FINAL SYNOPSIS

TOWARDS PARTIAL FULFILMENT OF THE Ph.D DEGREE

ON

"The Impact of e-Governance in Public Utility Service Sector in India"

SUBMITTED BY

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UNDER THE GUIDANCE OF

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Signature of the Guide : ________________________________
DECLARATION

“I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, neither it contains material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or higher learning, except where due acknowledgment has been made in the text”

Place: Mumbai  
Date:  
Signature  
Name: Jaya Iyer  
(Ref.No.Acad: RRC-26/2009-10/901)
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<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>G2B</td>
<td>Government to Business</td>
</tr>
<tr>
<td>G2C</td>
<td>Government to Customer/Citizen</td>
</tr>
<tr>
<td>G2G</td>
<td>Government to Government</td>
</tr>
<tr>
<td>G2E</td>
<td>Government to Employee</td>
</tr>
<tr>
<td>ICT</td>
<td>Information and Communication Technology</td>
</tr>
<tr>
<td>IT</td>
<td>Information Technology</td>
</tr>
<tr>
<td>e-Governance</td>
<td>Electronic Governance</td>
</tr>
<tr>
<td>E-Government</td>
<td>Electronic Government</td>
</tr>
<tr>
<td>SMART</td>
<td>Simple, Moral, Accountable, Responsive and Transparent</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
</tr>
<tr>
<td>G2N</td>
<td>Government to Non-governmental organization</td>
</tr>
<tr>
<td>UNES</td>
<td>United Nations e-Government Survey</td>
</tr>
<tr>
<td>UTAUT</td>
<td>Unified Theory of Acceptance and Use of Technology</td>
</tr>
<tr>
<td>TAM</td>
<td>Technology Acceptance Model</td>
</tr>
<tr>
<td>TRB</td>
<td>Theory Of Reasoned Action</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

1.1. Background of the Study
E-Governance refers to the application of information technology (IT) to improve the services provided by the government sector to benefit the citizens. IT is changing rapidly, and it is almost essential for the government to use the IT services in an effective way to provide hassle-free services to the citizen. Information and Communication Technologies (ICT) have witnessed to a significant boom in the current century. ICT is a versatile tool for the government to bring the public close to it and understands every potential need of the citizens to give them the finest possible services by inspiring, encouraging and empowering the public to participate actively in policy-making and promises a transparent use of public funds (Sigdel, 2007). ICT is the best one to redress citizens’ delays in getting information from the government, and it is a key instrument that supports the government for good governance. E-Governance has the ability to govern with unfurling transparency, accountability and assist them drastically to reduce the cost of government business operations (Harris, 2000). Citizens expect their services at their door step to get more updated information. With the increase in the popularity of the internet, citizens want to access the information through government websites.

1.2. Introduction to Government
A stream of thoughts springs from my mind to give the actual meaning for the term governance. Many definitions are offered from many authors. To my knowledge, all are true. Scripts from south India refer to the word “Aarasan” or “Mannan” to the ruler or king. King being unquestionable supreme authority took a great interest to solve and satisfy all the problems of his subjects. On the other hand, in a democratic country like India, representatives are elected by a ballot system. The political party which wins majority of votes in the election forms the government.

The term governance has lots of definitions. The word governance comes from an ancient Greek word Kebernon, which means to steer, to rule, to control, work through authorities. Former Secretary Kofi Annan defines “Good Governance is perhaps the single most important factor in eradicating poverty and promoting development.” The same term is referred by the former American President Abraham Lincoln in his famous quote, “The
government is by the people, for the people and of the people." Be it, a democratic or a dictatorship Lincoln' philosophical principles can be seen partially or fully.

What is called a government? Why do we need a government? What is the functional purpose of a government? The New Oxford English dictionary defines government as “the system by which a state or community is governed” or “the action or manner of controlling or regulating a state, organization, or people." An etymological view may shed some light. The word “govern” originates from Middle English, from Old French governor, from Latin gubernare meaning “to steer or rule", and from the Greek kubernanor “to steer”. Let us put some determined attempts to get more clarity to understand the meaning of the word government and governance. The invention of ICT gained a great popularity to replace the manual government to E-Government and governance to E-Governance. In other words, it helped to convert the manual system of keeping all the information to an electronic system. Globally, the electronic system acclaimed public praise for its transparency, accountability and for its marked accuracy and efficiency.

“Government can be said is an extension of Governance or Govern”, giving the same meaning. Government is an influential body, a tool to serve, to promote, to move forward, and to reach a higher level or position of its citizens.. The word govern is a powerful verb, giving the meaning to direct, to control, to rule with authority. In fact, e-Governance system is a power-packed mechanism in the ocean of science thrown out by the mighty wave of ICT. ICT is an empirical product and provides a platform where people interact with each other. E-Governance provides the easiest and gives better ability to manage all the governing affairs. The main concept of e-Governance is to pay more attention to public good and business interest and also concentrates on revenue maximization.

1.3. e-Governance

e-Governance is an expanded form of e-Government aided by ICT, stresses the need of a finely analyzed order to implement it with its uncompromising designs and policies for a successful system. We cannot put all the concept and meaning of e-Governance in a simple one definition. It is principally focuses on responsibilities of a politically elected government to meaningfully interact with citizens to attain the goal of socio-economic policies.
E-Governance has turned the whole attention towards it in governing process all over the world. It is not to post all necessary information on the government website, but it is a process of reformed governance. E-Governance denotes the application of IT (Information Technology) to the process of government functioning in order to bring about better governance, which has been an innovative term as SMART (Simple, Moral, Accountable, Responsive and Transparent ) (Budhiraja, 2003). All the developed nations of the world such as U.S.A, U.K, Canada, Australia and Singapore have adopted IT in a big way for e-Governance. Developing nations like India, China, Sri Lanka, Philippines, and Brazil, are also progressing well in e-Governance implementation.

E- Governance is an evolutionary one and Information and Communication Technologies (ICT) works on model based. It seeks to be fully aware of processes and structures for harnessing the potentialities of ICT at various levels of government and others, for the purpose of enhancing good governance (Bedi et al., 2001; Holmes, 2001; Okot-Uma, 2000, Saxena, 2005). Many other authors also have defined e-Governance in broader perspective covering both internal and external linkages through the use of Information and communication technologies (ICT). (Heeks, 2001; Marche & McNiven, 2003; Zwahr et al. 2005; Grant & Chau, 2005).

Electronic governance or e-Governance has been defined in a variety of ways. E-Governance is about a process of reform in the way governments work, share information, and deliver services to internal and external clients. E-Governance refers to the use of information and communication technologies (ICT), as such the wide-area networks, mobile phone, etc. to deliver services to citizens, have the ability to transform relations with clients, businesses, and other arms of government. Bhatnagar (2002) defines “E-Governance is a process of reform in the way Governments work, share information, engage citizens and deliver services to external and internal clients for the benefit of both government and the clients that they serve”.

