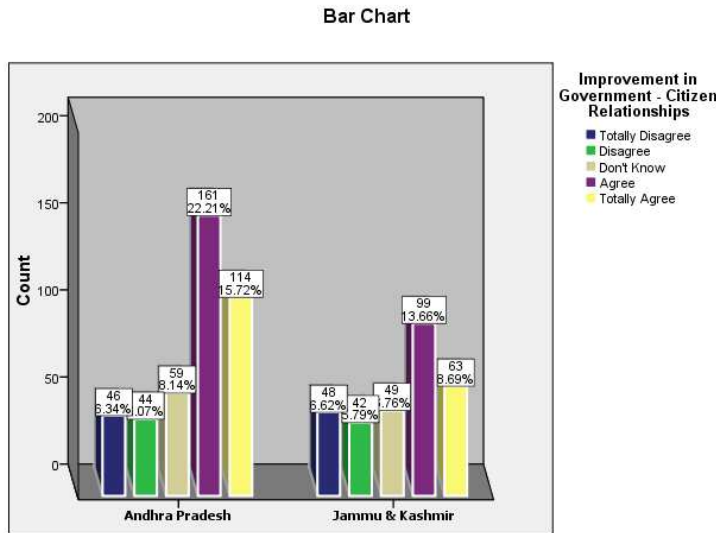
requirement of capacity building measures is important to deliver e – Governance services.



### 4.4.7 Improvement in Government - Citizen Relationships

The variable improvement in government – citizen relationships depicts impact of improvement in government – citizen relationships on information sharing. To study impact study was conducted across 725 respondents from two states i.e. Andhra Pradesh and Jammu & Kashmir. Table 7.5.1 reveals that out of 424 respondents from the state of Andhra Pradesh 64.9% of the total respondents perceive that e – Governance improves government – citizen relationships which will result in better information sharing. Whereas 21.2% perceive that government – citizen relations are not improved by the e - Governance. Similarly out of 301 respondents from Jammu & Kashmir 53.8% of the total respondents agree that e –

Governance improves government – citizen relationships which will result in better information sharing. While as respondents who disagree with the argument are 29.9%. Therefore keeping in view of the table statistics 35.9% of the both states agree that e –



Governance improves government – citizen relationships which will result in better information sharing, while as 24.4% from both of the states totally agree that e – Governance improves government – citizen relationships which will result in better information sharing. The percentage of respondents who disagree that e – Governance improves relations is 11.9% in both of the states and those who totally disagree are 13.0%.

**Table 7.5.1 State Wise Crosstabulation of Variable Improvement in Government - Citizen Relationships**

		Improvement in Government - Citizen Relationships					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	46	44	59	161	114	424
	% within State	10.8%	10.4%	13.9%	38.0%	26.9%	100.0%
	% of Total	6.3%	6.1%	8.1%	22.2%	15.7%	58.5%
Jammu & Kashmir	Count	48	42	49	99	63	301
	% within State	15.9%	14.0%	16.3%	32.9%	20.9%	100.0%
	% of Total	6.6%	5.8%	6.8%	13.7%	8.7%	41.5%
Total	Count	94	86	108	260	177	725
	% within State	13.0%	11.9%	14.9%	35.9%	24.4%	100.0%
	% of Total	13.0%	11.9%	14.9%	35.9%	24.4%	100.0%

Keeping this in view it can be perceived that higher percentage of respondents from Andhra Pradesh perceive that e – Governance improves government – citizen relationships which will result in better information sharing. Similarly respondents from Jammu & Kashmir perceive strongly that e – Governance improves

government – citizen relationships which will result in better information sharing.

Bar Chart

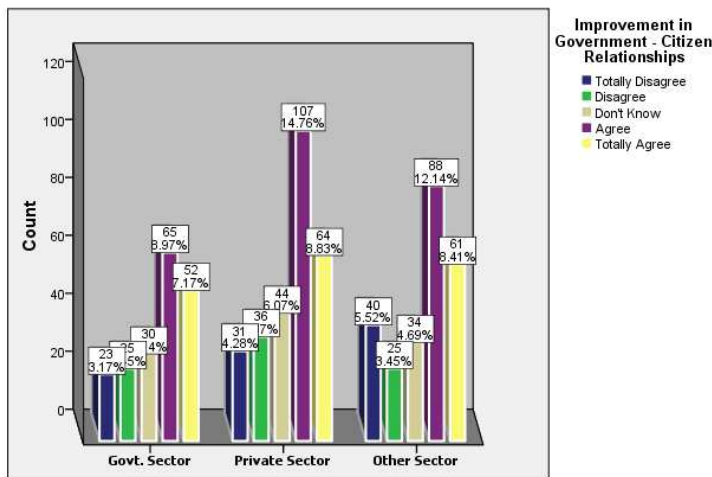


Table 7.5.2 reveals the distribution of respondents sector wise and depicts that out of 195 respondents from government sector 60% of the respondents perceive that e – Governance improves

government – citizen relationships which will result in better information sharing. Whereas respondents who perceive that e – Governances have no role to play in improvement in government – citizen relations are 24.6%. The figures from private sector reveal that out 282 respondents 60.6% of the total respondent perceive that e –

Governance improves government – citizen relationships which will result in better information sharing. Similarly total respondents who disagree are 23.8%.

**Table 7.5.2 Sector Wise Crosstabulation of Variable Improvement in Government - Citizen Relationships**

		Improvement in Government - Citizen Relationships					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	23	25	30	65	52	195
	% within Sector	11.8%	12.8%	15.4%	33.3%	26.7%	100.0%
	% of Total	3.2%	3.4%	4.1%	9.0%	7.2%	26.9%
Private Sector	Count	31	36	44	107	64	282
	% within Sector	11.0%	12.8%	15.6%	37.9%	22.7%	100.0%
	% of Total	4.3%	5.0%	6.1%	14.8%	8.8%	38.9%
Other Sector	Count	40	25	34	88	61	248
	% within Sector	16.1%	10.1%	13.7%	35.5%	24.6%	100.0%
	% of Total	5.5%	3.4%	4.7%	12.1%	8.4%	34.2%
Total	Count	94	86	108	260	177	725
	% within Sector	13.0%	11.9%	14.9%	35.9%	24.4%	100.0%
	% of Total	13.0%	11.9%	14.9%	35.9%	24.4%	100.0%

Statistics from other sector reveal that out of 248 respondents those who perceive that e – Governance improves government – citizen relationships which will result in better information sharing are 60.1% of the total. It can be understood from the interpretation of the data that higher percentage of the respondents from all the three sectors i.e. government, private and other sector perceive importance of e – Governance in improving government – citizen relations.

#### 4.4.8 Reduction of Corruption

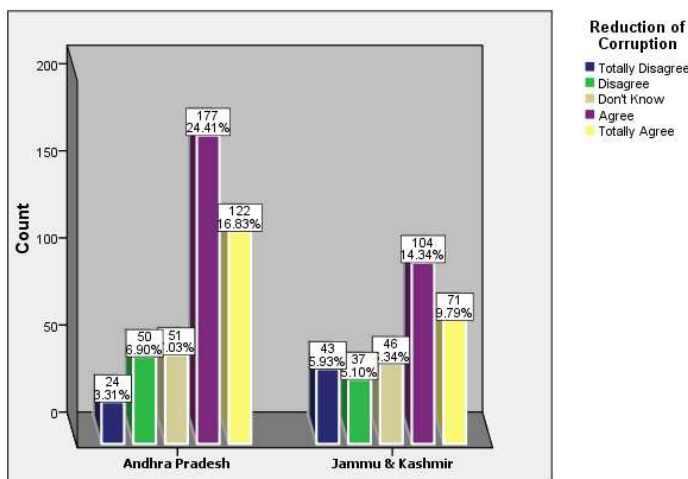
The variable reduction of corruption represents the statement e – Governance system delivers promises of good governance by reducing corruption. To study impact of e - Governance on reduction on corruption study was conducted across 725 respondents from two states i.e. Andhra Pradesh and Jammu & Kashmir. Also study across three sectors was conducted to estimate the impact of e – Governance on reduction of corruption. Table 7.6.1 depicts the distribution of respondents across two states i.e. Andhra Pradesh and Jammu & Kashmir. The figures reveal that out of 725 respondents 70.5% of the total respondents perceive that e – Governance system

delivers promises of good governance by reducing corruption. Out of 70.5% of respondents who perceive that e – Governance has impact on corruption, 41.7% of the respondents agree and 28.8% of the respondents totally agree with the statement. Percentages of respondents who disagree are 17.5% in total. The statistics from Jammu & Kashmir reveal that out of 301 respondents 58.2% of the total respondents perceive that e – Governance system delivers promises of good governance by reducing corruption. Out of total 58.2% respondents who agree are 34.6% and those who totally agree are 23.6%.

**Table 7.6.1 State Wise Crosstabulation of Variable Reduction of Corruption**

		Reduction of Corruption					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	24	50	51	177	122	424
	% within State	5.7%	11.8%	12.0%	41.7%	28.8%	100.0%
	% of Total	3.3%	6.9%	7.0%	24.4%	16.8%	58.5%
Jammu & Kashmir	Count	43	37	46	104	71	301
	% within State	14.3%	12.3%	15.3%	34.6%	23.6%	100.0%
	% of Total	5.9%	5.1%	6.3%	14.3%	9.8%	41.5%
Total	Count	67	87	97	281	193	725
	% within State	9.2%	12.0%	13.4%	38.8%	26.6%	100.0%
	% of Total	9.2%	12.0%	13.4%	38.8%	26.6%	100.0%

**Bar Chart**



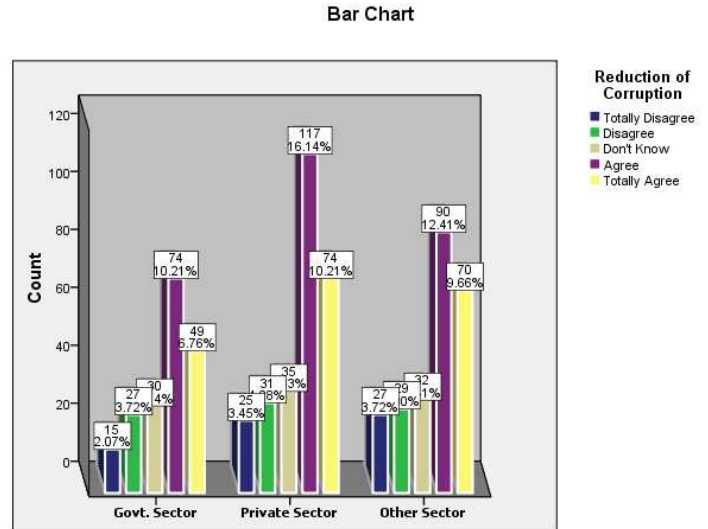
The percentage of total respondents from Jammu & Kashmir who perceive that e – Governance has more or less no role is reductions of corruption are 26.6%. Therefore the data reveals that higher percentage of respondents from Andhra Pradesh perceives that e – Governance has definite

role in reduction in corruption by delivering good governance to the stakeholders.

Similarly respondents from Jammu & Kashmir also perceive strongly that e – Governance can play a genuine role in reduction of corruption.

Table 7.6.2 depicts the distribution of respondents sector wise between three sectors i.e. government sector, private sector and other sector.

Out of 195 respondents from government sector 63% of the total respondents perceive that e – Governance system delivers promises of good governance by reducing corruption. Similarly 21.5% of the total respondents perceive that e –



Governance has no impact on reduction of corruption. The figures from private sector reveal that out of 282 respondents 67.7% of the total respondents perceive that e – Governance system delivers promises of good governance by reducing corruption. Whereas those who disagree that there is no impact of e – Governance in reduction of corruption are 19.9%.

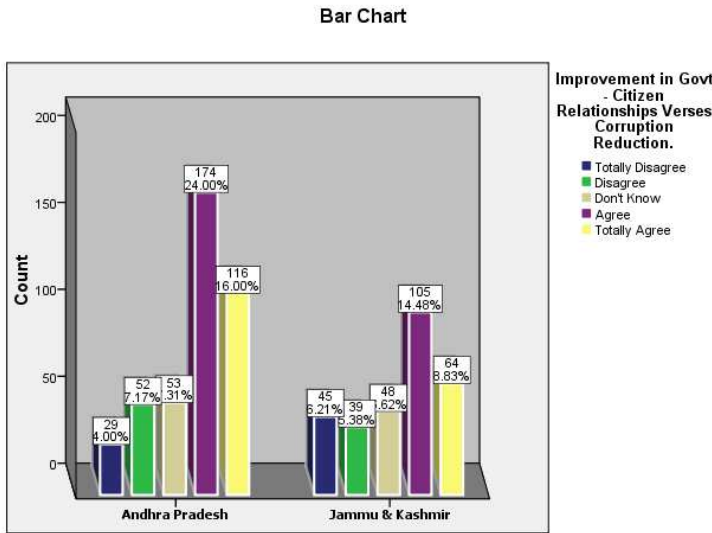
**Table 7.6.2 Sector Wise Crosstabulation of Variable Reduction of Corruption**

		Reduction of Corruption					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	15	27	30	74	49	195
	% within Sector	7.7%	13.8%	15.4%	37.9%	25.1%	100.0%
	% of Total	2.1%	3.7%	4.1%	10.2%	6.8%	26.9%
Private Sector	Count	25	31	35	117	74	282
	% within Sector	8.9%	11.0%	12.4%	41.5%	26.2%	100.0%
	% of Total	3.4%	4.3%	4.8%	16.1%	10.2%	38.9%
Other Sector	Count	27	29	32	90	70	248
	% within Sector	10.9%	11.7%	12.9%	36.3%	28.2%	100.0%
	% of Total	3.7%	4.0%	4.4%	12.4%	9.7%	34.2%
Total	Count	67	87	97	281	193	725
	% within Sector	9.2%	12.0%	13.4%	38.8%	26.6%	100.0%
	% of Total	9.2%	12.0%	13.4%	38.8%	26.6%	100.0%

The statistics from other sector reveals that out of 248 total respondents 64.5% of the total respondents perceive that e – Governance system delivers promises of good governance by reducing corruption. Whereas those who disagree out of 248 respondents are 22.6%. Keeping the overall data in consideration it can understood that out of 725 respondents higher percentage of respondents from private sector followed by other sector respondent and finally government sector respondents perceive that e – Governance system delivers promises of good governance by reducing corruption and therefore e – Governance has considerable impact on reduction of corruption.

#### 4.4.9 Improvement in Govt - Citizen Relationships Verses Corruption Reduction

The variable improvement in Government – Citizen Relationships verses corruption reduction studies the impact of improvement in government and citizen relationships by e – Governance and its possible impact on reduction of corruption.