Katherine Reilly (2002 cited in Nagamatsu & Tandon (2004)) defines E-Governance is that form of governance, which seeks to realize processes and structures by potentialities of information and communication technologies (ICT) at various levels of government and the public sector and beyond for enhancing good Governance.
E-Governance is beneficial to the citizens, especially in developing countries. The implementation process is in the developing phase. Benefits included faster delivery of services (Palanisamy, 2004), transparency in government decision making (Singla, 2002), accountability (World Bank 2001; Singla, 2002), real-time access to up-to-date information (Verton, 2000; Deakins & Dillon, 2002), administrative efficiency (Zipf, 2001), access to Internet technology (Bhatnagar, 2002), revenue generation (Deakins & Dillon, 2002), reduction of transaction cost and (Tulip, 2000), citizen-centered services (Sealy, 2003, Radhakumari, 2006).

1.4. Comparison between e-Government and e-Governance

In the process of defining e-government / e-Governance, Gronlund (2005) stresses that government has an obligation to ensure data accessibility to a broad segment of the public. He explains by saying that in every society, there are socio-economic distinctions, so that the data posted on government web pages must be simplified, i.e. written in a popular style. Adding to this, Scott says that it is very important to satisfy public needs and recommends that every government be citizen-oriented (Scott et al., 2005). The concepts of e-government and e-Governance are often interchangeable. They are used as virtual synonyms in various research projects, although there is a slight difference between them. Saxena (2005) suggested a fundamental difference between e-government and e-Governance. He defined the government as an institution which proposes, adopts, and implements concepts of governance on state or local community levels. On the other hand, the support from the government alone is not required for governance because it can be promoted by non-government organizations, companies, etc. When government and governance are viewed only within the framework of state institutions, it may be concluded that governance refers to the implementation of decisions that have already been made, while government deals with decisions, which are implemented through e-Governance. The success of implementation characterizes and contributes to the quality of the services which are offered to the public. These two words, E-Government and E-Governance look like having the same meaning, but they have different concepts. E-government defines the relationships between government and citizens, users, public agencies. However, the e-Governance is a tool, a path to establish the ideas of the e-government to reach the users. It can be compared with human eyes, though we have two eyes, we can look only one object at a time. In the same way, the two terms governance and government look at one objective that is to satisfy citizens need.
1.5. Various Categories of E-Governance

E-Governance is classified as government to citizen (G2C), government to government (G2G), government to business (G2B), government to NGO (G2N) (Sachdeva 2003). These four categories hold good to provide enough information to the public and is published on the websites to draw the attention of the citizens to have easy access of information for getting online services. This G2C initiative makes an important chain or link deals with a relationship between the government and citizens. It provides the excellent service in the fields of communication, makes responsible for accountability, and in democratic way it equips with knowledge to handle the public affairs with supporting environments. The government took great efforts through G2C to provide public utility services such as filling of tax returns, renewal of licenses, paying electricity bill, telephone bill etc. This wonderful system acquired a great success and public took great interest to participate and exchange information with government and showed their great satisfaction. It provides all the necessary information for all walks of life right from the ordinary man to business, legal and establishes a strong relationship between public and private service sectors.

G2G means the whole transaction affairs and the relationship between government organizations, to make it clear national, state and local government organization or other foreign government. It is very difficult for a government to look after all the affairs such as to deliver all the services in a single access point, therefore a government appoints, collaborate and co-operate with different governmental department and various agencies to have a smooth delivery system.

G2B envelops the business transaction through electronic mechanism between the public and private agencies. The present trend of business is being done by e-commerce. It facilitates the business community to see their sales graph travels upwards all the time and cost downward. Business is a highly competitive one but a well integrated public-private partnership will make the growth of business economy an unparallel through a single window portal.

The introduction of G2E with its broad wings particularly country like India with vast population and with large number of state governments and local bodies with lakhs of employees, gives the best solution to cover employment opportunities, the details of work rules and regulation, salaries, wages structure, provident fund, gratuity, bonus, leave
provisions and leave travelling allowance etc. The benefits of G2E are many though all cannot be listed but to mention a few here are low cost services, to maintain law and order, tax payment includes the guidance to above activities. In addition to the above it also includes government and local bodies’ provision for the employee housing, medical assistance, loans for children studies etc. It also guarantees the G2E relationship and increases their working efficiency. It also focus’ on building up a strong bondage to interact between the G2E to take necessary quick decisions to speed-up all the employee needs.

1.6. ICT and Governance

ICT is an integral part of development strategies of both developing and developed countries. It has great potential to bring in the desired social transformations by enhancing access to people, services, information and other technologies (Dutton et al., 2004). In India, for instance, e-government research is in its nascent stages (Gupta and Jana 2003) and a country with huge population can hardly afford to be left behind in harnessing the benefits of implementing e-government. (Bhatnagar, 2002).

Application of ICT in the processes of governance can be considered in two categories viz. for improving government processes and secondly for building interaction with and within civil society. The examples of the former category are: dissemination of public information grievance redressal mechanisms, utility payments and billing services (Mitra and Gupta, 2003). With the advancement of ICT e-Governance helps to solve the citizens’ day-to-day problem effectively and efficiently with a considerable reduction in cost, time and skill.

1.7. Public Utility Service Sector

Public organizations are those organizations which are owned solely by the government of the country. The public organization can be defined as: “A Public organization is an organization whose primary goal and mission is to provide goods or services that benefit members of the public and stockholders and owners of the organization” (Gortner.et. al, 2007). “Public organizations are fundamentally unlike private organizations in their legal, economic and political nature and roles. Public organizations exist for different purposes than private organizations. They are controlled and funded directly by the government. Their determinant for success is not simply profit, but they are held accountable to constituencies” (Gortner.et. al, 2007).
Public sector organizations have now began to understand the enormous benefits of leveraging Internet technologies to improve electronic government applications both internal processes and interactions with external constituencies (Chircu and Hae-Dong Lee, 2003; Lenk and Traunmueller, 2000b). Public services through e-Governance offers a wide spectrum of citizen friendly services that would save time spent for co-ordination’s around various departments to do their task like payment of utility bills, certificates, permits and licenses etc.

1.8. World E-government Ranking

Finding the facts from the United Nations E-Government Survey 2014 (UNES), online services continue to progress appreciably to adopt and follow e-government initiatives and ICT applications to improve their efficiency in public services and administration. UNES 2014 possibly reflects the importance given to the e-government, to deliver their services with great emphasis and pictures the important aspect of this implementation to increase and widen the scope of ICT role. The impending nature of adaptability and flexibility of ICT provides strong pillars to build upon an effective transformative system, to emphasize the importance of transparency, accuracy and accountability. TABLE-1.1 shows the top 20 developed countries World E-government ranking 2014 from UNES. Out of the 20 countries, the index points 11 are from Europe (55%), 5 are from Asia (20%), 2 countries from America (8%) and 2 from Oceania (Australia and New Zealand, 8%). The Republic of Korea (0.946) topped in the index to the first position, achieved the greatest e-government development index. Australia (0.910), Singapore (0.908), France (0.894) and Netherland (0.890) placed consecutive positions in the e-government development index for the year 2014. Top 20 developed countries stand as inspiring leaders to follow other developing countries by their unflinching services and gained greater satisfaction in providing online services. This certainly will motivate to take initiative for further progress to keep up and upgrade to par with other developed countries with negligible margin in e-government system.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Country</th>
<th>E-government development index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Republic of Korea</td>
<td>0.946</td>
</tr>
<tr>
<td>Rank</td>
<td>Country</td>
<td>E-government development index</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>2</td>
<td>Australia</td>
<td>0.910</td>
</tr>
<tr>
<td>3</td>
<td>Singapore</td>
<td>0.908</td>
</tr>
<tr>
<td>4</td>
<td>France</td>
<td>0.894</td>
</tr>
<tr>
<td>5</td>
<td>Netherlands</td>
<td>0.890</td>
</tr>
<tr>
<td>6</td>
<td>Japan</td>
<td>0.887</td>
</tr>
<tr>
<td>7</td>
<td>United States of America</td>
<td>0.875</td>
</tr>
<tr>
<td>8</td>
<td>United Kingdom</td>
<td>0.870</td>
</tr>
<tr>
<td>9</td>
<td>New Zealand</td>
<td>0.864</td>
</tr>
<tr>
<td>10</td>
<td>Finland</td>
<td>0.845</td>
</tr>
<tr>
<td>11</td>
<td>Canada</td>
<td>0.842</td>
</tr>
<tr>
<td>12</td>
<td>Spain</td>
<td>0.841</td>
</tr>
<tr>
<td>13</td>
<td>Norway</td>
<td>0.836</td>
</tr>
<tr>
<td>14</td>
<td>Sweden</td>
<td>0.823</td>
</tr>
<tr>
<td>15</td>
<td>Estonia</td>
<td>0.818</td>
</tr>
<tr>
<td>16</td>
<td>Denmark</td>
<td>0.816</td>
</tr>
<tr>
<td>17</td>
<td>Israel</td>
<td>0.816</td>
</tr>
<tr>
<td>18</td>
<td>Bahrain</td>
<td>0.809</td>
</tr>
<tr>
<td>19</td>
<td>Iceland</td>
<td>0.797</td>
</tr>
<tr>
<td>20</td>
<td>Austria</td>
<td>0.791</td>
</tr>
</tbody>
</table>

1.9. E-Governance Initiatives in India

India with great population emerged to show its ability. Being strong and serious in its aim the government has taken positive steps to provide valuable and factual information through ICT. India’s greatest strength is information Technology (IT). Though we have highly disciplined wizards in ICT fields the desired policies, aim and objectives to provide simple, efficient, accurate services to public are held back due to non-building of adequate infrastructure, lack of literacy, poverty, political instability and high level of corruption etc. Having all the said setbacks, India has registered an unspeakably a commendable progress in the socio-economic scenario and this will encourage India to go further to make all the so called impossible things possible through ICT.
TABLE 1.2: E-GOVERNMENT DEVELOPMENT IN LARGEST POPULATION COUNTRIES

<table>
<thead>
<tr>
<th>Country</th>
<th>E-government development Index</th>
<th>World E-government development ranking</th>
<th>Population (in billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>0.5359</td>
<td>78</td>
<td>1,355</td>
</tr>
<tr>
<td>India</td>
<td>0.3829</td>
<td>125</td>
<td>1,226</td>
</tr>
<tr>
<td>United States</td>
<td>0.8687</td>
<td>5</td>
<td>318</td>
</tr>
<tr>
<td>Indonesia</td>
<td>0.4949</td>
<td>97</td>
<td>253</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.6167</td>
<td>59</td>
<td>202</td>
</tr>
<tr>
<td>Pakistan</td>
<td>0.2823</td>
<td>156</td>
<td>196</td>
</tr>
<tr>
<td>Nigeria</td>
<td>0.2676</td>
<td>162</td>
<td>177</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>0.2991</td>
<td>150</td>
<td>166</td>
</tr>
<tr>
<td>Russian Federation</td>
<td>0.7345</td>
<td>27</td>
<td>142</td>
</tr>
<tr>
<td>Japan</td>
<td>0.8019</td>
<td>18</td>
<td>127</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.6240</td>
<td>55</td>
<td>120</td>
</tr>
</tbody>
</table>

1.10. Need for the Study

E-Government systems were introduced by the public sector in developed and developing countries to improve efficiency, effectiveness, and transparency (World Bank 2007a). There were lots of studies conducted in the e-Governance domain, (Carter and Belanger, 2005; Warkentin, et al., 2002; Foteinou, 2011; AlAwadhi and Morris, 2008; Rana et al., 2011). The existing literature review showed that there is a very little study has been undertaken in the area of “the impact of e-Governance in India” (Barua, 2012; Bhatnagar, S. C, et al., 2010; Dwivedi & Bharti, 2010). The success of any implementation depends on how far its awareness, accessibility and the amount of usage done by the citizens through e-Governance system. The aim of this research is to propose a holistic theoretical framework for both citizens as well as government employees, which identifies the citizens’ adoption factors as well as government employees’ in implementing e-Governance in public utility service sector in India.
1.11. **Benefit of the study**

The research study has following benefits:

i) The outcome of the research will be useful for the government departments to identify the important factors for citizen adoption on e-Governance in the public utility service sector in India.

ii) The outcome of the research will be beneficial to the government employees to identify the most important factors for intention to use the e-government services.

iii) The information obtained from the research will provide useful guidance for the practitioner of the e-Governance system to improve service in near future.

iv) Consequently, the result obtained from this research can be used for future e-Governance initiatives by the government.

1.12. **Statement of problem**

The aim of this research is to propose holistic theoretical frameworks, which identify the citizens’ and government employees’ perspectives in implementing e-Governance in the public utility service sector in India. There exist a lot of studies in the field of e-Government adoption in developed countries, but very few studies are available in Indian context. Every study has been used various factors in the different public utility service sector. There is no common reason available to judge for determining which factors contribute to the adoption of e-Government, which leads to a gap in the literature review. Based on the gap the study tries to identify the most suitable factors for measuring the intention to use the e-Government system in India.

This study is divided into two parts, which measure citizens as well as government employees’ perspective of the e-government system. This research offers a possible relationship between the past studies and the present research findings. This study expressively gives more importance to e-Governance in all public utility service sectors in India. This research study also attempts to get a bright glimpse about the factors that facilitate the intention to use e-government services by both citizens’ perspective as well as employees’ perspective.
1.13. Variables of the Study

The below TABLE 1.3 clearly explains operational variables definition for the present study which is derived from the existing literature.