In order to understand impact of improvement of government – citizen relationships and corruption reduction, study was undertaken across 725 respondents from two states i.e. Andhra Pradesh and Jammu & Kashmir and respondents belonging to

three sectors were also undertaken for study.

The figures from Table 7.7.1 reveal distribution of perceived preferences by 725 respondents across two states. Out of 424 respondents from state of Andhra Pradesh, 68.4% of the total respondents perceive that improvement in Govt - Citizen



Relationships account for more corruption reduction. Whereas respondents who disagree with the argument are 19.1% in total out of 424 respondents.

**Table 7.7.1 State Wise Crosstabulation of Variable Improvement in Govt - Citizen Relationships Verses Corruption Reduction.**

			Improvement in Govt - Citizen Relationships Verses Corruption Reduction.					Total
			Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	29	52	53	174	116	424	
	% within State	6.8%	12.3%	12.5%	41.0%	27.4%	100.0%	
	% of Total	4.0%	7.2%	7.3%	24.0%	16.0%	58.5%	
Jammu & Kashmir	Count	45	39	48	105	64	301	
	% within State	15.0%	13.0%	15.9%	34.9%	21.3%	100.0%	
	% of Total	6.2%	5.4%	6.6%	14.5%	8.8%	41.5%	
Total	Count	74	91	101	279	180	725	
	% within State	10.2%	12.6%	13.9%	38.5%	24.8%	100.0%	
	% of Total	10.2%	12.6%	13.9%	38.5%	24.8%	100.0%	

Figures from Jammu & Kashmir reveal that out of 301 respondents, 56.2% of the respondents perceive that improvement in Govt - Citizen Relationships account for more corruption reduction. Whereas 28% of the respondents perceive otherwise. Therefore from the evaluation of data state wise it can be estimated that impact of improvement in government and citizen relationship have great hand in decreasing corruption.

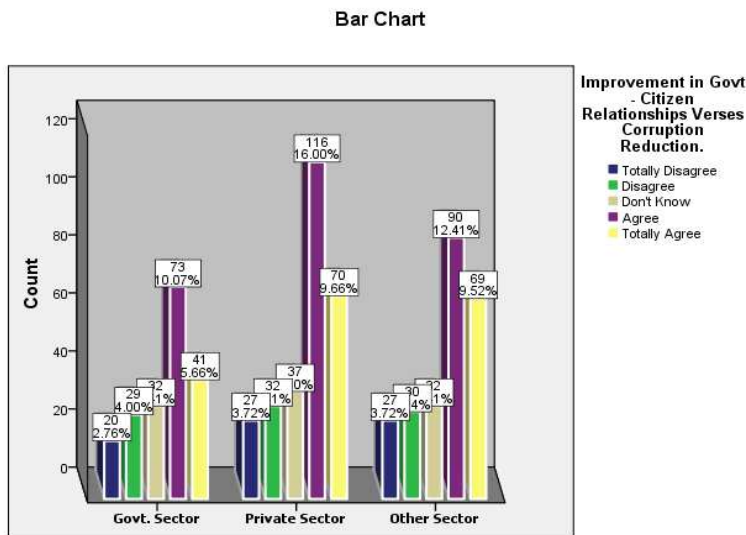
Taking view of statistics of statistics shown on sector wise in Table 7.7.2, which depicts that out of 195 government respondents 58.4% of the total respondents perceive that improvement in Govt - Citizen Relationships account for more corruption reduction. While as 25.2% of the respondents perceive otherwise. Whereas figures from private sector reveal that out of 282 respondents 65.9% of the total respondents perceive that improvement in Govt - Citizen Relationships account for more corruption reduction. Whereas 20.9% of the total respondents perceive that there is no impact of improvement of government – citizen relations on reduction of corruption. The data from respondents of other sector reveal that out of 248 respondents 64.1% of the total respondents perceive that improvement in Govt - Citizen Relationships account for more corruption reduction.

**Table 7.7.2 Sector Wise Crosstabulation of Variable Improvement in Govt - Citizen Relationships Verses Corruption Reduction.**

			Improvement in Govt - Citizen Relationships Verses Corruption Reduction.					Total
			Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector	Govt. Sector	Count	20	29	32	73	41	195
		% within Sector	10.3%	14.9%	16.4%	37.4%	21.0%	100.0%
		% of Total	2.8%	4.0%	4.4%	10.1%	5.7%	26.9%
	Private Sector	Count	27	32	37	116	70	282
		% within Sector	9.6%	11.3%	13.1%	41.1%	24.8%	100.0%
		% of Total	3.7%	4.4%	5.1%	16.0%	9.7%	38.9%
Other Sector	Count	27	30	32	90	69	248	
	% within Sector	10.9%	12.1%	12.9%	36.3%	27.8%	100.0%	
	% of Total	3.7%	4.1%	4.4%	12.4%	9.5%	34.2%	
Total	Count	74	91	101	279	180	725	
	% within Sector	10.2%	12.6%	13.9%	38.5%	24.8%	100.0%	
	% of Total	10.2%	12.6%	13.9%	38.5%	24.8%	100.0%	

Those respondents who perceive improvement in government – citizen relations have no impact on reduction of corruption are 23% total respondents. Therefore from

the interpretation of the data it can be concluded that higher percentage of respondents from Andhra Pradesh State perceive that improvement in Govt - Citizen Relationships account for more corruption reduction in comparison to



respondents from Jammu & Kashmir State. Second respondents from private sector strongly perceive that improvement in Govt - Citizen Relationships account for more corruption reduction.

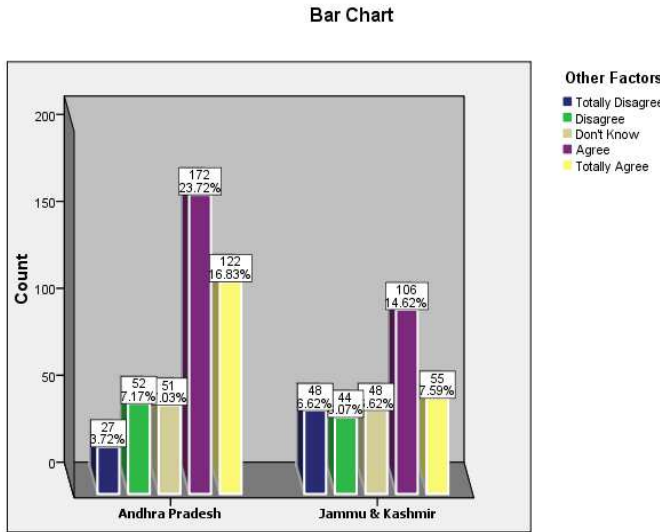
### 4.5.0 Other Factors

The variable other factors denote statement e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction. In order to study impact of other factors on corruption reduction, study across 725 respondents from two states i.e. Andhra Pradesh and

Jammu & Kashmir, which is depicted in table 7.8.1.

The sectoral distribution of 725 respondents is depicted in Table 7.8.2.

The figures from Table 7.8.1 reveals that out of 424 respondents from the state of Andhra Pradesh 69.4% of the total respondents perceive that e

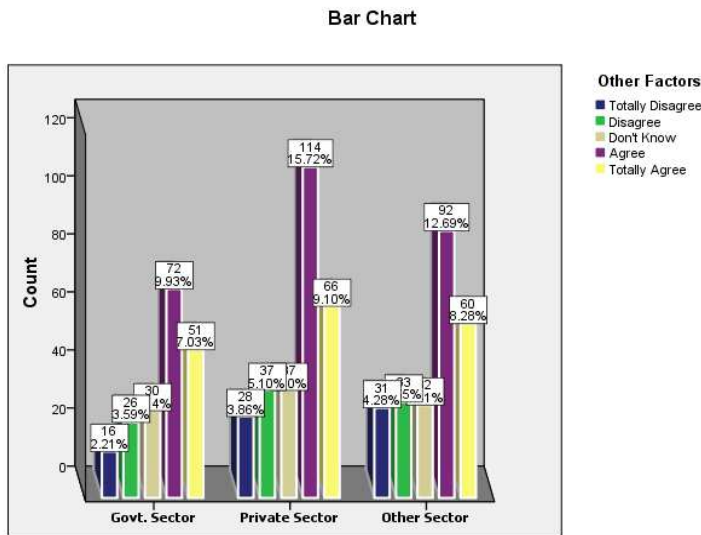


- Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction. Whereas 18.7% of the total respondents perceive that e – governance policy, BPR, information dissemination and control has lesser role in corruption reduction. The states from Jammu & Kashmir reveal that out of 301 respondents 53.5% of the total respondents perceive that e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction. Whereas the respondents from Jammu & Kashmir who perceive e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has no role in reduction in corruption. Therefore it can predicted from the data that higher percentage of respondents from Andhra perceive that e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction in comparison to respondents from Jammu & Kashmir.

**Table 7.8.1 State Wise Crosstabulation of Variable Other Factors**

		Other Factors					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	27	52	51	172	122	424
	% within State	6.4%	12.3%	12.0%	40.6%	28.8%	100.0%
	% of Total	3.7%	7.2%	7.0%	23.7%	16.8%	58.5%
Jammu & Kashmir	Count	48	44	48	106	55	301
	% within State	15.9%	14.6%	15.9%	35.2%	18.3%	100.0%
	% of Total	6.6%	6.1%	6.6%	14.6%	7.6%	41.5%
Total	Count	75	96	99	278	177	725
	% within State	10.3%	13.2%	13.7%	38.3%	24.4%	100.0%
	% of Total	10.3%	13.2%	13.7%	38.3%	24.4%	100.0%

Table 7.8.2 reveals the distribution of 725 respondents across three sectors i.e.



government sector, private sector and other sector. Out of 195 respondents from government sector 63.1% of the total respondents perceive that e - Governance Policy, Business Process Re-engineering, Information

Dissemination and Control has lesser role in corruption reduction. Whereas those who perceive otherwise are 21.5% of the total respondents from government sector. The data from private sector reveals that out of 282 respondents 63.8% of the total respondents perceive e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction, where as 23% of the total respondents perceive otherwise. While as statistics from other sector depict that out of 248 respondents 60.5% of the total respondents from other sector perceive e - Governance Policy, Business Process Re-engineering,

Information Dissemination and Control has lesser role in corruption reduction, while as total respondents who perceive otherwise are 25.8%. Therefore from the statistics it can be concluded that highest percentage of respondents from private sector perceive strongly in comparison to government and other sector respondents that e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction

**Table 7.8.2 Sector Wise Crosstabulation of Variable Other Factors**

		Other Factors					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	16	26	30	72	51	195
	% within Sector	8.2%	13.3%	15.4%	36.9%	26.2%	100.0%
	% of Total	2.2%	3.6%	4.1%	9.9%	7.0%	26.9%
Private Sector	Count	28	37	37	114	66	282
	% within Sector	9.9%	13.1%	13.1%	40.4%	23.4%	100.0%
	% of Total	3.9%	5.1%	5.1%	15.7%	9.1%	38.9%
Other Sector	Count	31	33	32	92	60	248
	% within Sector	12.5%	13.3%	12.9%	37.1%	24.2%	100.0%
	% of Total	4.3%	4.6%	4.4%	12.7%	8.3%	34.2%
Total	Count	75	96	99	278	177	725
	% within Sector	10.3%	13.2%	13.7%	38.3%	24.4%	100.0%
	% of Total	10.3%	13.2%	13.7%	38.3%	24.4%	100.0%

#### 4.5.1 Cost Effectiveness and Timeliness

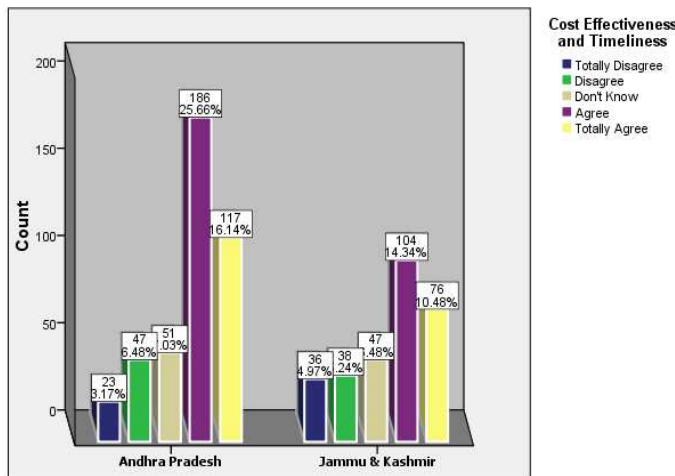
The variable cost effectiveness and timeliness depicts the impact of e – Governance initiatives on cost effectiveness and timeliness in public organization. In order to understand possible role of e – Governance initiatives in bring advantage of cost effectiveness and timeliness in public organization, study was conducted across 725 respondents from the state of Andhra Pradesh and Jammu & Kashmir as depicted in Table 7.9.1. The perceived preferences by sector is depicts in Table 7.9.2. Data analysis reveals that out of 424 respondents from state of Andhra Pradesh 71.5% of the total respondents perceive that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization, whereas of the total respondents who perceive otherwise are 16.5%. The figures from the state of Jammu & Kashmir reveal that out of 301 respondents 59.8% of the total respondent

do perceive that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization, respondents who perceive that e – governance have no impact in bring in cost effectiveness and timeliness un public organization are 24.6% in total.

**Table 7.9.1 State Wise Crosstabulation of Variable Cost Effectiveness and Timeliness**

		Cost Effectiveness and Timeliness					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	23	47	51	186	117	424
	% within State	5.4%	11.1%	12.0%	43.9%	27.6%	100.0%
	% of Total	3.2%	6.5%	7.0%	25.7%	16.1%	58.5%
Jammu & Kashmir	Count	36	38	47	104	76	301
	% within State	12.0%	12.6%	15.6%	34.6%	25.2%	100.0%
	% of Total	5.0%	5.2%	6.5%	14.3%	10.5%	41.5%
Total	Count	59	85	98	290	193	725
	% within State	8.1%	11.7%	13.5%	40.0%	26.6%	100.0%
	% of Total	8.1%	11.7%	13.5%	40.0%	26.6%	100.0%

**Bar Chart**



Therefore it can concluded from the data that respondents of Andhra Pradesh perceive strongly in comparison to respondents of Jammu & Kashmir that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization.