TABLE 1.3 SUMMARIES OF OPERATIONAL VARIABLES DEFINITION

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Ease of Use</td>
<td>“The degree to which a person believes that using a particular system would be free from effort” (Davis, 1989).</td>
</tr>
<tr>
<td>Perceived Usefulness</td>
<td>“The degree to which a person believes that using a particular system would enhance his or her job performance” (Davis, 1989).</td>
</tr>
<tr>
<td>Computer Self-Efficacy</td>
<td>“Computer self-efficacy is a belief of one’s capability to use the computer” (Compeau &amp; Higgins, 1995).</td>
</tr>
<tr>
<td>Personalization</td>
<td>“The process of preparing an individualized communication for a specific person based on stated or implied preferences” (Roberts &amp; Zahay 2003).</td>
</tr>
<tr>
<td>Perceived Risk</td>
<td>Perceived risk is defined as “combination of uncertainty plus seriousness of outcome involved” (Horst et al., 2007).</td>
</tr>
<tr>
<td>Security</td>
<td>Security is defined as protecting user’s information from misuse and malpractice.</td>
</tr>
<tr>
<td>Website Quality</td>
<td>Website Quality refers to having a quality web site that might have influence on the users’ intention to revisit again.</td>
</tr>
<tr>
<td>Familiarity</td>
<td>Familiarity refers to the recollection of a previous experience recorded in our mind.</td>
</tr>
<tr>
<td>Local Language</td>
<td>A local language is a language spoken in an area of a nation state, whether it is a small area, a federal state or province, or some.</td>
</tr>
<tr>
<td>Computer Anxiety</td>
<td>Computer anxiety is defined “as a feeling of being fearful or apprehensive when using or considering the use of a computer” (Leso &amp; Peck, 1992).</td>
</tr>
<tr>
<td>Performance Expectancy</td>
<td>“Performance expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003).</td>
</tr>
</tbody>
</table>
### Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job-Fit</td>
<td>“Job fit is defined as the extent to which an individual believes that using a technology can enhance the performance of his job or her job (e.g. obtaining better information for decision making or reducing the time required for completing important job tasks)” (Thompson et al., 1991).</td>
</tr>
<tr>
<td>Facilitating Conditions</td>
<td>“Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003).</td>
</tr>
<tr>
<td>Compatibility</td>
<td>“Compatibility is defined as the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 1995).</td>
</tr>
<tr>
<td>Intention to Use</td>
<td>“Intention to use is defined as a citizen’s intention to adopt and make use of a certain tool in the future “(Ajzen, 1988; 1991; Taylor &amp; Todd, 1995; Venkatesh &amp; Brown, 2001; Venkatesh et al., 2003).</td>
</tr>
</tbody>
</table>

### 1.14. Key Term Definitions

The following TABLE 1.4 defines various key terms used in the current research study.

#### TABLE 1.4 KEY TERMS DEFINITION

<table>
<thead>
<tr>
<th>Key Terms</th>
<th>Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Technology</td>
<td>“Information technology can be defined as an application of Information and Communication Technologies tools including computer network, software and hardware required for internet connection (Tan et al., 2009).</td>
</tr>
<tr>
<td>Information and Communication Technology</td>
<td>The term &quot;Information and communication technologies &quot;(ICTs) is defined as a diverse set of technological tools and resources used to communicate and create, disseminate, store, and manage information (Blurton, 1999).</td>
</tr>
</tbody>
</table>
1.15. **Objectives of the Study**

The main purpose of this research is to deal with the key challenges that influence the impact of e-governance in the public utility service sector in India. The objective of the study is to make the citizens’ and public sector employees to understand the strength and power of the e-government system. After having an existence study of various authors’ adoption models the theoretical model is specially designed with a number of benefits that are suiting to Indian context. The theoretical model is more competent, narrative and clear any doubt arises in their minds. This model can be used as a framework or references by government institutions, which seeks to implement and adopt e-government systems in India. This model is a model of reformation that can be easily followed by the government for implementation. The simplicity involved in this model helps the government to create tremendous awareness among citizens’ about the usage of e-government services. This study has many valid and
usable points, and the simplicity of the model will tenably contribute quality assurance to the research community. This research-oriented theoretical model will serve as a strong base for making decisions by the practitioners (government institutions and officials) at the time of developing a suitable system for e-government. The proposed theoretical models are constructed based on well-established theories (technology adoption model, theory of planned behavior and the unified theory of acceptance and use of technology).

To realize the research aim, the following objectives will be pursued:

1. To understand and explore the factors influencing e-governance services in public utility service sector in India from the citizens’ perspective.

This study aims to identify the major factors which are likely to create challenges to implement e-government system in India. This study needs to identify the factors based on citizens’ perspective for the successful implementation of e-government system in India. Public utility services are basically framed to give a lot of benefits to its citizens’. The powerful mechanism of ICT will throw a favorable impact and citizens to involve them voluntarily to utilize the services offered by the government (Al-Hurjhan et al., 2011). This study also aims to identify the important factors which are hopefully predicting the intention to use e-government system.

2. To propose a theoretical framework for citizens’ intention to use e-government system in India.

The study aims to propose a citizens’ perspective of e-government system model is based on various literature reviews in the field of e-government adoption literatures. The study aims at presenting and validating a comprehensive citizens’ intention to use e-government theoretical model with its factors. The proposed model in this study brings out the intention of citizens’ involvement to decide whether to use the e-government system or not (Ayyash et al. 2013).

3. To understand and explore the impact of e-governance services in public utility service sector in India from the demographic profile of citizens’ perspective.

Demographic variables like age, gender and education etc also have an impact on influencing citizens’ intention to use e-government system. Finding out the reasons for not opting the e-governance services, the model should be reorganized with simple customized operating
method to create a conducive climate to bring more and more people to interact with the e-governance system.

4. To understand and explore the factors influencing e-governance services in public utility service sector in India from the employees’ perspective.

The success of e-government system and implementation depend on many factors. The success of e-government system is dependent on how the government employees’ show their attitude towards accepting the new system. This study proposes various factors for employees’ intention to use e-government system collected from a number of literatures of e-government adoption studies (Barua, 2012). This study also aims to recognize the most important factors which are favorable to predict the intention to use e-government system.

5. To propose a theoretical framework for employees’ intention to use e-government system in India.

The model proposes in the study investigates and recognizes to validate the role of a paradigm shift in employees’ participation in the process of implementing e-government system. This model will definitely encourage the employees’ interest to fulfill the commitment of e-governance to its citizens’ (Barua, 2012).

1.16. Hypotheses of the Study

This study is divided into two parts which measures citizens’ as well as government employees’ perspectives of e-government system. The hypotheses are proposed based on the theoretical models which are explained in chapter-III. The study consists of fourteen broad hypotheses which are proposed to measure the citizens’ perspectives along with four broad hypotheses for employees’ perspectives of intention to use the e-Governance in public utility service sector in India.

Citizens’ perspective of e-government system is measured using ten independent variables namely perceived ease of use, computer self-efficacy, website quality, personalization, perceived risk, computer anxiety, familiarity, perceived usefulness, local language and security and two dependent variables intention to use and user satisfaction. The null hypotheses $H_{10}$ up to $H_{10}$ were based on the theoretical construct of citizens’ perspective of e-government system. Each hypothesis was based on the different factors of citizens’ and
their relationship with intention to use the e-Government system. The null hypotheses from H1\(_0\) to H14\(_0\) were based on influence of different demographic aspects of citizens’ like gender, age, income and education and their relationship with intention to use the e-Government system.

Employees’ perspective of e-government system is measured using four independent variables namely performance expectancy, job fit, compatibility and facilitating conditions and one dependent variable intention to use. The null hypotheses H15\(_0\) up to H18\(_0\) were based on the theoretical construct of employees’ perspective of e-government system. Each hypothesis was based on the different factors of employees’ and their relationship with intention to use the e-Government system.

**Hypothesis H1**

The hypothesis H1 proposes that the factor perceived ease of use will have positive influence on intention to use the e-Government system. It is necessary that e-Government system should be designed as simple and easy to understand by the citizens. Through this hypothesis, the study investigates whether the perceived ease of use has positive impact on intention to use the e-Government system or not. Both null and alternate hypotheses are listed below.

\[ H1_0: \text{Perceived ease of use of e-Government services has no positive influence on intention to use the e-Government system.} \]

\[ H1: \text{Perceived ease of use of e-Government services has positive influence on intention to use the e-Government system.} \]

**Hypothesis H2**

The hypothesis H2 proposes computer self efficacy will have positive influence on intention to use the e-Government system. Compeau and Higgins (1995) defined computer self-efficacy as “a judgment of one’s capability to use a computer”. It clearly specifies that intention to use the e-government system depends on the computer self efficacy of the citizens. Through this hypothesis the study investigates whether computer self efficacy has positive impact of intention to use the e-Government system or not.
H2₀: Computer Self Efficacy of e-Government services has no negative influence on intention to use the e-Government system.

H2: Computer Self Efficacy of e-Government services has negative influence on intention to use the e-Government system.

Hypothesis H3
The hypothesis H3 proposes website quality will have positive influence on intention to use the e-Government system. The designed website should establish its simplicity in satisfying user’s requirements and ensure the quality of information displayed in the website is accurate. Through this hypothesis, the study examines whether website quality has positive impact of intention to use the e-Government system or not.

H₃₀: Website Quality of e-Government services has no positive influence on intention to use the e-Government system.

H₃: Website Quality of e-Government services has positive influence on intention to use the e-Government system.

Hypothesis H4
The hypothesis H4 proposes personalization will have positive influence on intention to use the e-Government system. Hongxiu and Reima (2009) opined that personalized service can play an important role in improving citizens’ satisfaction by personalizing some services such as, payment methods, delivery methods and service process etc. Through this hypothesis, the study explores whether personalized service has positive impact of intention to use the e-Government system.

H₄₀: Personalization of e-Government services has no positive influence on intention to use the e-Government system.

H₄: Personalization of e-Government services has positive influence on intention to use the e-Government system.
Hypothesis H5
The hypothesis H5 proposes perceived risk will have negative influence on intention to use the e-Government system. The various dimensions of perceived risk, were empirically tested by various authors (Pires et al., 2004, Ueltschy et al., 2004), are financial risk, time risk, performance risk, and overall risk. The factor perceived risk leads to security and privacy issues that could discourage the use of online services. Through this hypothesis, the study explores whether perceived risk will have negative impact of intention to use the e-Government system or not.

H5₀: Perceived risk of e-Government services has no negative influence on intention to use the e-Government system.

H5: Perceived risk of e-Government services has negative influence on intention to use the e-Government system.

Hypothesis H6
The hypothesis H6 proposes computer anxiety will have negative influence on intention to use the e-Government system. The significance of this construct in IS literature has been demonstrated in a number of studies (Anderson 1996; Bozionelos 2004; Igbaria & Chakrabarti 1990). Through this hypothesis, the study investigates whether computer anxiety will have negative impact of intention to use the e-Government system or not.

H6₀: Computer Anxiety of e-Government services has no negative influence citizen’s continuance intention to use the e-Government system.

H6: Computer Anxiety of e-Government services has negative influence citizen’s continuance intention to use the e-Government system.

Hypothesis H7
The hypothesis H7 proposes familiarity will have positive influence on intention to use the e-Government system. Familiarity with the website and frequent interaction with the system will increase the intention to use the services. Through this hypothesis, the study examines whether familiarity has positive impact of intention to use the e-Government system or not.
H7₀: Familiarity of e-Government services has no positive influence on intention to use the e-Government system.

H7: Familiarity of e-Government services has positive influence on intention to use the e-Government system.

Hypothesis H8
The hypothesis H8 proposes perceived usefulness will have positive influence on intention to use the e-Government system. Perceived usefulness refers to the degree to which a person feels that using a particular system would enhance his or her job performance (Davis et al. 1989). Through this hypothesis, the study explores whether the perceived usefulness has positive impact on intention to use the e-Government system or not.

H8₀: Perceived Usefulness of e-Government services has no positive on intention to use the e-Government system.

H8: Perceived Usefulness of e-Government services has positive on intention to use the e-Government system.

Hypothesis H9
The hypothesis H9 proposes local language barrier will have positive influence on intention to use the e-Government system. If e-Government system develops their content in their own language it will increase the intention to use the system. Through this hypothesis, the study investigates whether local language barrier has positive impact of intention to use the e-Government system or not.

H9₀: Local Language barrier of e-Government services has no positive influence on intention to use the e-Government system.

H9: Local Language barrier of e-Government services has positive influence on intention to use the e-Government system.
Hypothesis H10
The hypothesis H10 proposes security will have positive influence on intention to use the e-Government system. In e-Government system, the complete security and privacy of information is an unstated agreement between the citizens and the government. Through this hypothesis, the study examines whether security has positive impact of intention to use the e-Government system or not.

H10₀: Security of e-Government services has no positive influence on intention to use the e-Government system.

H10: Security of e-Government services has positive influence on intention to use the e-Government system.

Hypothesis H11
The hypothesis H11 proposes there is significant difference in citizen’s gender in predicting the overall intention to use the e-Government system. Through this hypothesis, the study investigates whether the intention to use the e-Government system are similar or different in the gender categories of citizens.

H11₀: There is no significant difference between genders in predicting the overall intention to use the e-Government system.

H11: There is significant difference between genders in predicting the overall intention to use the e-Government system.

Hypothesis H12
The hypothesis H12 proposes there is significant difference in citizen’s age in predicting the overall intention to use the e-Government system. Through this hypothesis the study investigates whether the intention to use the e-Government system are similar or different in the different age categories of citizens.

H12₀: There is no significant difference across different age categories of citizens’ in predicting the overall intention to use the e-Government system.
H12: There is significant difference across different age categories of citizens’ in predicting the overall intention to use the e-Government system.

Hypothesis H13
The hypothesis H13 proposes there is significant difference in income category of citizen’s in predicting the overall intention to use the e-Government system. Through this hypothesis the study investigates whether the intention to use the e-Government system are similar or different in the different income categories of citizens.

H130: There is no significant difference in income category of citizens’ in predicting the overall intention to use the e-Government system.

H13: There is significant difference in income category of citizens’ in predicting the overall intention to use the e-Government system.

Hypothesis H14
The hypothesis H14 proposes there is significant difference in education category of citizen’s in predicting the overall intention to use the e-Government system. Through this hypothesis the study investigates whether the intention to use the e-Government system are similar or different in the different education categories of citizens.

H140: There is no significant difference in education category of citizens’ in predicting the overall intention to use the e-Government system.

H14: There is significant difference in education category of citizens’ in predicting the overall intention to use the e-Government system.

Hypothesis H15
The hypothesis H15 proposes performance expectancy will have positive influence on intention to use the e-Government system. In e-Government system, the performance expectancy is used to measure the job performance of an employee in the newly implemented e-government system. Through this hypothesis the study investigates whether performance expectancy has positive influence on intention to use the e-Government system or not.
H15h: Performance Expectancy of e-Government services has no significant influence on intention to use the e-Government system.

H15: Performance Expectancy of e-Government services has significant influence on intention to use the e-Government system.

**Hypothesis H16**

The hypothesis H16 proposes compatibility will have positive influence on intention to use the e-Government system. The compatibility construct is used to measure how the employee is comfortable in using the new e-government system for performing their task. Through this hypothesis, the study investigates whether compatibility has positive influence on intention to use the e-Government system or not.