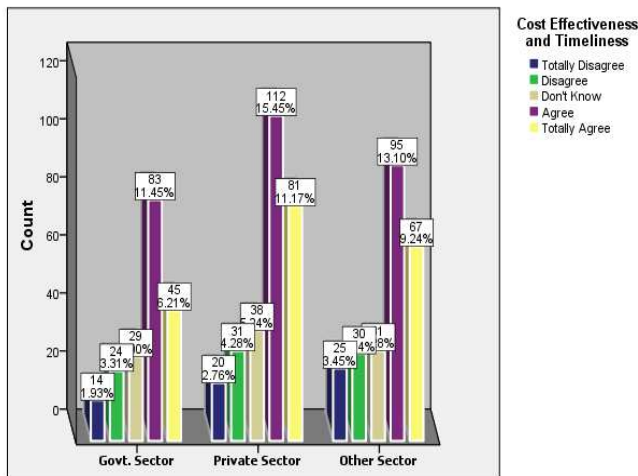
Table 7.9.2 depicts that out of 195 respondents from the government sector 65.7% total respondents perceive that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization whereas the respondents who perceive otherwise are 19.5% in total from the government sector. The figures from

private sector reveals that out of 282 respondents 68.4% of the total respondents perceive that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization, where as 18.1% of the total respondents from private sector perceive otherwise. The figures from other sector reveal that out of 248 respondents 65.3% of the total respondent perceives e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization, while 22.2% of the respondents perceive that there is no impact of e – Governance on achieving cost effectiveness and timeliness in public offices.

**Table 7.9.2 Sector Wise Crosstabulation of Variable Cost Effectiveness and Timeliness**

		Cost Effectiveness and Timeliness					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	14	24	29	83	45	195
	% within Sector	7.2%	12.3%	14.9%	42.6%	23.1%	100.0%
	% of Total	1.9%	3.3%	4.0%	11.4%	6.2%	26.9%
Private Sector	Count	20	31	38	112	81	282
	% within Sector	7.1%	11.0%	13.5%	39.7%	28.7%	100.0%
	% of Total	2.8%	4.3%	5.2%	15.4%	11.2%	38.9%
Other Sector	Count	25	30	31	95	67	248
	% within Sector	10.1%	12.1%	12.5%	38.3%	27.0%	100.0%
	% of Total	3.4%	4.1%	4.3%	13.1%	9.2%	34.2%
Total	Count	59	85	98	290	193	725
	% within Sector	8.1%	11.7%	13.5%	40.0%	26.6%	100.0%
	% of Total	8.1%	11.7%	13.5%	40.0%	26.6%	100.0%

**Bar Chart**



From the figures analyzed it can be concluded that respondents from the private sector strongly perceive that e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organization in comparison to respondents from government

and other sector. Whereas highest disagreement with the argument is seen in the respondents from other sector as compared to other sectors.

#### 4.5.2 Interactive Atmosphere

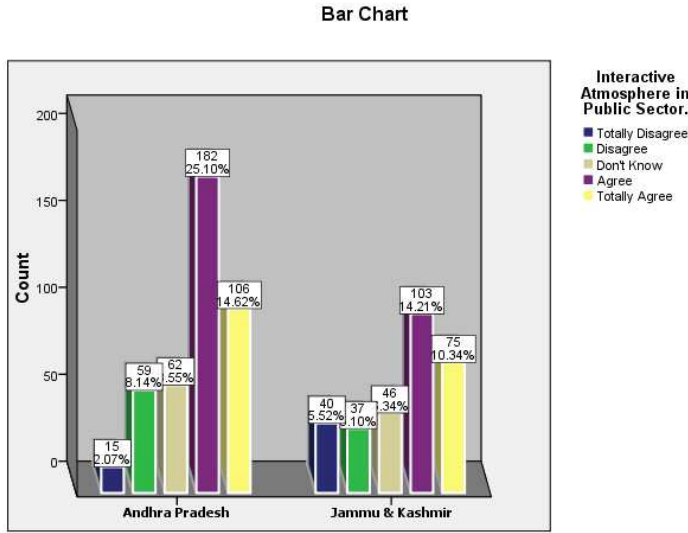
The variable interactive atmosphere represents the impact of e – Governance Projects in creation of interactive atmosphere in public sector. In order to understand the impact of e – Governance initiatives and projects in creation of interactive atmosphere in public offices study was conducted across 725 respondents from Andhra Pradesh and Jammu & Kashmir. The statistics as shown in Table 8.1.1 depicts the perceived preferences across the respondents from Andhra Pradesh and Jammu & Kashmir states. The Table 8.1.2 depicts the representation of 725 respondents across three sectors i.e. government sector, private sector and other sector. The Table 8.1.1 reveals that out of 424 respondents from Andhra Pradesh 67.9% of the total respondents from the state of Andhra Pradesh perceive that e – Governance Projects have created interactive atmosphere in public sector.

**Table 8.1.1 State Wise Crosstabulation of Variable Interactive Atmosphere in Public Sector.**

		Interactive Atmosphere in Public Sector.					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
State Andhra Pradesh	Count	15	59	62	182	106	424
	% within State	3.5%	13.9%	14.6%	42.9%	25.0%	100.0%
	% of Total	2.1%	8.1%	8.6%	25.1%	14.6%	58.5%
Jammu & Kashmir	Count	40	37	46	103	75	301
	% within State	13.3%	12.3%	15.3%	34.2%	24.9%	100.0%
	% of Total	5.5%	5.1%	6.3%	14.2%	10.3%	41.5%
Total	Count	55	96	108	285	181	725
	% within State	7.6%	13.2%	14.9%	39.3%	25.0%	100.0%
	% of Total	7.6%	13.2%	14.9%	39.3%	25.0%	100.0%

Respondents who perceive that e – Governance have no impact on creation of interactive atmosphere out of 424 respondents are 13.9%. The statistics from Jammu & Kashmir state reveal that out of 301 total respondents 59.1% of the total respondents perceive that e – Governance Projects have created interactive atmosphere in public sector, while as 25.6% of the total respondents perceived otherwise. Therefore after analyzing and interpretation of data it is clear that higher percentage of Andhra Pradesh state perceive that e – Governance Projects have



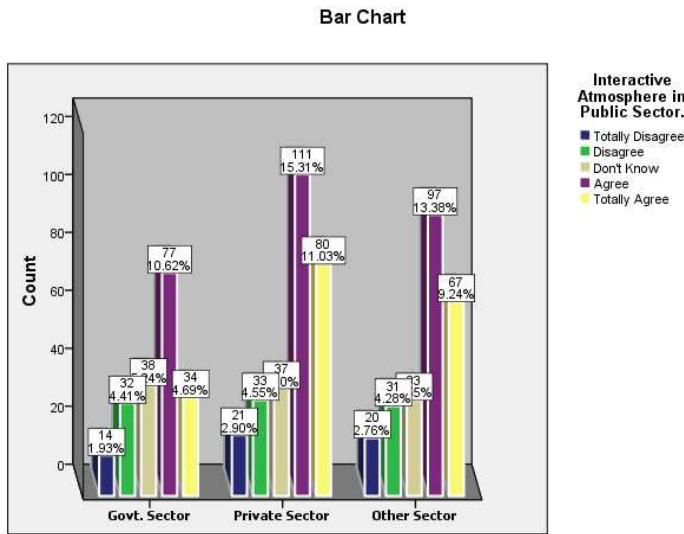


created interactive atmosphere in public sector as compared to state of Jammu & Kashmir. Table 8.1.2 reveals that out of 195 total respondents from government sector 56.9% of the total respondents perceive that e –

Governance Projects have created interactive atmosphere in public sector. Whereas 23.6% of the total respondents perceive that e – Governance have no impact on creation of interactive atmosphere within public offices. Figures from private sector reveal that out of 282 total respondents 67.8% of the total respondents perceive that that e – Governance Projects have created interactive atmosphere in public sector. Out of 282 total respondents 19.1% of the respondents perceive otherwise. Statistics from other sector depict that out 248 total respondents 66.1% of the respondents perceive that e – Governance Projects have created interactive atmosphere in public sector.

**Table 8.1.2 Sector Wise Crosstabulation of Variable Interactive Atmosphere in Public Sector.**

		Interactive Atmosphere in Public Sector.					Total
		Totally Disagree	Disagree	Don't Know	Agree	Totally Agree	
Sector Govt. Sector	Count	14	32	38	77	34	195
	% within Sector	7.2%	16.4%	19.5%	39.5%	17.4%	100.0%
	% of Total	1.9%	4.4%	5.2%	10.6%	4.7%	26.9%
Private Sector	Count	21	33	37	111	80	282
	% within Sector	7.4%	11.7%	13.1%	39.4%	28.4%	100.0%
	% of Total	2.9%	4.6%	5.1%	15.3%	11.0%	38.9%
Other Sector	Count	20	31	33	97	67	248
	% within Sector	8.1%	12.5%	13.3%	39.1%	27.0%	100.0%
	% of Total	2.8%	4.3%	4.6%	13.4%	9.2%	34.2%
Total	Count	55	96	108	285	181	725
	% within Sector	7.6%	13.2%	14.9%	39.3%	25.0%	100.0%
	% of Total	7.6%	13.2%	14.9%	39.3%	25.0%	100.0%



Out of 248 respondents 20.6% of the total respondents perceive that e – Governance has no impact on creation of interactive atmosphere within public offices. Therefore from the data it can be concluded that out of 725 respondents state wise Andhra Pradesh

respondents perceive strongly that e – Governance Projects have created interactive atmosphere in public sector. Sector wise data depict that out of total 725 respondents private sector respondents perceive strongly that e – Governance Projects have created interactive atmosphere in public sector followed by other sector respondents and then government sector respondents.

#### 4.6.1 State Wise Perception on Impact of e – Governance

In order to understand perception of respondents on state wise, Table 9.0 depicts the distribution of perceived means in regard to 32 variables that are most likely to get impacted by introduction of e – Governance practices in public offices. The state wise perception comprises of respondents from the two states i.e. Andhra Pradesh and Jammu & Kashmir State.

Table 9.0 sketches out the combined mean score responses of respondents across all the variables under study. The mean score ranges from 2.64 to 3.61. The lowest mean score of for the variable ‘Availability of Required Infrastructure to Access’ for state of Andhra Pradesh and highest score is for the variable ‘Awareness’ also from Andhra Pradesh. The statistics reveals that respondents from state of Andhra Pradesh are much informed about the e – Governance practices and have basic know how about the issues which pertain to working and service delivery system. Taking look of variable ‘satisfaction’ which is much perceived important by the respondents

from the both of states has mean score of 3.43 for the state of Andhra Pradesh and 3.13 for the state of Jammu & Kashmir. Similarly for the variable ‘Awareness, Resistance to Change, Transparency’ respondents from Andhra Pradesh perceive strongly impact of e – Governance on these variables as compared to respondents from the State of Jammu & Kashmir. The variable ‘Navigability and Friendly design’ is perceived differently by the respondents from Andhra Pradesh and Jammu & Kashmir. For the state of Andhra Pradesh the total means score is 3.09 and for state of Jammu & Kashmir the total mean score is 3.38. Therefore respondents from Jammu & Kashmir perceive strongly that navigability and friendly design is much important for working and functional information distribution mechanism of information through information kiosks, portals and interfaces.

The variable ‘bridging gap’ is much important as perceived by the respondents from Andhra Pradesh and Jammu & Kashmir. For the respondents from Andhra Pradesh the total mean score is 3.38 and for the state of Jammu & Kashmir 3.04. The variable ‘Linguistic Hindrance’ has the total mean score 3.26 for the respondents from state of Andhra Pradesh and for the respondents from state of Jammu & Kashmir the total mean score is 2.77, therefore from the statistics it can be revealed that the respondents from Jammu & Kashmir perceive that language used in information dissemination is very much important for the working of e – Governance system Therefore see linguistic incompatibility as a hindrance for interaction between the stakeholder and government through the e – Governance interaction system. Similarly variable ‘Standardization and Cross Operability’ has the total means score for the state of Andhra Pradesh 2.67 and for the state of Jammu & Kashmir the total mean score is 2.91. The difference in total mean score reveals that respondents from both Andhra Pradesh and Jammu & Kashmir perceive the use of standard formats and cross operability as less important component in system practices of e – Governance.

The variable ‘reduction in corruption’ which is perceived as much important by the respondents from both Andhra Pradesh and Jammu & Kashmir, has the total mean score of 3.76 for A.P and 3.41 for the state of J&K. This implies that reduction of corruption is perceived as important benefit of e – Governance.

Variables	Andhra Pradesh = 424		Jammu & Kashmir = 301	
	Mean	Std. Deviation	Mean	Std. Deviation
1. Satisfaction	3.43	1.270	3.13	1.351
2. Awareness	3.61	1.202	3.31	1.334
3. Resistance to Change	3.60	1.235	3.24	1.338
4. Transparency in Dissemination of Information	3.54	1.334	3.27	1.352
5. Navigability and Friendly design	3.09	1.335	3.38	1.320
6. Availability of Required Infrastructure to Access	2.64	1.275	3.01	1.347
7. Information Encryption, Protection and Security	2.66	1.311	2.97	1.370
8. Updated Information Availability	2.70	1.300	3.00	1.374
9. Bridging Gap	3.38	1.277	3.06	1.314
10. Delivering Promises	3.24	1.277	3.00	1.359
11. Restriction by Infrastructure	3.16	1.373	3.50	1.232
12. Linguistic Hindrance	3.26	1.297	2.77	1.266
13. Transcending Across Demographic Constraints	3.39	1.192	3.06	1.263
14. Open Process and Functions of Working.	3.40	1.283	3.09	1.351
15. Technical Manpower and Desired Skills Bottleneck	3.38	1.324	3.04	1.466
16. Offering of Varied Centralized Services	2.97	1.377	3.29	1.362
17. Integration of Offered Services with Departments	3.29	1.330	2.83	1.400
18. Reach	3.50	1.240	3.13	1.366
19. Expansion of Service Delivery Magnitude	3.48	1.347	3.25	1.366
20. Lessening Role of Human resource in Delivery of Services	3.46	1.226	3.21	1.304
21. Operability	3.56	1.381	3.28	1.354
22. Completeness and Accuracy of Information	3.15	1.338	2.68	1.399
23. Standardization and Cross Operability	2.67	1.434	2.91	1.396
24. Impediment by poor infrastructure	3.57	1.321	3.32	1.366
25. Functional Failure by Poor Technical Skills and Will	3.53	1.291	3.26	1.354
26. Capacity Building Measures Service Delivery	3.56	1.285	3.28	1.392
27. Improvement in Government - Citizen Relationships	3.60	1.281	3.29	1.366
28. Reduction of Corruption	3.76	1.156	3.41	1.350
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	3.70	1.190	3.35	1.347
30. Other Factors	3.73	1.184	3.25	1.345
31. Cost Effectiveness and Timeliness	3.77	1.131	3.49	1.316
32. Interactive Atmosphere in Public Sector.	3.72	1.093	3.45	1.340

Similarly respondents who see restriction by infrastructure as important impediment in working of e – Governance has total mean score of 3.16 for the state of Andhra Pradesh and 3.50 for the state of Jammu & Kashmir. Therefore from the data it can be understood that restriction by non – availability of infrastructure to access e –

Governance services is perceived strongly by the respondents from Jammu & Kashmir as compared to respondents from the state of Andhra Pradesh. The variable 'cost effectiveness, interactivity' has stronger values which resemble similar to other important variables, therefore from the statistics it can be evaluated that respondents from both the samples states of Andhra Pradesh and Jammu & Kashmir have strong perception that e – Governance creates the efficient service delivery system and act as improved interface between the government departments and offices and the public at large. The total mean score of the variables differ across the population and sample states, therefore the perceived importance can differ from lower, average and strong. For most of variables which are related to impact of e – Governance on the functioning of government offices and departments measure the impact on corruption, improvement in government - citizen relations, other variables impact and system impact.

#### **4.6.2 Sector Wise Impact of e – Governance**

An attempt has been made to sketch out the perception level of each sector separately in the sample study sectors for impact of system practices on good governance. The same has been presented in the Table 9.1. The mean score for the variables sector wise range from 2.63 to 3.64 for the respondents from government sector. For the private sector the mean score ranges from 2.75 to 3.72. Similarly for the other sector the total mean score ranges from 2.91 to 3.65. The total mean figures for the variables 'satisfaction' is higher for the other sector as compared to government and private sector respondents. This depicts that other sector respondents perceive strongly that e – Governance system practices and initiatives increase the satisfaction of the stakeholders and users. For the variable 'awareness and resistance to change' the total mean is higher for the government sector as compared to private and other sector, which reveals that high level of awareness is among the government sector respondents. Similarly respondents from government sector are quite aware that resistance to change is an obstacle in implementation of the functional e – Governance system.

Variables	Govt. Sector = 195		Private Sector = 282		Other Sector = 248	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
1. Satisfaction	3.33	1.338	3.24	1.303	3.35	1.302
2. Awareness	3.62	1.189	3.46	1.288	3.42	1.298
3. Resistance to Change	3.59	1.174	3.39	1.311	3.42	1.350
4. Transparency in Dissemination of Information	3.64	1.270	3.40	1.365	3.29	1.373
5. Navigability and Friendly design	2.98	1.339	3.25	1.343	3.35	1.304
6. Availability of Required Infrastructure to Access	2.63	1.295	2.77	1.341	2.95	1.292
7. Information Encryption, Protection and Security	2.69	1.283	2.75	1.374	2.91	1.350
8. Updated Information Availability	2.71	1.281	2.82	1.367	2.92	1.346
9. Bridging Gap	3.32	1.305	3.21	1.276	3.24	1.330
10. Delivering Promises	3.13	1.309	3.23	1.299	3.04	1.338
11. Restriction by Infrastructure	3.16	1.328	3.31	1.300	3.40	1.352
12. Linguistic Hindrance	3.22	1.262	2.98	1.305	3.02	1.335
13. Transcending Across Demographic Constraints	3.25	1.236	3.34	1.196	3.16	1.268
14. Open Process and Functions of Working.	3.26	1.271	3.26	1.370	3.30	1.304
15. Technical Manpower and Desired Skills Bottleneck	3.16	1.337	3.28	1.464	3.24	1.358
16. Offering of Varied Centralized Services	2.98	1.333	3.06	1.403	3.24	1.382
17. Integration of Offered Services with Departments	3.34	1.263	3.04	1.388	2.99	1.433
18. Reach	3.32	1.252	3.35	1.371	3.36	1.274
19. Expansion of Service Delivery Magnitude	3.21	1.428	3.50	1.291	3.39	1.369
20. Lessening Role of Human resource in Delivery of Services	3.37	1.255	3.34	1.248	3.37	1.294
21. Operationality	3.49	1.401	3.40	1.347	3.45	1.393
22. Completeness and Accuracy of Information	3.29	1.309	2.95	1.412	2.69	1.351
23. Standardization and Cross Operability	2.64	1.470	2.72	1.402	2.92	1.400
24. Impediment by poor infrastructure	3.44	1.347	3.47	1.353	3.48	1.338
25. Functional Failure by Poor Technical Skills and Will	3.41	1.307	3.41	1.318	3.44	1.348
26. Capacity Building Measures Service Delivery	3.54	1.309	3.38	1.323	3.45	1.373
27. Improvement in Government - Citizen Relationships	3.50	1.325	3.49	1.275	3.42	1.383
28. Reduction of Corruption	3.59	1.221	3.65	1.228	3.59	1.304
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	3.44	1.260	3.60	1.242	3.58	1.305
30. Other Factors	3.59	1.237	3.54	1.257	3.47	1.325
31. Cost Effectiveness and Timeliness	3.62	1.175	3.72	1.194	3.60	1.278
32. Interactive Atmosphere in Public Sector.	3.44	1.166	3.70	1.211	3.65	1.228

The information encryption and security variable has the total mean of 2.91 for other sector respondents and 2.75, 2.69 for the private and government sector respondents, therefore the figures reveal that other sector employment which comprises of un-organized sector perceive poorly that the information available through the government web interfaces and portals is not secure. Taking the look of performance variable, highest total mean score across the all the three sector is approximately same for the variable capacity building, improvement in government – citizen relationships, reduction of corruption, cost effectiveness and timeliness and interactive services. Therefore it can be perceived that respondents from the entire sector undertake performance variable as similar and hence don't change with the sector. The variable 'Availability of Required Infrastructure to Access' has got lower mean score in the all sectors, hence it can be perceived that infrastructure available is fragile and non – existent in most of cases. Similarly 'updated information availability' has also got lower mean scores across the three sectors, which predict that the information availability on schemes, programmes, policies and departments and public offices through the web portals, kiosks, websites is not fully up to date. Variable 'integration of offered services with departments' has got higher mean score in government and private sector respondents group while as lower mean score in the other sector respondent group. The figures reveal that respondents who are much connected to primary employment mean and come from un – organized sector perceive that departments and e – Governance system work in total standalone basis. The total mean score of the variable 'technical manpower and desired skill bottleneck' is perceived similar by both of the respondents from private sector and other sector, which depicts the lack of manpower with desired skill to perform and execute e – Governance service work act as hindrance in the common usage of e – Governance services by the stakeholders. Similarly for the variable 'lessening role of human resources in service delivery' the mean score is similar for respondents from government sector and other sector. The respondents strongly perceive that the e – Governance empowers the stakeholders themselves to interact and acquire information and services and hence the role of human in service delivery is lessened. For the variable 'completeness and accuracy of information' the

respondents from government sector have higher means core hence perceive strongly that information available through the e – Governance system is complete in all respects and accurate. While as the total mean figures from private sector and other sector reveals that the respondents perceive weakly that the information available through the information outlets and portals is complete and accurate in every respect, hence some delinquencies do exist.

#### **4.6.3 Age Wise Impact of e – Governance**

An attempt has been made to sketch out the perception level of respondents across the age groups. The data across age group is shown in the Table 9.3. Out of 725 respondents, 321 respondents are from the age group 21 – 35 years, 251 respondents are from age group 36 – 51 years, and while as 153 respondents are from age group of above 51 years. From the statistics it is revealed that for the variable satisfaction, awareness and resistance to change the highest mean score is within the respondents from the age group 21-35 years and age 36-51 years. This depicts that the younger age groups are strongly satisfied with e – Governance initiatives and same time are aware of the e – Governance policies and believe resistance to change act as an obstacle in efficient working and service delivery. The total mean statistics for the variable ‘linguistics hindrance’ depict that higher population of respondent from the age group above 51 years perceive that use of English language act as hindrance while interacting with the e – Governance system. The mean score for the younger age group depict that the use of English language pose no serious issue in interaction. The similar mean score of variable ‘technical manpower and desired skill bottleneck’ across two age group depict that the respondents from the mid - age group perceive the lack of technical skill as bottleneck. While as respondents from the elderly age group perceive lack of human skill as bottleneck. Looking at service delivery variables the variable ‘open processes, integration, reach and expansion of service delivery magnitude’ has highest mean score in the age group of 21 – 35 years, which depicts that the service delivery issue is perceived much seriously by the younger age group as compared to other.



Variables	Age 21 – 35 = 321		Age 36 – 51 = 251		Age Above 51 = 153	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
1. Satisfaction	3.42	1.304	3.26	1.318	3.13	1.301
2. Awareness	3.49	1.270	3.55	1.243	3.37	1.297
3. Resistance to Change	3.42	1.297	3.51	1.306	3.41	1.254
4. Transparency in Dissemination of Information	3.39	1.356	3.51	1.349	3.37	1.332
5. Navigability and Friendly design	3.15	1.329	3.33	1.283	3.14	1.425
6. Availability of Required Infrastructure to Access	2.79	1.294	2.85	1.318	2.72	1.364
7. Information Encryption, Protection and Security	2.79	1.312	2.86	1.351	2.67	1.395
8. Updated Information Availability	2.79	1.299	2.92	1.352	2.76	1.394
9. Bridging Gap	3.27	1.304	3.26	1.324	3.18	1.264
10. Delivering Promises	3.25	1.336	3.07	1.317	3.04	1.261
11. Restriction by Infrastructure	3.32	1.353	3.26	1.312	3.33	1.302
12. Linguistic Hindrance	3.03	1.320	3.06	1.324	3.10	1.252
13. Transcending Across Demographic Constraints	3.30	1.233	3.28	1.224	3.12	1.242
14. Open Process and Functions of Working.	3.38	1.348	3.16	1.318	3.22	1.251
15. Technical Manpower and Desired Skills Bottleneck	3.24	1.404	3.24	1.353	3.22	1.446
16. Offering of Varied Centralized Services	3.10	1.369	3.20	1.341	2.97	1.457
17. Integration of Offered Services with Departments	3.15	1.360	3.07	1.407	3.05	1.371
18. Reach	3.42	1.330	3.26	1.309	3.31	1.243
19. Expansion of Service Delivery Magnitude	3.39	1.328	3.41	1.381	3.32	1.394
20. Lessening Role of Human resource in Delivery of Services	3.35	1.236	3.37	1.312	3.37	1.250
21. Operability	3.43	1.365	3.45	1.389	3.45	1.386
22. Completeness and Accuracy of Information	2.97	1.377	2.92	1.406	2.97	1.359
23. Standardization and Cross Operability	2.78	1.473	2.75	1.388	2.77	1.379
24. Impediment by poor infrastructure	3.55	1.313	3.43	1.347	3.33	1.400
25. Functional Failure by Poor Technical Skills and Will	3.47	1.304	3.37	1.343	3.40	1.339
26. Capacity Building Measures Service Delivery	3.47	1.311	3.43	1.353	3.41	1.369
27. Improvement in Government - Citizen Relationships	3.48	1.292	3.44	1.362	3.50	1.338
28. Reduction of Corruption	3.61	1.238	3.61	1.264	3.63	1.266
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	3.57	1.231	3.53	1.318	3.54	1.272
30. Other Factors	3.55	1.247	3.50	1.319	3.55	1.267
31. Cost Effectiveness and Timeliness	3.67	1.182	3.65	1.264	3.63	1.223
32. Interactive Atmosphere in Public Sector.	3.58	1.189	3.63	1.237	3.64	1.206

The impact variable depicts that for the reduction of corruption all the age group perceive approximately strongly agreement that e – Governance can reduce

corruption in the functioning of the government departments and public offices. For the variable improvement in government – citizen relationships younger age group perceive strongly the e – Governance can improve government – citizen relationships, by making government departments more open, transparent and accountable to the stakeholders. Taking a look of variable ‘cost effectiveness and timeliness and variable interactivity’, it is perceived that highest mean score of 3.67 is shown by the younger age group for the variable cost effectiveness and timeliness variable. Whereas mean score of 3.64 is shown by the respondents from 51 years above age group. From the overall statistics it can conclude that highest means score is perceived by the respondents from the 21 – 35 Yr. age groups. Therefore the younger age group respondents are stronger stakeholder in the use of e – Governance services and are much connected and acquainted with the e – Governance functional and service delivery issues.

#### **4.6.4 Gender Wise Impact of e – Governance**

The Table 9.4 represents the mean scores distribution across 725 respondents on gender terms. Out of 725 respondents 314 are female respondents and 411 respondents are male ones. Therefore statistics reveals that the highest mean score across the female gender is 3.69 for the variable ‘reduction in corruption’. Similarly the lowest mean score across the 314 female respondents is 2.76 for the variable ‘standardization and cross operability’. Taking view of statistics from male gender. The highest mean score across 411 male respondents is 3.64 for the variable ‘cost effectiveness and timeliness’. Whereas the lowest mean score is 2.77 of the variable ‘standardization and cross operability’. Therefore from statistics it is clear that respondents from both of the gender to perceive poorly that standardization of information exchange formats and cross operability do pose any serious issue and therefore nullify the impact of same on the e – Governance. For the variable ‘satisfaction, awareness and resistance to change’ the mean score shows common trend and hence it is perceived that respondents from both the gender are well acquainted and aware of e – Governance working and issues. The variables related to information sharing and infrastructure reveals that male respondents perceive

strongly that information sharing and information dissemination hindrances and bottlenecks as compared to females.

Variables	Female = 314		Male = 411	
	Mean	Std. Dev.	Mean	Std. Dev.
1. Satisfaction	3.35	1.275	3.27	1.339
2. Awareness	3.46	1.215	3.50	1.305
3. Resistance to Change	3.46	1.254	3.45	1.319
4. Transparency in Dissemination of Information	3.39	1.336	3.46	1.358
5. Navigability and Friendly design	3.16	1.379	3.25	1.300
6. Availability of Required Infrastructure to Access	2.77	1.345	2.82	1.295
7. Information Encryption, Protection and Security	2.78	1.344	2.80	1.344
8. Updated Information Availability	2.82	1.318	2.83	1.354
9. Bridging Gap	3.32	1.249	3.20	1.339
10. Delivering Promises	3.11	1.315	3.16	1.318
11. Restriction by Infrastructure	3.28	1.322	3.32	1.331
12. Linguistic Hindrance	3.02	1.261	3.09	1.340
13. Transcending Across Demographic Constraints	3.24	1.216	3.27	1.246
14. Open Process and Functions of Working.	3.18	1.344	3.34	1.299
15. Technical Manpower and Desired Skills Bottleneck	3.22	1.386	3.25	1.401
16. Offering of Varied Centralized Services	3.13	1.361	3.08	1.394
17. Integration of Offered Services with Departments	3.04	1.338	3.15	1.407
18. Reach	3.26	1.344	3.41	1.274
19. Expansion of Service Delivery Magnitude	3.36	1.341	3.39	1.374
20. Lessening Role of Human resource in Delivery of Services	3.42	1.239	3.31	1.283
21. Operability	3.51	1.369	3.38	1.380
22. Completeness and Accuracy of Information	2.95	1.349	2.96	1.408
23. Standardization and Cross Operability	2.76	1.406	2.77	1.437
24. Impediment by poor infrastructure	3.53	1.311	3.41	1.368
25. Functional Failure by Poor Technical Skills and Will	3.47	1.307	3.38	1.337
26. Capacity Building Measures Service Delivery	3.50	1.292	3.40	1.369
27. Improvement in Government - Citizen Relationships	3.49	1.294	3.45	1.349
28. Reduction of Corruption	3.69	1.138	3.56	1.330
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	3.57	1.176	3.54	1.336
30. Other Factors	3.53	1.220	3.53	1.316
31. Cost Effectiveness and Timeliness	3.66	1.134	3.64	1.280
32. Interactive Atmosphere in Public Sector.	3.58	1.129	3.63	1.266

The variables related to service delivery reveals that respondents from both the gender perceive similarly and hence perceive strongly for the variable related to Operationality, lessening role of humans in service delivery and capacity building measures. The variables related to impact reveals that female respondents perceive strongly as compared to corresponding male respondents that e – Governance will reduce corruption, improve government – citizen relationships and deliver service cost effectively and timely and also will create a better interface of interaction between the government system and the stakeholders. For the variable ‘restriction by infrastructure’ and ‘linguistic hindrances’ males as well as females comparatively perceive similar importance for the variable infrastructural and linguistic hindrance and their role in e – Governance and service delivery. Similarly for the variables offering of centralized services, female respondents perceive strongly that e – Governance can deliver centralized services with optimal reach at a single place in comparison to male respondents.