H16h: Compatibility of e-Government services has no significant influence on intention to use the e-Government system.

H16: Compatibility of e-Government services has significant influence on intention to use the e-Government system.

**Hypothesis H17**

The hypothesis H17 proposes job fit will have positive influence on intention to use the e-Government system. The job fit construct is used to measure how the employee uses the new e-government system to make quick decision as well as to determine how much time is required for them to complete the given task. Through this hypothesis the study investigates whether job fit has positive influence on intention to use the e-Government system or not.

H17h: Job Fit of e-Government services has no significant influence on intention to use the e-Government system.

H17: Job Fit of e-Government services has significant influence on intention to use the e-Government system.

**Hypothesis H18**

The hypothesis H18 proposes facilitating conditions will have positive influence on intention to use e-Government system. In e-government system, facilitating condition is used to measure by the ability to access the required resources given by the new system, whether they
are getting required support from the government for using the new system. Through this hypothesis, the study investigates whether facilitating conditions have positive influence on intention to use the e-Government system.

**H18**: Facilitating Conditions of e-Government services has no significant influence on intention to use the e-Government system.

**H18**: Facilitating Conditions of e-Government services has significant influence on intention to use the e-Government system.

Moreover, the following TABLE 1.5 presents a research hypotheses summary that have been discussed in chapter III and the major factors that influence on intention to use the e-government system.

**TABLE 1.5 RESEARCH HYPOTHESES SUMMARY**

<table>
<thead>
<tr>
<th>H.NO</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hypothesis for Citizens’ Perspectives of e-government system</td>
</tr>
<tr>
<td></td>
<td>Theoretical Hypotheses of e-government system</td>
</tr>
<tr>
<td>H1</td>
<td>Perceived ease of use of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H2</td>
<td>Computer Self Efficacy of e-Government services has no negative influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H3</td>
<td>Website Quality of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H4</td>
<td>Personalization of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H.NO</td>
<td>Hypotheses</td>
</tr>
<tr>
<td>------</td>
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</tr>
<tr>
<td>H5₀</td>
<td>Perceived risk of e-Government services has no negative influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₅</td>
<td>Perceived risk of e-Government services has negative influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H6₀</td>
<td>Computer Anxiety of e-Government services has no negative influence citizen’s continuance intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₆</td>
<td>Computer Anxiety of e-Government services has negative influence citizen’s continuance intention to use the e-Government system.</td>
</tr>
<tr>
<td>H7₀</td>
<td>Familiarity of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₇</td>
<td>Familiarity of e-Government services has positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H8₀</td>
<td>Perceived Usefulness of e-Government services has no positive on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₈</td>
<td>Perceived Usefulness of e-Government services has positive on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H9₀</td>
<td>Language barrier of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₉</td>
<td>Language barrier of e-Government services has positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H1₀₀</td>
<td>Security of e-Government services has no positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₁₀</td>
<td>Security of e-Government services has positive influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₁₁₀</td>
<td>There is no significant difference between genders in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H₁₁</td>
<td>There is significant difference between genders in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H.NO</td>
<td>Hypotheses</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>H120</td>
<td>There is no significant difference across different age categories of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H12</td>
<td>There is significant difference across different age categories of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H130</td>
<td>There is no significant difference in income category of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H13</td>
<td>There is significant difference in income category of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H140</td>
<td>There is no significant difference in education category of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td>H14</td>
<td>There is significant difference in education category of citizens’ in predicting the overall intention to use the e-Government system.</td>
</tr>
<tr>
<td></td>
<td><strong>Hypothesis for Employees’ Perspectives of e-government system</strong></td>
</tr>
<tr>
<td>H150</td>
<td>Performance Expectancy of e-Government services has no significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H15</td>
<td>Performance Expectancy of e-Government services has significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H160</td>
<td>Compability of e-Government services has no significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H16</td>
<td>Compability of e-Government services has significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H170</td>
<td>Job fit of e-Government services has no significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H17</td>
<td>Job fit of e-Government services has significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H180</td>
<td>Facilitating Conditions of e-Government services has no significant influence on intention to use the e-Government system.</td>
</tr>
<tr>
<td>H18</td>
<td>Facilitating Conditions of e-Government services has significant influence on intention to use the e-Government system.</td>
</tr>
</tbody>
</table>
1.17. Limitations of the Study

As with any research that deals with new technology, this research has also encountered with some limitations. The study does not include many of the public utility service sectors due to the unavailability of the e-Government system. The sampling method used in the study is convenience sampling. Given that a convenience sampling method is not considered as an effective method of representation of the population, the results may be interpreted cautiously, especially when generalized with the concept. The perception of intention to use e-Government system may vary from different dimensions because the number of respondents though drawn is varied in terms of age, income level, gender, education, etc. The method used for data collection was survey method using questionnaire. Researchers have limitations with this type of data collection, due to low response rate, complex and confusing questions and surveys that might be too long (Cooper and Schindler, 2003). Hence it is hard to decide whether the theoretical model proposed is applicable in other public utility service sectors.
CHAPTER 2
LITERATURE REVIEW

2.1 Review of Literature
This chapter is a collection of seminal work of various distinguished authors written about the ability of e-Governance. Literature means the science of letters in any language on a given subject. In the same way literature review on the e-government and its different perspectives and all the things related to e-government becomes a true one with a current scenario. E-Governance is an accepted powerful mechanism to get the desired reach and the impact, and it is adopted by different countries to activate their economic growth and regulate the service system with amazing reliability, accuracy and transparency. With uncompromising effective responses shown by the citizens made this mechanism to spread its network to include different areas to give best services. This chapter grips on various adoption studies and theories for e-government services. This chapter helps to identify the gaps exist in the literature review which leads to develop theoretical framework for the present study.

2.2 Information and Communication Technologies (ICT)
The innovation of ICT has tremendous power promises to various government and private bodies to give its best services without leaving any fringe of doubts about its efficiency in its operation. This unchallenged truth influences the users (citizens', municipal bodies, district, state, and central Governments) to add more and more participants in the field of e-Governance. This great science of e-Governance contributes and accelerates an effective positive result in the growth of countries economy. The economic growth is associated with the adequate backup of infrastructures, good maintenance and services. ICT has swift excellence to push the e-governance to bring about all the desired results.

There is a rife witness to establish the power of information and communication technologies (ICTs) that has brought unimaginable changes in the business world. Most of the countries use internet and worldwide web in their day - day business and other operations. For India ICTs and e-Government is a boom given by the technological innovation. This is the reason for more and more people continue to participate in the adoption of ICTs like mobile usage. The users of mobile are much more in ratio to e-governance. It cannot be equated with mobile users because of its complexity in operation.
Globally, our world wide web improved appreciably with a lot of advantages introduced in ICTs to offer valuable services to citizens. It plays a key role in transforming their performance in the field of government, business, politics, economics, and social. It helps the society to communicate effectively, interact actively, utilizing the resources efficiently and also provide more value added services. The main purpose of ICTs is to act as a key to change the society; it enhances the quality services to the public. Various governmental organizations in both developed and developing countries implement e-government system through ICTs. The major benefits of using ICTs are, it increases more effective and efficient quick services to the public, reduces cost, time, labour and fatigue. ICTs support the governmental activities through their transparent mode of presentation and implementable framework structure as per their rules and regulations.