The total mean scores of the variables related to measuring of impact of e – Governance on corruption and improvement in government – citizen relationships reveal that comparatively both female as well as male respondents perceive strongly that e- Governance reduces corruption and improves government – citizen relationships and similarly delivers services at a cost effective and timely manner. Whereas similar results are revealed for the variable interactivity, which depicts that respondents from both the genders perceive strongly that e – Governance creates interactive atmosphere in public offices and government departments.

#### **4.6.5 Qualification Wise Impact of e – Governance**

The perception across the education qualification is presented in Table 9.5, which reveals the total mean score across 725 respondents from three qualification groups i.e. undergraduate, graduate and post graduate and above post graduations. The highest mean score across the undergraduate group is 3.64 for the variable ‘reduction in corruption’, whereas the lowest mean score 2.84 is of the variable ‘Availability of Required Infrastructure to Access’. Similarly for the respondents who are graduate and postgraduate the highest means score is 3.64 for the variable ‘Cost Effectiveness and Timeliness’. The lowest means score is 2.66 for the

variables ‘Availability of Required Infrastructure to Access’ and ‘Information Encryption, Protection and Security’. Correspondingly the highest means score across the 262 above post graduate respondents is 3.63 for the variable ‘Cost Effectiveness and Timeliness’ and the lowest mean score is 2.77 for the variable ‘Standardization and Cross Operability’. However from the statistics it is clear that higher percentage of respondents who are undergraduate and graduate / post graduate strongly agree with the assumption as represented by 32 variables and statements. For the variable satisfaction higher means score is within the respondents who are above post graduate above. Similarly for the variable awareness the higher means score is across the undergraduate respondents. For variable resistance to change the higher means score is across graduate / post graduate respondents. Therefore it can be perceived that for the basic variables the respondents who are undergraduate and graduate / post graduate are strongly with the agreement that e – Governance initiatives increase satisfaction level of the end users and also show strong agreement that resistance to change act as an impediment in harnessing the benefits of the e – Governance. Taking look of service delivery variables it can be perceived that for the variable bridging gap, delivering promises, open processes and function of working it is perceived that comparatively respondents who are graduate / post graduate and above post graduate in qualification perceive strongly that e – Governance can bridges gaps between the standalone departments and stakeholders, delivers the promises of effective governance to the end users and creates more open processes of functions and transparency in functioning.

Taking note of operational variables i.e. integration of services, reach, Operability, completeness and accuracy of information. It is revealed by the statistics that higher mean score is across the respondents who are under graduate and above post graduate in qualification, therefore is perceived that operational issues are given higher preference in respect to lower and higher qualifications as acquired by respondents.

Variables	Undergraduate = 183		Grad./ P.G = 280		Above P.G = 262	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
1. Satisfaction	3.11	1.356	3.35	1.284	3.39	1.301
2. Awareness	3.54	1.287	3.46	1.238	3.48	1.286
3. Resistance to Change	3.46	1.279	3.60	1.226	3.29	1.350
4. Transparency in Dissemination of Information	3.37	1.356	3.45	1.375	3.44	1.317
5. Navigability and Friendly design	3.27	1.289	3.04	1.333	3.34	1.355
6. Availability of Required Infrastructure to Access	2.84	1.319	2.66	1.246	2.91	1.378
7. Information Encryption, Protection and Security	2.85	1.340	2.66	1.269	2.89	1.414
8. Updated Information Availability	2.89	1.326	2.70	1.260	2.92	1.419
9. Bridging Gap	3.21	1.339	3.25	1.299	3.27	1.281
10. Delivering Promises	3.11	1.321	3.15	1.293	3.15	1.341
11. Restriction by Infrastructure	3.27	1.323	3.34	1.310	3.27	1.351
12. Linguistic Hindrance	3.08	1.299	3.16	1.286	2.94	1.327
13. Transcending Across Demographic Constraints	3.21	1.249	3.23	1.232	3.31	1.223
14. Open Process and Functions of Working.	3.17	1.378	3.30	1.290	3.32	1.311
15. Technical Manpower and Desired Skills Bottleneck	3.19	1.479	3.31	1.339	3.18	1.390
16. Offering of Varied Centralized Services	3.15	1.353	2.96	1.346	3.22	1.424
17. Integration of Offered Services with Departments	3.26	1.366	3.10	1.326	2.99	1.433
18. Reach	3.27	1.367	3.35	1.280	3.40	1.291
19. Expansion of Service Delivery Magnitude	3.34	1.381	3.26	1.357	3.54	1.335
20. Lessening Role of Human resource in Delivery of Services	3.44	1.251	3.29	1.270	3.38	1.268
21. Operability	3.46	1.321	3.38	1.399	3.48	1.392
22. Completeness and Accuracy of Information	3.11	1.392	2.95	1.343	2.84	1.410
23. Standardization and Cross Operability	2.85	1.447	2.71	1.399	2.77	1.433
24. Impediment by poor infrastructure	3.52	1.321	3.39	1.345	3.51	1.361
25. Functional Failure by Poor Technical Skills and Will	3.52	1.300	3.27	1.314	3.51	1.341
26. Capacity Building Measures Service Delivery	3.52	1.321	3.37	1.319	3.47	1.366
27. Improvement in Government - Citizen Relationships	3.50	1.300	3.42	1.304	3.49	1.367
28. Reduction of Corruption	3.64	1.271	3.64	1.189	3.56	1.305
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	3.59	1.276	3.59	1.203	3.48	1.333
30. Other Factors	3.55	1.278	3.56	1.216	3.48	1.335
31. Cost Effectiveness and Timeliness	3.64	1.250	3.68	1.122	3.63	1.297
32. Interactive Atmosphere in Public Sector.	3.63	1.220	3.62	1.142	3.58	1.271

## 4.7 Chi – Square Test

Table 10.1 Chi Square Test Statistics

Variables	Chi-Square	df	Asymp. Sig.
1. Satisfaction	61.007 <sup>a</sup>	4	.000
2. Awareness	131.779 <sup>a</sup>	4	.000
3. Resistance to Change	103.172 <sup>a</sup>	4	.000
4. Transparency in Dissemination of Information	151.559 <sup>a</sup>	4	.000
5. Navigability and Friendly design	56.372 <sup>a</sup>	4	.000
6. Availability of Required Infrastructure to Access	70.524 <sup>a</sup>	4	.000
7. Information Encryption, Protection and Security	74.428 <sup>a</sup>	4	.000
8. Updated Information Availability	38.883 <sup>a</sup>	4	.000
9. Bridging Gap	56.290 <sup>a</sup>	4	.000
10. Delivering Promises	36.897 <sup>a</sup>	4	.000
11. Restriction by Infrastructure	65.614 <sup>a</sup>	4	.000
12. Linguistic Hindrance	70.745 <sup>a</sup>	4	.000
13. Transcending Across Demographic Constraints	78.221 <sup>a</sup>	4	.000
14. Open Process and Functions of Working.	41.310 <sup>a</sup>	4	.000
15. Technical Manpower and Desired Skills Bottleneck	39.338 <sup>a</sup>	4	.000
16. Offering of Varied Centralized Services	67.034 <sup>a</sup>	4	.000
17. Integration of Offered Services with Departments	66.221 <sup>a</sup>	4	.000
18. Reach	59.724 <sup>a</sup>	4	.000
19. Expansion of Service Delivery Magnitude	83.200 <sup>a</sup>	4	.000
20. Lessening Role of Human resource in Delivery of Services	105.531 <sup>a</sup>	4	.000
21. Operationality	99.076 <sup>a</sup>	4	.000
22. Completeness and Accuracy of Information	43.752 <sup>a</sup>	4	.000
23. Standardization and Cross Operability	41.007 <sup>a</sup>	4	.000
24. Impediment by poor infrastructure	109.559 <sup>a</sup>	4	.000
25. Functional Failure by Poor Technical Skills and Will	124.869 <sup>a</sup>	4	.000
26. Capacity Building Measures Service Delivery	138.800 <sup>a</sup>	4	.000
27. Improvement in Government - Citizen Relationships	149.655 <sup>a</sup>	4	.000
28. Reduction of Corruption	224.497 <sup>a</sup>	4	.000
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	200.510 <sup>a</sup>	4	.000
30. Other Factors	194.000 <sup>a</sup>	4	.000
31. Cost Effectiveness and Timeliness	251.959 <sup>a</sup>	4	.000
32. Interactive Atmosphere in Public Sector.	225.972 <sup>a</sup>	4	.000

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 145.0.

Chi – Square test was administered to test the equal distribution of frequencies on the scale values / points and to test the hypothesis. The reason for using Chi – Square test is that the data has been collected using Liker Scale and hence is qualitative data and ordinal in characteristics. The chi-squared distribution is depicts goodness of fit of an observed distribution to a theoretical one, the independence of two criteria of classification of qualitative data, and in confidence interval estimation for a population standard deviation of a normal distribution from a sample standard deviation. The test results were drawn in consolidation of objective to approve or disapprove of null and alternate hypothesis. Keeping in view objective, Chi – Square test was administered across 725 respondents. The results of the Chi – Square are presented in the Table 10.1. As from the Chi – Squared distribution the highest Chi Value 251.959 is of the variable ‘cost effectiveness and timeliness’. Similarly the combined lowest Chi – Squared value 36.897 is of the variable ‘delivering promises’. The Chi Square statistics depict that for the variable satisfaction, awareness, resistance to change, transparency the Chi Square value is 61.007, 131.779, 103.172, 151.559 and the significance is 0.000, which reveals that the probability distributions in inferential statistics. Similarly for variables which are concerned with delivery of e – Governance services and capacity building the observed Chi – Square values are greater than Chi – Square Table values, hence depict probable distribution between observed and expected frequencies as collected across 725 respondents. Similarly for the variables undertaken to study impact the e – Governance variables Chi – square results are greater than the Table Chi square value. For the variable ‘lack of technical manpower and desired skills’ the Chi – Square value is 39.338. Which is much lower as compared to Chi – square value of variable ‘capacity building’ and hence reveals that the higher percentage of respondents perceive that capacity building measure in service delivery can improve service delivery mechanism and service transaction between the government departments and the functional e – Governance system. The Chi Square values of variable ‘improvement in government citizen relationships’ and ‘corruption reduction’ has higher Chi – square values, which reveals that the most of respondent’s responses are distributed on the positive side of variable and hence



depicts that e – Governance can help in betterment of government – citizen relationships and reduce corruption. Similarly the variable ‘cost effectiveness’ and ‘interactive atmosphere’ have the highest Chi – square values i.e. 251.959 and 225.972. Therefore which depicts that respondents perceive strongly that e – Governance has a significant role in bring efficiency in system and developing interactive atmosphere in public enterprises. Therefore the statistics derived from the perceived preferences by 725 respondents across two states and three sectors approve alternate hypothesis and reject null hypothesis

- *(H1): e - Governance initiatives are positively related to government– citizen relationships and corruption reduction.*
- *(H2) Improvements in government-citizen relationships account for more corruption reduction as compared to other variables.*

Table 10.2 presents the Chi – Square statistics state wise across 424 respondents from the state of Andhra Pradesh and 301 respondents from the Jammu & Kashmir State. From the statistics it is evident that few variables have shown deviation in distribution of results and their significance is more than 0.05. Taking note of figures it is revealed that for the State of Andhra Pradesh the highest Chi – Square value 208.358a is for the variable ‘cost effectiveness and timeliness’. While as the lowest Chi – Square 11.283a is for the variable ‘restriction by infrastructure.’ Correspondingly for the state of Jammu & Kashmir the highest Chi – Square 75.561a is for the variable ‘restriction by infrastructure’, while as the lowest Chi – Square value 7.355a for the variable ‘Reach’. The significances values as mentioned in the Table 10.2 significantly differ across the sample state. The Chi – square value for the variable ‘Delivering Promises’ is 34.585a for the state of Andhra Pradesh, where as for the same variable the Chi – Square value is ‘9.282a’ and the significance value for the state of Andhra Pradesh is 0.00 and for the state of Jammu & Kashmir is .054. Similarly for the variable ‘Technical Manpower and Desired Skills Bottleneck’ the Chi – Square value for the state of Andhra Pradesh is 46.967a and for the state of Jammu & Kashmir the Chi – Square Values are 8.618a. The significance value is 0.000 for the state of Andhra Pradesh, where as 0.071 for the state of Jammu &

Kashmir. Which reveals that for the respondents from Andhra Pradesh show significant results where as for the state of Jammu & Kashmir the significance values are insignificant and are higher than 0.05. CHI Square Values on State Wise are given below:

Table 10.2 Chi Square Test Statistics State Wise

Variables	Andhra Pradesh = 424			Jammu & Kashmir = 301		
	Chi-Square	df	Asymp. Sig.	Chi-Square	df	Asymp. Sig.
1. Satisfaction	51.212 <sup>a</sup>	4	.000	25.894 <sup>a</sup>	4	.000
2. Awareness	111.165 <sup>a</sup>	4	.000	31.442 <sup>a</sup>	4	.000
3. Resistance to Change	96.000 <sup>a</sup>	4	.000	19.282 <sup>a</sup>	4	.001
4. Transparency in Dissemination of Information	107.981 <sup>a</sup>	4	.000	53.635 <sup>a</sup>	4	.000
5. Navigability and Friendly design	22.392 <sup>a</sup>	4	.000	44.997 <sup>a</sup>	4	.000
6. Availability of Required Infrastructure to Access	69.561 <sup>a</sup>	4	.000	20.279 <sup>a</sup>	4	.000
7. Information Encryption, Protection and Security	71.967 <sup>a</sup>	4	.000	20.977 <sup>a</sup>	4	.000
8. Updated Information Availability	49.137 <sup>a</sup>	4	.000	10.711 <sup>a</sup>	4	.030
9. Bridging Gap	43.665 <sup>a</sup>	4	.000	25.960 <sup>a</sup>	4	.000
10. Delivering Promises	34.585 <sup>a</sup>	4	.000	9.282 <sup>a</sup>	4	.054
11. Restriction by Infrastructure	11.283 <sup>a</sup>	4	.024	75.561 <sup>a</sup>	4	.000
12. Linguistic Hindrance	62.108 <sup>a</sup>	4	.000	32.206 <sup>a</sup>	4	.000
13. Transcending Across Demographic Constraints	65.764 <sup>a</sup>	4	.000	30.645 <sup>a</sup>	4	.000
14. Open Process and Functions of Working.	42.226 <sup>a</sup>	4	.000	10.346 <sup>a</sup>	4	.035
15. Technical Manpower and Desired Skills Bottleneck	46.967 <sup>a</sup>	4	.000	8.618 <sup>a</sup>	4	.071
16. Offering of Varied Centralized Services	76.212 <sup>a</sup>	4	.000	20.346 <sup>a</sup>	4	.000
17. Integration of Offered Services with Departments	87.533 <sup>a</sup>	4	.000	10.146 <sup>a</sup>	4	.038
18. Reach	65.175 <sup>a</sup>	4	.000	7.355 <sup>a</sup>	4	.118
19. Expansion of Service Delivery Magnitude	54.844 <sup>a</sup>	4	.000	42.272 <sup>a</sup>	4	.000
20. Lessening Role of Human resource in Delivery of Services	84.467 <sup>a</sup>	4	.000	29.050 <sup>a</sup>	4	.000
21. Operationality	82.863 <sup>a</sup>	4	.000	30.545 <sup>a</sup>	4	.000
22. Completeness and Accuracy of Information	56.637 <sup>a</sup>	4	.000	18.983 <sup>a</sup>	4	.001
23. Standardization and Cross Operability	37.816 <sup>a</sup>	4	.000	11.608 <sup>a</sup>	4	.021
24. Impediment by poor infrastructure	81.259 <sup>a</sup>	4	.000	35.694 <sup>a</sup>	4	.000
25. Functional Failure by Poor Technical Skills and Will	96.094 <sup>a</sup>	4	.000	36.392 <sup>a</sup>	4	.000
26. Capacity Building Measures Service Delivery	117.910 <sup>a</sup>	4	.000	32.272 <sup>a</sup>	4	.000

27. Improvement in Government - Citizen Relationships	123.759 <sup>a</sup>	4	.000	35.196 <sup>a</sup>	4	.000
28. Reduction of Corruption	187.910 <sup>a</sup>	4	.000	51.010 <sup>a</sup>	4	.000
29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	166.637 <sup>a</sup>	4	.000	47.355 <sup>a</sup>	4	.000
30. Other Factors	171.542 <sup>a</sup>	4	.000	44.598 <sup>a</sup>	4	.000
31. Cost Effectiveness and Timeliness	208.358 <sup>a</sup>	4	.000	56.824 <sup>a</sup>	4	.000
32. Interactive Atmosphere in Public Sector.	188.146 <sup>a</sup>	4	.000	53.136 <sup>a</sup>	4	.000

Taking the note of statistics presented in Table 10.2, the significance values for the variables at 0.05 level of significance for the variable satisfaction, awareness are 0.00 which, where as the Chi – Square values are more than the critical value, hence the variable are sufficiently impacted by the e – Governance system practices in service delivery through the government departments and public offices. The significance values of the variable ‘Resistance to Change’ for the state of Jammu & Kashmir is 0.001 which is still less than the alpha – 0.05 therefore the resistance is perceived as an obstacle in delivering e – Governance services by the government departments.

Taking look of transparency variable, navigability variable, availability of information and information encryption, protection and security variable, out of all the four variables transparency has the highest Chi – square value for the state of Andhra Pradesh as compared to Jammu & Kashmir. Therefore respondents from Andhra Pradesh perceive strongly that transparency is essential features what e – Governance system delivers to stakeholders and users.

Similarly Chi – Square value of the variable ‘Updated Information Availability’ and variable ‘Delivering Promises’ is higher for the state of Andhra Pradesh and lower for the state of Jammu & Kashmir, correspondingly the significance value is 0.00 for the state of Andhra Pradesh and 0.30 and 0.54 for the state Jammu & Kashmir. Therefore it is established that the respondents from state of Jammu & Kashmir perceive that available information is not fully updated and is not available on real time. Similarly e – Governance fails to deliver promises of good governance in the state of Jammu & Kashmir. Similarly the variable ‘Technical Manpower and Desired Skills Bottleneck’ has higher Chi Square value for the state of Andhra Pradesh and lower

score for the Jammu & Kashmir state. The significance value for Andhra Pradesh is 0.000 where as for the state of Jammu & Kashmir state the significance value is 0.071m which higher than the alpha – 5% therefore it can be revealed that respondents from Jammu & Kashmir perceive Technical Manpower and Desired Skills Bottleneck as non relevant bottleneck in the working of e – Governance System. The variables ‘Offering of Varied Centralized Services, Integration of Offered Services with Departments have Chi square values higher than the critical values therefore it depicts the variable are getting significantly impacted by the e – Governance.

The variable ‘Reach’ for the respondents from the state of Andhra Pradesh has Chi Square value equal to 7.355a which is lesser then critical value at 4 degrees of freedom i.e. 9.488 and significance value equal to 0.118, therefore it depicts that respondents from Jammu & Kashmir have divergent view and perceive e – Governance has no significant impact on extending the reach of e – services to stakeholders from far off rural areas and communities. The variable s ‘Expansion of Service Delivery Magnitude, Lessening Role of Human resource in Delivery of Services, Operationality, Standardization and Cross Operability, Impediment by poor infrastructure, Functional Failure by Poor Technical Skills and Will, Capacity Building Measures Service Delivery have calculated Chi Square Value higher than critical values and the significance value stands 0.00 in all the 7 variables, except for standardization and cross operability which has significance value 0.021 for the Jammu & Kashmir state. This is also within the permissible limit of 0.05 hence is getting impacted by best system practices of e- Governance. The statistics of variables used to study impact of e – Governance on corruption and improvement in government – citizen relationship reveals that Chi Square values are higher than the critical values and therefore there exist sufficient impact of e – Governance on reduction of corruption and improvement of relationships. The significance values are 0.000 for all the three variables, which reveals e – Governance has formidable impact on corruption reduction and government citizen relationship improvement which approves alternate hypothesis. Therefore the Chi Square Statistics and the preferences given by the respondents approve alternate hypotheses and rejects null

hypothesis, H0 e – Governance has no impact on government – citizen relationships and corruption reduction:

- (H1): *e - Governance initiatives are positively related to government– citizen relationships and corruption reduction.*
- (H2): *Improvements in government-citizen relationships account for more corruption reduction as compared to other variables.*

Table 10.3 represent the Chi Square values and the significance values across the 725 respondents from three sectors i.e. 195 respondents from Government sector, 282 from private sector and 248 from other sector. The statistics of the 32 variables reveal that most of the variables have the Chi Square higher than critical value at 4 degree of freedom. The highest Chi Square value in the government sector is for the variable ‘Cost Effectiveness and Timeliness’ i.e. 74.923. Similarly the highest figure in the Chi Square results from private sector is for the variable ‘Reduction of Corruption’ i.e. 107.645. For the respondents from other sector the highest Chi Square value is for the variable Interactive Atmosphere in Public Sector, i.e. 81.597. The results shown in Table 10.3 of Chi Square test reveal that for almost of all cases the Chi Square results are higher than critical values, except in case of variable ‘Standardization and Cross Operability’ where the Chi Square values is 7.363, which is lower than the critical values.

The variable wise distribution of statistics depict that for variable ‘satisfaction’ highest Chi Square value is from the other sector respondents as compared to government sector and private sector respondents. Similarly for the variable ‘awareness, transparency the higher Chi Square values are for the respondents from the private sector. Similarly for the service delivery variables i.e. delivering promises, bridging gaps and updated information availability the higher government, private and other sector respondents show similar distribution pattern of Chi Square. The variable ‘Integration of Offered Services with Departments’ has the Chi Square value in other sector respondents slightly lower than the critical value, which reveals that the respondents from the other sector perceive that e – Governance services are not integrated across departments and hence departments work on isolated basis.

Table 10.3 Chi Square Test Statistics Sector Wise

Variables	Govt. Sector = 195			Private Sector = 282			Other Sector = 248		
	Chi-Square	df	Asymp. Sig.	Chi-Square	df	Asymp. Sig.	Chi-Square	df	Asymp. Sig.
1. Satisfaction	15.744 <sup>a</sup>	4	.003	21.014 <sup>a</sup>	4	.000	27.927 <sup>a</sup>	4	.000
2. Awareness	52.974 <sup>a</sup>	4	.000	59.667 <sup>a</sup>	4	.000	27.161 <sup>a</sup>	4	.000
3. Resistance to Change	56.923 <sup>a</sup>	4	.000	41.830 <sup>a</sup>	4	.000	22.444 <sup>a</sup>	4	.000
4. Transparency in Dissemination of Information	63.231 <sup>a</sup>	4	.000	68.603 <sup>a</sup>	4	.000	30.065 <sup>a</sup>	4	.000
5. Navigability and Friendly design	11.692 <sup>a</sup>	4	.020	28.674 <sup>a</sup>	4	.000	25.710 <sup>a</sup>	4	.000
6. Availability of Required Infrastructure to Access	23.641 <sup>a</sup>	4	.000	23.461 <sup>a</sup>	4	.000	42.202 <sup>a</sup>	4	.000
7. Information Encryption, Protection and Security	22.462 <sup>a</sup>	4	.000	29.738 <sup>a</sup>	4	.000	41.073 <sup>a</sup>	4	.000
8. Updated Information Availability	18.718 <sup>a</sup>	4	.001	15.801 <sup>a</sup>	4	.003	14.339 <sup>a</sup>	4	.006
9. Bridging Gap	16.051 <sup>a</sup>	4	.003	25.199 <sup>a</sup>	4	.000	20.024 <sup>a</sup>	4	.000
10. Delivering Promises	11.282 <sup>a</sup>	4	.024	15.376 <sup>a</sup>	4	.004	17.524 <sup>a</sup>	4	.002
11. Restriction by Infrastructure	9.795 <sup>a</sup>	4	.044	32.184 <sup>a</sup>	4	.000	30.024 <sup>a</sup>	4	.000
12. Linguistic Hindrance	32.667 <sup>a</sup>	4	.000	40.376 <sup>a</sup>	4	.000	13.613 <sup>a</sup>	4	.009
13. Transcending Across Demographic Constraints	19.026 <sup>a</sup>	4	.001	44.099 <sup>a</sup>	4	.000	23.089 <sup>a</sup>	4	.000
14. Open Process and Functions of Working.	14.205 <sup>a</sup>	4	.007	11.794 <sup>a</sup>	4	.019	19.944 <sup>a</sup>	4	.001
15. Technical Manpower and Desired Skills Bottleneck	13.179 <sup>a</sup>	4	.010	24.241 <sup>a</sup>	4	.000	15.024 <sup>a</sup>	4	.005
16. Offering of Varied Centralized Services	32.872 <sup>a</sup>	4	.000	9.986 <sup>a</sup>	4	.041	37.000 <sup>a</sup>	4	.000
17. Integration of Offered Services with Departments	43.077 <sup>a</sup>	4	.000	32.468 <sup>a</sup>	4	.000	9.379 <sup>a</sup>	4	.052
18. Reach	18.051 <sup>a</sup>	4	.001	23.816 <sup>a</sup>	4	.000	25.952 <sup>a</sup>	4	.000
19. Expansion of Service Delivery Magnitude	10.103 <sup>a</sup>	4	.039	58.177 <sup>a</sup>	4	.000	47.645 <sup>a</sup>	4	.000
20. Lessening Role of Human resource in Delivery of Services	29.128 <sup>a</sup>	4	.000	48.248 <sup>a</sup>	4	.000	30.548 <sup>a</sup>	4	.000
21. Operability	29.897 <sup>a</sup>	4	.000	43.496 <sup>a</sup>	4	.000	32.282 <sup>a</sup>	4	.000
22. Completeness and Accuracy of Information	28.256 <sup>a</sup>	4	.000	22.823 <sup>a</sup>	4	.000	20.185 <sup>a</sup>	4	.000
23. Standardization and Cross Operability	29.179 <sup>a</sup>	4	.000	15.518 <sup>a</sup>	4	.004	7.363 <sup>a</sup>	4	.118
24. Impediment by poor infrastructure	19.333 <sup>a</sup>	4	.001	55.624 <sup>a</sup>	4	.000	41.153 <sup>a</sup>	4	.000
25. Functional Failure by Poor Technical Skills and Will	31.128 <sup>a</sup>	4	.000	60.801 <sup>a</sup>	4	.000	37.565 <sup>a</sup>	4	.000
26. Capacity Building Measures Service Delivery	47.026 <sup>a</sup>	4	.000	45.482 <sup>a</sup>	4	.000	52.202 <sup>a</sup>	4	.000
27. Improvement in Government - Citizen Relationships	35.333 <sup>a</sup>	4	.000	67.965 <sup>a</sup>	4	.000	51.315 <sup>a</sup>	4	.000
28. Reduction of Corruption	54.513 <sup>a</sup>	4	.000	107.645 <sup>a</sup>	4	.000	66.395 <sup>a</sup>	4	.000

29. Improvement in Govt - Citizen Relationships Verses Corruption Reduction.	42.821 <sup>a</sup>	4	.000	98.816 <sup>a</sup>	4	.000	64.782 <sup>a</sup>	4	.000
30. Other Factors	51.590 <sup>a</sup>	4	.000	88.106 <sup>a</sup>	4	.000	57.202 <sup>a</sup>	4	.000
31. Cost Effectiveness and Timeliness	74.923 <sup>a</sup>	4	.000	106.475 <sup>a</sup>	4	.000	74.581 <sup>a</sup>	4	.000
32. Interactive Atmosphere in Public Sector.	54.974 <sup>a</sup>	4	.000	101.333 <sup>a</sup>	4	.000	81.597 <sup>a</sup>	4	.000

The variable ‘improvement in government citizen relationships’ has Chi Square Test Value of 35.333 for Government Sector, 67.965 for Private Sector and 51.315 for other sector. The figures reveal that Chi Square figures are higher than the table value at 4 degrees of freedom and therefore it is revealed that e – Governance has significant impact on improvement of government citizen relationships. Similarly Chi square test results for the variable ‘reduction of corruption’ are 54.513 for Government Sector, 107.645 for Private sector and 66.395 for other sector Respondents and the level of significance is 0.000 for all the three sectors i.e. government, private and other sector, therefore the statistics reveals that respondents from all the sector perceive that e – Governance strongly help in reduction of corruption. The Chi square test statistics for the variable ‘Improvement in Govt - Citizen Relationships Verses Corruption Reduction’ depicts that improvement in Govt - Citizen Relationships account for more corruption reduction. The significance values for the variable are 0.00 which strongly represents that improvement in government – citizen relations lead to corruption reduction strongly. The Chi Test Statistics of other variables depict that e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction, the Chi Square test figures are larger than Chi critical values and also the significance values are 0.00 for all the three sectors, which depicts that e – Governance improvement in government citizen relationships have larger role in corruption reduction as compared to e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control.

Therefore the Chi Square Statistics and the preferences given by the respondents approve alternate hypotheses and rejects null hypothesis, H<sub>0</sub> e –

Governance has no impact on government – citizen relationships and corruption reduction:

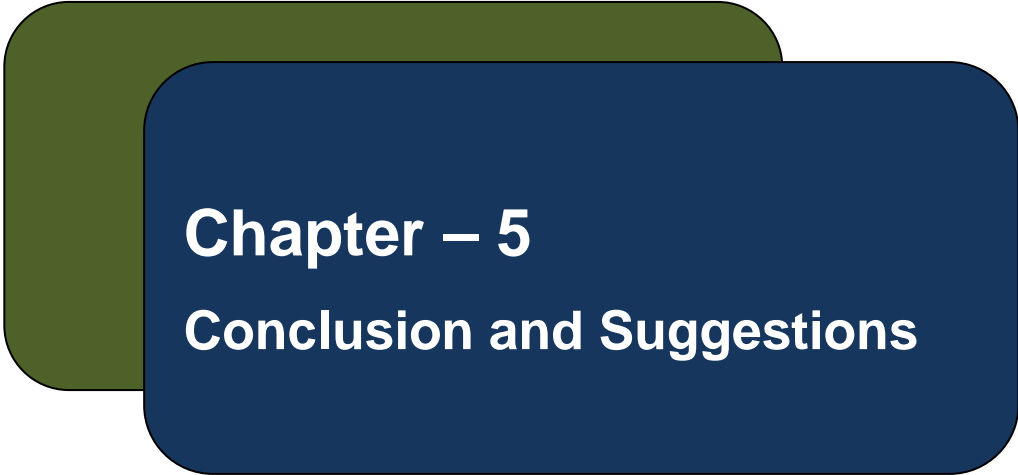
- (H1): *e - Governance initiatives are positively related to government– citizen relationships and corruption reduction.*
- (H2): *Improvements in government-citizen relationships account for more corruption reduction as compared to other variables.*

The variable cost effectiveness and timeliness have the highest Chi Square test value for private sector respondents and lowest test value for other sector respondents. Which depicts the respondents from other sector perceive strongly that e – Governance reduces costs and bring timeliness in the service delivery to the stakeholders. Similarly the variable interactive atmosphere in public sector visualizes the highest Chi Square Test Value in Private Sector respondents category, however all the Chi Values are higher than the critical values, therefore it proves that e – Governance creates interactive atmosphere in working of public sector enterprises.

The next concluding chapter will put forward conclusions, suggestion and will also reveal the future scope of research within the e – Governance domain in relevance to public offices and institutions.

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# Chapter – 5

## Conclusion and Suggestions

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### Chapter Outline

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- Introduction
- Summary of findings and conclusion
- Suggestions
- Scope of future research

# Chapter – 5

## Conclusions and Suggestions

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*In the previous chapter empirical findings were presented in tabulated form with description of fact and figures in comparative as well as theoretical manner. The findings of the research were arrived at after the data collected was subjected to various appropriate statistical tools, procedures and tests. On the basis of the findings an attempt has been made to provide result oriented suggestions as perceived from the statistical facts.*

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### Introduction

Information brings knowledge, knowledge yields empowerment and empowerment, in turn, opens up choices for better livelihood. For the last few decades, governments across the world are under pressure to provide better governance, making governments more citizen-friendly and service conscious instead of being government agency centric, moving towards citizen centric. There are concerted efforts all over to make governments more efficient by reviewing and streamlining the key processes and by adding more value without the need to increase taxes. appreciation that a public sector organization could be more efficient and effective, if it were more like a private sector entity, using market-style strategies and even using incentives to drive public policies better. There are evidences of decentralizing the bureaucracy through empowerment of smaller agencies. There are also felt needs that the potential conflict of intentions between policy making and public service delivery should be eliminated. Slowly but steadily governments are shifting focus from processes and structures to outputs and outcomes, in order to become more accountable to citizens and the public. Governments worldwide are

under pressure to become more transparent, to remain sustainable over their initiatives and to avoid quick fixes and populist measures. There is a constant urge for inclusive development by way of providing development opportunities for all sections of society, especially benefiting rural and traditionally under-served communities. All these goals and objectives are driving the agenda for transformation and reform in the governments. It is the most interesting and fascinating fact that Information and Communication Technology (ICT) can effectively address in fulfilling all the above goals and objectives. It is now evident that ICT can overcome all the boundaries of society and penetrate all sectors of human activity. Over the last few decades, it has proved to be the major driver of an improved quality of life, and specifically of the economic growth. There is a common argument that the ultimate impact of the ICT revolution would be far larger than the industrial revolution, the combustion engine and the telecommunication per se. Through singular adoption of ICT in all sectors of governance and society, it is now possible to march towards an inclusive information society.

However there is a possible caveat in the process of establishing an inclusive information society. It has been established through various surveys in the West that large-scale ICT adoption has provided a higher rate of growth for the economy. The first important aspect of ICT proliferation is that it creates greater proportion of the value in the economy. Let's take a note of the service sector. Use of ICT in service businesses and industry provided much better operating conditions, thereby promoting innovation and value creation. As the technology advances, the scope and depth of e-government services are rapidly expanding. Rural communities, underprivileged communities, are yet to realize the full benefits of e-government services. The promise of e - Government is to engage citizenry in government in a user-centered manner, but also to develop quality government services and delivery systems that are efficient and effective. User-centered e - Government suggests that governments will provide services and resources tailored to the actual service and resource needs of users, including citizens, residents, government employees, and others. Efficient and effective e-Government suggests that governments will gain economies of scale, reduce costs, and provide technology-enabled user services. The

extent to which these goals of e - Government are mutually exclusive is an issue that requires additional study, particularly research that focuses on the relationship between citizen-centered e - Government services and the attainment of cost savings. A key issue is that citizen centered e - Government implies that governments know what citizens want from e - Government, want to meet citizen expectations and needs, and actively seek to discover what citizens want from e - Government. It is evident from above discussion that objectives of achieving e-governance and transforming India go far beyond mere computerization of standalone back office operations. It means, to fundamentally change as to how the government operates, and this implies a new set of responsibilities for the executive and politicians. It will require basic change in work culture and goal orientation, and simultaneous change in the existing processes. Foremost of them is to create a culture of maintaining, processing and retrieving the information through an electronic system and use that information for decision making. It will require skilled navigation to ensure a smooth transition from old processes and manual operations to new automated services without hampering the existing services. This can be achieved by initially moving ahead in smaller informed initiatives in a time bound manner and avoiding large and expensive steps without understanding the full social implications. Every small step thus taken should be used to learn about hurdles and improve upon the next steps, both in terms of direction and magnitude. The proposed changes are likely to be met with a lot of inertia which cannot be overcome by lower and middle level officials with half hearted attempts to diffuse the technology. The change in the mindset to develop and accept the distributed and flat structured e-governance system is required at the top level system to beat the inertia. The rise of e-government has been one of the most striking developments of the web. As the Internet supported digital communities evolve, and assuming that they do indeed grow to incorporate individuals around the country (and globe), they present the national governments with a number of challenges and opportunities.

The movement to e-government, at its heart, is changing the way people and businesses interact with government. e- Government offers a huge potential in seeking innovative way to reach the ideal of government of people, by people and for

people. E-government was taken to international and national development agendas since the mid-1990s due to the benefits it was expected to bring to communities and society as a whole. One overall starting point was that as the society develops towards information society or knowledge-based society, similar kind of development should take place in the governmental sector too. So, e-government is a government that utilizes the emerging opportunities of the information society. The other general aspect is that e-government refers to a transformation in which ICTs are seen as means for restructuring and re-organizing government. As to the trends in the public sector, there is a continuous tendency towards streamlining administrative machinery. Public organizations are becoming nodal points and coordinators in the multi-sectoral governance field. ICTs can be used in making the transition towards more competitive and contractual models of public governance and service delivery. Yet at the same time there is constant pressure to increase transparency, inclusiveness and responsiveness in government, which, together with civic movements and community-oriented governance strategies, constitute a counterforce to neo-liberal or NPM-oriented e-government trend.

### **5.1 Summary of Findings and Conclusions**

The overall study of e – Governance across the states and sectors is based on objectives to improve efficiency, transparency and accountability in provision of public services and make availability of citizen focused services at their door step and enhance internal efficiencies within the public departments and offices. The summaries of statistics which were analyzed in later chapters reveals the impact of e-Governance system practices on good governance in the two states i.e. Andhra Pradesh and Jammu & Kashmir differ significantly with one another.

The status of impact of e - Governance in the state of Andhra Pradesh have been found to be significantly on higher side as that in State of Jammu & Kashmir. It is clear from the findings that State of Andhra Pradesh is leading in the overall e – Governance satisfaction, working and service delivery figures as compared to Jammu & Kashmir State. The state of Andhra Pradesh is mobilizing its resources to enhance service delivery mechanism, which delivers services in far off places and is

integrated with line departments. From understanding of aggregate perception of the respondents it perceived that higher share of respondents from Private and Other Sectors of employment believe strongly that e – Governance can bring transitional change in the working of public offices and organizations. Taking note of respondent’s perceptions across state and sector, it was found that majority of respondents from Andhra Pradesh State are overall much informed and aware of the e – Governance services, projects and initiatives launched at national and state level.

The figures of **satisfaction** with e - Governance initiatives across the states reveals that higher percentage of respondents from the state of Andhra Pradesh are satisfied by the various e – Governance initiatives and services derived thereof, as compared to respondents from the State of Jammu & Kashmir. The basic reason for lower satisfaction index within J&K is non-availability of required service delivery infrastructure within the public domain and weak service infrastructure.

The **awareness** across the states reveal that comparatively higher percentage of respondents from the state of Andhra Pradesh are aware of the e – Governance services and benefits, where as major share of respondents from Jammu & Kashmir are unawares about the availability of e – Governance services, policies and initiatives launched by the state and central governments in Tax Management and Citizen Complaint Registry System. The un-awareness is higher among rural population as compared to urban and basic reason being non- availability of service interaction system in rural areas. The sector wise awareness figures reveal that respondents from Government sector are aware of the e- Governance initiatives however knowledge transfer is not taking place and people from primary sector of employment possess the lowest of all information about the various e – governance initiatives who are beneficial and whose services can render improvement in government – citizen relationships.

The people from both Andhra Pradesh and Jammu & Kashmir have stronger feeling that **resistance to change** act as a hindrance in implementation of fully functional e – Governance system. While as higher percentage of respondents from

government sector have stronger thought that resistance is an obstacle for implementation of e – governance system.

While in understanding the relevance of ease of users with government portals and information outlets / kiosks by **studying navigability and friendly features** higher percentage of respondents from the state of Andhra Pradesh have poor feeling about the navigability and considerable in Jammu & Kashmir lower scores are received. The need to make government websites navigable and maintain information flow the design modules and navigability of data rendered requires to be changed in order to best suit requirements of stakeholders.

The results for the variable **availability of required infrastructure** reveals that infrastructural availability is poor with the stakeholders in both states of Andhra Pradesh and Jammu & Kashmir and certainly there exists bottleneck in service delivery system of e – Governance system. The scarcely available infrastructure within the public domain to access e – Governance services and portals is preventing transfer of benefits to the general public.

The respondents reveal that there exists average to poor information **security and data protection**, while transacting with e – Governance system. The system of protection of personal information is not well designed and secure measures of interaction are not available, hence advanced users avoid using e – Governance system i.e. Tax Filing, Payment & Service Tax Payments, Complaint Registers and other services, which involves user for filing his/ her personal information and contacts.

The perceived preferences across the two sample states reveal that respondents perceive strongly that e – Governance system which includes websites of government departments, public offices, corporations and boards fail to deliver **updated information**. As these web portals are not updated continuously with the updated information, therefore information is not available on real-time basis, which creates negative feeling among the user for the system.

While as majority of respondents from both states of Andhra Pradesh and Jammu & Kashmir perceive that e- Governance can definitely creates options of **bridging the gap** created by redundant, poor functional and standalone working of government organizations and the public. Out of total population under study higher share of respondents are in the agreement that e – Governance delivers the promises of good governance on time and through efficient mechanism. Higher percentage is from the state of Andhra Pradesh as compared to state of Jammu & Kashmir.

Out of total, 60% of stakeholders from Jammu & Kashmir perceive very strongly that performance of e – Governance is restricted to only those who have **requisite connectivity and infrastructure** in place. The mean of 3.50 for Jammu & Kashmir respondents and 3.16 for the respondents from Andhra Pradesh depict that it is perceived by respondents from both of the states that performance of e – Governance is restricted to only those who have requisite connectivity and infrastructure in place.

Taking note of use of **English language** as medium of exchange of information act as a hindrance to citizens who are not well versed with English reveals that higher share of citizens from state of Andhra Pradesh perceive that use of English language do act as hindrance, while transacting with the e – Governance system.

Similarly higher share of stakeholders from the state of Andhra Pradesh strongly feel that e – Governance transcends **across gender, geography, income level, socioeconomic status**, vested business interests, and political hierarchies in comparison to Jammu & Kashmir respondents, which depict that in J&K the benefits of e – Governance are limited to particular group or section of society, where as transfer of benefit is not taking place.

The perception that e - government will bring structural changes in governance system and create more **open process and functions of working** is on higher side for the Andhra Pradesh respondents in comparison to Jammu & Kashmir



respondents, which depict that the current and past e – Governance initiatives in Andhra Pradesh are running successfully in bringing transparency in the system.

The issue of **lack of technical manpower and desired skills** has been biggest bottleneck in delivering promises of e – Governance; it is being the turning stone in working and service delivery system of e – Governance. The perception across the sample population depicts divergent views, where as higher ratio of respondents from the state of Andhra Pradesh strongly perceive in comparison to Jammu & Kashmir respondents that technical manpower and desired skills act as bottleneck.