The long researched innovative application of ICTs in private sector organization has placed an immense pressure on public sector to rethink their way of working. To face the imposing challenges and to accelerate the speed of economy the government feels the necessity to transform their business operations from the very old practice of traditional manual system to modern computerized system in all public sectors.

For the economic development of the country the service industry also plays a vital role in the competitive environmental sector. It has acknowledgeable pressure in public sector to deliver quality services and improved performance. The citizens’ approaches are in accordance with the present situation and the government should equally show a favorable response to the citizens’ expectations. Introducing ICTs is the only solutions to give answer to all the citizens’ expectations.

India with huge population emerged to show its ability to make a renaissance in the field of public sector by introducing computer culture through ICTs. India’s greatest strength is information Technology (IT) and human capital. Though we have highly disciplined wizards in ICTs fields the desired policies, aim and objectives to provide simple, efficient, accurate services to public are held back, due to non-building of infrastructure, lack of literacy, poverty, political instability and high level of corruption etc. India has determined to enrich the computer culture among the people and it persistent efforts, complete trust and confidence in the power of ICT will make the so called impossible things possible.
ICT, one’s used as back-end processes to store only data has been converted into full fledged operational system (Calvin et al., 2008). ICT has built-up a remarkable change in storing the information and helps to retrieve the data when demanded by users anywhere at any time regardless of any devices it simply refers 24 * 7 services. The indwelling current of ICT with its long range benefits will certainly dislodge and dismantle the old thinking of the people and lead them to a digital era. Being in digital era our life is more associated and accompanied with “E” format, such as e-governance, e-democracy, e-government, e-learning, e-business, e-entertainment, e-commerce, e-library, e-auctions, e-market and others. The impact of notion of “E” changes everyone’s life to electronic culture. The electronic system is originated from ICT, holding a long range path includes services to the public, such as obtaining general certificates, personal documents, identity, commercial information, transfers, contracts, death notices, notary information, or facilitating the payment of taxes and dues etc (McLean & Tawfik, 2005).

To meet the ever growing and unending demands of the citizens’ the best and the only unstoppable choice is introducing e-governance. E-governance can be possible only through implementing ICT. Okot-Uma (2001) opined that ICT has great potential for the growth of socio economy and has a great pulling power for influencing citizens’ for more participation. It can revolutionize the procedure and processes to enable the e-governance work effectively to bring about a change to redress all the problems of the citizens’. ICT is undisputedly acknowledged as significant e-governance driver to implement and fulfill the aspiration of citizens’. The main feature of ICT is to bridge the technological gap between developed and developing countries, rural and urban, public and private, traditional and modern, historic and futuristic etc. Hence this authentic mechanism seems the fittest one to provide a most transparent in its operational system. The benefits and simplicity in the procedure of operation of ICT will act as an incentive and motivate even the illiterates to migrate towards e-culture and eliminate their lack of understanding lodged in their minds.

### 2.3 E-Governance

E-Governance can be termed as a science which deeply deals with information and communication technologies. Many authors have offered a number of definitions, all the definitions are true, but stay as inadequate due to perpetual inventions and innovations.
Grindle (1997) defines governance as a state’s capacity to be able to design and implement appropriate public policies that ensure the equitable administering of resources both transparently and efficiently. This implies that government has to control its resources by preparing well structured public service sector to meet the citizens’ requirements (Akokpari, 2003).

E-Governance is defined as the application of Information and Communication technologies (ICT) to the governance to bring in Simple, Moral, Accountable, Responsive and Transparent (SMART) governance (Budhiraja, 2003; Rajashekar, 2002 in Jain & Ramani, 2005; Heeks, 2001; Harris 2004).

E-Governance, meaning ‘electronic governance’ is using information and communication technologies (ICT) at various levels of the government and the public sector and beyond, for the purpose of enhancing governance (Bedi et.al, 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, nongovernmental organizations (NGOs), and associations of NGOs 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.

UNESCO (2005) defined E-Governance “Governance refers to the exercise of political, economic and administrative authority in the management of a country’s affairs, including citizens’ articulation of their interests and exercise of their legal rights and obligations. E-Governance may be understood as the performance of this governance via the electronic medium in order to facilitate an efficient, speedy and transparent process of disseminating information to the public, and other agencies, and for performing government administration activities.”
The importance of transforming all the government operations into e-governance is to get quick decisions to the queries between citizens’ and government to make balancing economic policies in consultation with industrialists. The impact of increase in population registers a number of unthinkable needs in geometrical progression, but the nature of complexity imposes a clip on ICT to move in arithmetical progression to meet the challenges, but has the power to make the impossible things possible. A mass participant of various stakeholder (public, private organizations, citizens’) or the interacting players of e-Governance must work together to develop a good design to strike out the impending nature of the excepted citizen’s requirements.

The main aim of the e-Governance is to form public governance which is hugely dependent on its contextual parameters, including political environment, cultural pattern, economic conditions, social structure and technological trend. The governance is often changed depending on the above said factors. Revolution in the ICT has facilitated the globalization of the economic conditions, finance, business and culture which has significant impact on public governance. The instability of the government depends upon the mood of the people to justifying the performance of the government. Apart from these other glaring factors like poverty, literacy; culture, political interference etc are also largely interfering in implementing an effective e-Governance system (Berleur, 1997; Heeks, 1999).

E-Governance has the capacity to increase and accelerate to gain a tremendous economic growth. A visit to the government departments is really a major problem; it can be characterized by lots of paper work, prolonged queues, bureaucracy, cramped spaces and much of frustrations. With the increasing demands of citizens in addition to transforming worldwide rules and regulations, government authorities are forced to introduce ICT for their services in an effective and efficient way.

Based on an empirical study of 40 e-governance initiatives in developing and transitional countries, Heeks (2002) found that 35% of the e-governance projects were considered as ‘total failures’, meaning either ‘not implemented’ or ‘abandoned immediately’, 50% were classified as ‘partial failures’ and only 15% were classified as ‘success’. Unwillingness for e-readiness of citizens had caused for the major failure in implementing e-governance.
2.4 E-Governance in India

Glimpses of various authors’ literature brighten me to summarize the importance of e-Governance in India. E-Governance evolution in India is not by chance, but a planned one to give maximum benefits to its mass population. In this regard computer expert right from 1970s concentrated on the development of various in-house applications and linked up various fields like population survey, electoral roll maintenance and monitoring economic growth etc. The survey sharpened it eyes to build an efficient database management system. In 1980s India saw a remarkable interconnection of the district headquarters in which National Informatics Center (NIC) played the major key role. Till then, these initiatives were moved at the instance of individual visionaries but remained only in the policy rather than representing a coordinated effort. ICT technologies stepped in early 1990s with its strong arms for implementing policies to reach the benefit to rural population. For this purpose the extension of NGO’s and private sector’s co-operation is considered as an important factor. This resulted in improved connectivity, networking, ease of access, and scaling up of capabilities. Things have shown a great visible improvement with the introduction of broadband convergence. Despite the great efforts done by ICT many things remain only on the paper and stayed in the waiting list to be done in the near future (Pani & Mishra, 2009). Although the Indian government has achieved a high degree of perfection in satisfying the needs of the citizens but they cannot take this as full stop for further invention because ever ending future demands of citizens will make it inadequate and unaffordable.