Taking note of the services offered through the service outlets and their **integration** across with various departments it is perceived that higher ratio of the population from the state of Andhra Pradesh are on the stronger agreement that e – Governance services delivered through the departments are win integrated across with various departments and therefore the cross integration of services reduce the latency time and improves service delivery function of the governments.

It is revealed that higher share of respondents from the state of Andhra Pradesh are having strong feeling that the **community information centers are connected with Market**, Mandi's and therefore give information of commodity prices in far off rural areas in comparison to respondents from the state of Jammu & Kashmir, therefore it can be understood that the e – Governance initiatives in Andhra Pradesh are connected to market and delivery the market related information in the far off places.

Taking note of government service delivered through information outlets, web portals, kiosks, which have **expanded service delivery magnitude** of Govt. it is revealed that stronger share of respondents from the state of Andhra Pradesh and Jammu & Kashmir perceive on similar lines that e – Governance has expanded the service delivery magnitude of the government offices and organizations.

While as the role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e – Governance, which is

perceived strongly by the respondents from both Andhra Pradesh and Jammu & Kashmir. While as the e – Governance creates the mechanized system of delivery of services and information, but still the scope of human is not rejected as the basic functioning and working of the system are administered by the humans, whether be updating information in the system or assistance in solving public issues and grievances.

In view of respondents from Andhra Pradesh and Jammu & Kashmir higher percentage of respondents perceive that the e – Governance service delivery mechanism **operates on 24X7**, which reveals that the information available by the e – Governance system is available round the clock. Whereas as average percentage of respondents perceive that the information available on e – governance websites, portals etc. of governments is **complete in all respects and accurate**, which is serious concern for the policy makers, implementer and functional consultant who are responsible for implementation and working of e – Governance system. Correspondingly respondents depict poor agreement that the design, content of information, file formats are of standard type hence there exist no issue of cross operability. Seemingly there exist issue of cross operability and adopting the standard of exchange of information between the provider and subscribers.

Similarly it is perceived by the respondents under study that the **poor infrastructure demand for functional e – Governance system** act as impediment in delivering electronic services to citizens. Figures reveal that similar responses are from both Andhra Pradesh and Jammu & Kashmir respondents, therefore infrastructure demand to cater the larger public domain to access e – Governance system act as impediment in delivery of services. It is perceived that the lack of technical skills and lack of will to implement e – Governance system result in total functional failure. From statistics it is revealed that higher perception of respondents from both Andhra Pradesh and Jammu & Kashmir strongly perceive that lack of technical skilled manpower is creating bottleneck for service delivery to the stakeholders.

Similarly the importance of **capacity building measures** in delivering e – Governance services reveals that stakeholders from Andhra Pradesh have strongly feeling that the requirement of capacity building measures is important to deliver e – Governance services, where as respondents from Jammu & Kashmir also depict similar stronger perceived preferences exemplifying the importance capacity building measure in delivering of e – Governance services. Similarly taking note of importance of e - Governance in improving government – citizen relationships which is creating better atmosphere of information sharing between the government organization and citizens. From the overall statistics it is perceived that higher percentage of respondents are into consideration that e – Governance is absolutely creating system of better information sharing and similarly helps in reduction of corruption in the public departments and offices.

Higher ratio of respondents from both of Andhra Pradesh and Jammu & Kashmir perceive strongly **that e – Governance is bringing the level of corruption down**, by creating **transparency in the system**. Correspondingly from the overall analysis of data it is perceived that e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction.

In purview of data available the perceived preferences of respondents reveal that e – Governance brings **efficiency in the working of the government department by decreasing the costs incurred and streamlining system**. Similarly e – Governance creates an interactive atmosphere within the public domain and represents the new changed facet of the government – citizen interaction.

## 5.2 Suggestions

The concept of e – Governance is of divergent importance for the developing worlds and is the outmost capable service delivery mechanism of interaction between government – citizens, government – business and government – government offices. The benefits that e – Governance delivers comes with huge cost of implementing which runs in hundreds of crores. The cost – benefit analysis of the

system which is so vast and so spread across spheres is really a toughest task to perform. However it is revealed that with the time the benefits start to flow from the e – Governance system and therefore future impact is important focus of the researchers. While from the present research it is perceived that there is requirement of building a congenial environment, which can mostly be done by providing political support at the highest level for successful implementation of e- governance initiatives.

There is also need for Identification of e-governance projects and prioritization, accordingly the e – Governance projects. Similarly areas which are underperforming in the present governance situation need to be analyzed and systematic e – Governance solution need to be evolved and opted which better suits and adheres to functioning of the organization. Correspondingly Business Process Re-engineering need to be done prior to commissioning of e – Governance system it is recommended that governmental forms; processes and structures should be re-designed to make them adaptable to e-Governance, backed by procedural, institutional and legal changes.

Also there is requirement of capacity building and creating awareness, emphasis should be on creation of network of training institutions needs to be created in the State with the Administrative Training Institutes at the apex for delivering training to the employees in order to come over resistance to change within the system which act as inertia. The Administrative Training Institutes in various States should take up capacity building programmes in e-Governance, by establishing state e-Governance wings. These Administrative Training institutes need to be strengthened under the NeGP. Also there is need to Develop Technological Solutions emphasizing on 'enterprise architecture' frame wise observing. The Implementation of e – Governance is an important category as governance projects are known to fail quite frequently, in addition to familiar observations on project management the focus is on websites and change management, two items important in their own rise. Similarly Monitoring and Evaluation, it suggested routine observation and cost – benefit analysis need to be performed, to ascertain return of e- Governance initiative. Also Departments of Information Technology at the Union and State Government

levels short provide institutional support to other departments and organizations in implementation of e-Governing projects identified and conceptualized by them and Public- Private Partnership (PPP) should be the preferred mode of creating e – Governance system for service delivery. There is need to develop a critical information infrastructure assets protection strategy. This should supplement with improved analysis and warning capabilities as well as improved information on threats and vulnerabilities. State Data Centres (SDCs) should be maintained by Government agencies such as NIC as involves handling of sovereign data. Doing Mission Mode Projects, the Commission on e – Governance, should makes a number of recommendations including use of annual performance appraisal report for recording performance in governance.

There is requirement of drafting a clear road map with a set of milestones should be outlined by Government of India with the ultimate objective of transforming the citizen-government interaction at all levels to the e-Governance mode by 2020. The Union and State Governments should take proactive measures for establishing Knowledge Management systems as a pivotal step for administrative reforms in general and e - Governance in particular. There is strong requirement of that entire passport issue process needs to be put on an e - Governance mode in phases so that accessing e – Governance interfaces makes citizen feel at ease and creates interactive atmosphere in the service delivery network across the state and central government.

### **5.3 Scope of future research**

Today, e-government has become a recognized research domain, as well as an established public policy area worldwide, including the EU and Member States levels. A modernized ICT-enabled government is acknowledged as a key condition in promoting the growth and competitiveness of the European knowledge society. The Indian e-governance story began with a vision of redefining the scope of the relationship between the citizens of India and its government. It was, and will continue to be about the use of IT and communication technologies, to deliver public services in a convenient, customer-centric and cost-effective manner. However, it is easier said than done for there exist process related challenges and sociopolitical

bottlenecks that are preventing the Indian e - Governance story from realizing its full potential. Outlining some key problems facing the e - Governance initiatives in the country. It is noted that despite its best intentions a basic flaw exists in the government's strategy i.e. strategic inclusion of the entire population and not just the masses residing in the metros, smaller towns and semi-rural areas. Lot of projects are talk about extending services to the far corners of the country right down to the last village, but it is not reflected in the kind of applications being rolled out by state and federal governments. For instance hardly anything is being done in the case of health and education; services affect virtually every citizen of this country. Limited access to what many in metros and smaller town may now consider basic technologies such as the Internet are not available to the masses in rural areas. Hence, despite having systems for facilitating electronic transactions, people still have to make trips to their local center, which more often than not is plagued with infrastructural issues. It is eluded to understand, how a true e-governance system by definition requires the least amount of human intervention where decisions on cases are system-driven rather than by individuals. So there is need to keep continuously learning from successful projects of the past and even the failures and innovate new designs for rolling out future services. There is need for a good balance between optimism for the future and will to sustain the pace of implementing e – Governance initiatives. Therefore the future research areas can be capacity building measures and infrastructure divide, process re – engineering, design and development. Similarly ICT & HR Policies and practices within the e- Governance domain are futuristic thoughts, which need research oriented approach to develop better understanding and application of e - Governance within public domain

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# References

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## Chapter Outline

- 
- Questionnaire
  - Bibliography

THE BUSINESS SCHOOL,  
THE UNIVERSITY OF KASHMIR, SRINAGAR,

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**Impact of e – Governance System Practices on Good Governance in India  
– An Empirical Study.**

In partial fulfillment of the requirements of Masters in Philosophy in Management Studies,  
University of Kashmir  
Under the supervision of  
**Dr. S. Mufeed Ahmad,**  
**Professor, Business School, University of Kashmir.**

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**Sir / Madam,**

E – Governance is one of the most accepted standard of delivering varied services to common citizens through Government – Citizens interfaces like websites, kiosks, community information system and portals. The system of e – Governance delivers the benefits of constant coordination, transparency, accountability and time bound services to citizens. Therefore the e – Governance plays an important role in developing system governance which works on efficiency and effectiveness of public offices or service delivery organisations.

In this connection the present questionnaire has been designed and administered to elicit fair responses from respondents which include e – Governance Policy Makers, Bureaucrats, Researchers, Citizens, Interest Workgroups, Institutions and University Faculties. The aim is to draw certain inference that is relevant to the parameters set for the present study. A number of statements are given and enclosed in questionnaire describing the e – Governance functional environments of the sample study population. You are requested to kindly give your responses on each statement of the enclosed questionnaire using the five point scale.

Your co-operation is anticipates to make this survey a success.

Thanking you in anticipation,

Yours Faithfully,  
Sd/-  
(Owais Charag)  
Research Scholar



**Impact of e – Governance System Practices on Good Governance in India  
– An Empirical Study.**

Questionnaire on e – Governances System Practices

The rating for every question had to be done on a scale from 5 to 1 as given below:

**5 – Totally Agree**  
**2 –Disagree**

**4 –Agree**  
**1 – Totally Disagree**

**3 – Don’t Know**

You are requested to kindly tick mark  as the response in the relevant boxes which in your opinion is most appropriate and true. No response is right or wrong. It is necessary to respond to all of the statements in the questionnaire. Kindly co-operate and give your fair and frank reply with honest view. The information is exclusively used for academic and research purposes your personal information will be kept confidential and safe.

**1. General View**

S. No	Statements	Scale Values				
1.1	e – Governance initiatives launched by state government in Tax Collection, Transport , Secretariat, Complaint Monitoring, High Court are citizen satisfactory	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.2	State & Central Government’s policy on creating sustainable infrastructure like State Wide Network, State Data Centre, and Networking Departments etc will render best e – Governance System in our state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	The resistance to change act as an obstacle to implement functional e – Governance System.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**2. Functional Issues:**

2.1	e – Governance system disseminates information in a very transparent manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.2	The government information portals, websites, orders, policies, rules and regulations are easily navigable and have friendly design.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.3	The required infrastructure to access the e – Governance system is available with public domain	5	4	3	2	1
2.4	The information available through online medium is, encrypted, protected and secure	5	4	3	2	1
2.5	The departments have fully updated information available on internet	5	4	3	2	1

**3. Performance:**

3.1	The gap created by redundant, poor functional and standalone working of government organisations will be bridged by e – Governance system.	5	4	3	2	1
3.2	e – Governance delivers the promises of good governance on time and through efficient mechanism	5	4	3	2	1
3.3	The performance of e – Governance is restricted to only those who have requisite connectivity and infrastructure in place	5	4	3	2	1
3.4	The use of English language as medium of exchange of information act as a hindrance to citizens who are not well versed with English	5	4	3	2	1
3.5	e – Governance transcends across gender, geography, income level, socioeconomic status, vested business interests, and political hierarchies	5	4	3	2	1
3.6	E - government will bring structural changes in governance system and create more open process and functions of working.	5	4	3	2	1
3.7	The lack of technical manpower and desired skills has been biggest bottleneck in delivering promises of e – Governance	5	4	3	2	1

**4. Cross Features:**

- |     |  |          |          |          |          |          |
|-----|--|----------|----------|----------|----------|----------|
| 4.1 | The e – Governance portals, kiosks, information outlets, common information centers offer varied centralized services under single roof        | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |
| 4.2 | The services offered through the service outlets are integrated across with various departments  | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |
| 4.3 | The community information centres are connected with Market, Mandi's and therefore give information of commodity prices in far off rural areas | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |

**5. Service Delivery:**

- |     |   |          |          |          |          |          |
|-----|---|----------|----------|----------|----------|----------|
| 5.1 | The government service delivered through information outlets, web portals, kiosks has expanded service delivery magnitude of Govt.      | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |
| 5.2 | The role of human resource agent is not valid in delivery of e – governance services as human interaction is lessened by e - Governance | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |
| 5.3 | The e – Governance service delivery mechanism operates on 24X7  | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |

**6. Service Contents:**

- |     |   |          |          |          |          |          |
|-----|---|----------|----------|----------|----------|----------|
| 6.1 | The information available on e – governance websites, portals etc. of governments is complete in all respects and accurate. | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |
| 6.2 | The design, content of information, file formats are of standard type hence there exists no issue of cross operability.     | <b>5</b> | <b>4</b> | <b>3</b> | <b>2</b> | <b>1</b> |

## 7. Working:

7.1	The poor infrastructure demand for functional e – Governance system act as impediment in delivering electronic services to citizens.	5	4	3	2	1
7.2	The poor technical skills and lack of will of a e – Governance system result in total functional failure	5	4	3	2	1
7.3	The requirement of capacity building measures is important to deliver e – Governance services.	5	4	3	2	1

## 8. Impact:

8.1	The e – Governance improves government – citizen relationships which will result in better information sharing.	5	4	3	2	1
8.2	The e – Governance system delivers promises of good governance by reducing corruption.	5	4	3	2	1
8.3	The improvement in Govt - Citizen relationships account for more corruption reduction.	5	4	3	2	1
8.4	e - Governance Policy, Business Process Re-engineering, Information Dissemination and Control has lesser role in corruption reduction	5	4	3	2	1
8.5	e – Governance initiatives bring advantage of cost effectiveness and timeliness in public organisation	5	4	3	2	1
8.5	The e – Governance Projects have created interactive atmosphere in public sector.	5	4	3	2	1

**Personal information of respondent**

Name:

Residence:

Age: 20 – 30, 31 – 40, 41 - 50, 51 – 61, Above 61

Gender: Male / Female

Educational Qualification: Under Graduate, Graduate, P.G, Or Above

Occupation: Self Employed, Govt. / PSU Employee, Student, Unemployed

e – Mail ID:

Contact No (if any):

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