Being in the era of advanced technology of ICT, India decided to take a stern step and set up a Department of Information Technology in the year 2000. To study the possibilities focused its attention on a single aspect of electronic governance through Mission Mode Projects (MMPs). The Department of IT and the Government of India has National e-Governance Plan (NeGP) comprises of 31 mission mode projects (MMPs), which are further classified as state, central or integrated projects. (Prabhu, 2004). The Central consists of 11 MMPS such as Central Excise, e-Office, Income Taxes, Insurance, IVFRT, MCA21, UID, Passport, Posts, Pensions and Banking. Similarly the State has 13 MMPS namely NLRMP, Road Transport-District, Commercial Taxes, Treasuries computerization, Municipalities, CCTNS, Agriculture, e-Panchayats, Employment Exchange, Health, Education, PDS. And finally the integrated level consists of 7 MMPS mentioned as CSC, e-Biz, e-Courts, and e-Procurement, EDI, India Portal and NSDG (www.negp.gov.in). Even though the efforts are being taken by
the government it is not easy to implement MMPs because India with its multitude problems of linguistic and cultural adoption of citizens in implementing e-governance. The undertaken mission mode project is also associated with three aspects that are the development of software application, successful implementation and the most important aspect is to transfer the above said into web services that stand as a major block for successful completion of e-governance and also it will not obey the time bound schedule. This study briefly describes various state-wise e-governance initiatives of India in TABLE 2.1.

<table>
<thead>
<tr>
<th>State / Union Territory</th>
<th>e-Governance initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bihar</td>
<td>Online Grievance Registration, Jankari, Online Enrollment in Electoral Roll, Online Electricity bill payment, e-Gazette, Information and Public Relations Department, Website Directory, Government Tender.</td>
</tr>
<tr>
<td>Delhi</td>
<td>Grievance Redressal, Public Utility Forms, Employment Exchange, Transport services, Application status finder, Tender Notice.</td>
</tr>
<tr>
<td>State</td>
<td>Services and Information Available</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>e-Samadhan, Sugam, Write to Chief Minister, Online Electoral Rolls, Online Bus Ticket Booking, Examination Result, Employment News, eGazette, HP Police web portal, Online Pensioner’s Helpline, Online Blood Donor List, Online Tenders, Website Directory, Online Hotel Registration, e-Salary, Online Judicial services, Online electricity bill payment, Online registration of electors, Case Status of High Court of Himachal Pradesh, Cause List of District Courts.</td>
</tr>
<tr>
<td>Jharkhand</td>
<td>Grievance Redressal, e-Nibandhan, Online Land records, e-Nagrik Seva, Common Service Centre, Government Tenders, Jharkhand Village Profile, Gyanshila, Online GPF Account, SMS Alert for GPF Contribution.</td>
</tr>
<tr>
<td>Kerala</td>
<td>Akshaya, Online Job Registration-mail to CM &amp; Minister, Online GIS of Kerala, Online Motor vehicle services, Online civil supplies department, BhuRekha, FRIENDS.</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>Online Voter List, Government Orders and Acts, Online Pension Calculator, Online Text book, High Court Judgment and orders, Online Grievance Redressal, Public Utility Forms, Cause List of MP High Court, Daily Mandi Rate, Online land records, Tele Samadhan, Online Employment Exchange, Transport Services, Child Record</td>
</tr>
<tr>
<td>State</td>
<td>Services and Initiatives</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Sikkim</td>
<td>Online Public Utility Forms, Online Medical database, Online Voter list.</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>Employment Online, Public Utility Forms, Anytime/Anywhere Transport services, Online Land Records, Online Text Books, Grievance Redressal, Cause list of Madras High Court, Online Electoral Roll, Online Citizen Charters, Electricity tariff calculator, Tender Notice, Website directory.</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>E-Scholarship, Bhu-Lekh-UP, Koshwani, Court case Information system, Online Transport services, Niyukti Online Seva, GIS based Planning Atlas, Lokvani.</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>Online Application forms, Online Employment News, Online Government Notification, Online Examination Results, Online Market Information, Online weather information, Dev bhoomi, Some other e-Gov Initiatives of Uttarakhand.</td>
</tr>
<tr>
<td>West Bengal</td>
<td>Vehicle registration, land records, birth and death registrations, employment exchanges, payment of excise duty, sales tax and local tax, electronic bill payment of water and electricity, computerization of health records.</td>
</tr>
</tbody>
</table>

**North Eastern State**

<p>| Assam         | Electoral Rolls, BPL List, Passport Computerization System, National Register of Citizenship (NRC), Computerized Land Records System, Prithvi Geographical Information System (GIS), Udyog Ratna, VIDHAN Magistracy Case Management System, |</p>
<table>
<thead>
<tr>
<th>State</th>
<th>Information Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arunachal Pradesh</td>
<td>Community Information Centre’s (CICs), Online Bus schedule services, Online Telephone Directory, Application forms.</td>
</tr>
<tr>
<td>Manipur</td>
<td>Online Government Notification, Online employment Exchange, Online e-mail ID, Application Form, Online Exam Result, Online High Court Judgment, Public Representatives, Transport services, Social welfare department, Minority and OBC department, Health Services, Electoral Roll.</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>MEGVAT, Online agriculture market price, District court: Online cause list and judgments, Online name search in Electoral Roll, Election Application forms, Online Public Utility Forms, School Result, Community Information Centre.</td>
</tr>
<tr>
<td>Mizoram</td>
<td>Electoral Rolls, Telephone Directory, Tender notice, Transport Services, Mizoram Gazette.</td>
</tr>
<tr>
<td>Nagaland</td>
<td>Online Government Orders, Online Public Utility Forms, Online Voter List, e-mail address.</td>
</tr>
<tr>
<td>Tripura</td>
<td>Public Utility Forms, Hospital Management System, Agartala Municipal Corporation, Online Cause Lists, Online name search in electoral rolls, Online blood donor information system, Examination Result, Transport Information System, and Health Service booking system, e-Suvidha.</td>
</tr>
</tbody>
</table>

### 2.5 Information System Adoption Theories in E-government

Among all the innovations that the world has witnessed so far the invention of ICT stands as an unspeakably remarkable one to give answer for a number of challenges of citizens’ and the government. The ever growing infinite challenges may be in the form of e-services, security
concerns, trust, individual differences, reliability, accountability, capability, transparency and digital divide etc. These challenges register a severe impact on participation and build a strong obstructing block for the adoption of e-government services. Many researchers have critically examined and analyzed the underlying current factors that affect citizens’ adoption or their willingness and use of e-government services. The study of adoption has twin objectives, adoption by the citizens’ and adoption by the government. A number of researchers mobilized their energy in the last four decades have developed, adopted, tested, modified and validated many theoretical models suiting for various countries with their diversity and establish their talent for the acceptance of IS (Venkatesh et al., 2003; Benbasat & Zmud, 1999; Hu et al., 1999).

The models have showed a complete agreement with various discipline and used to develop by IS researchers, include the Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975); the Theory of Planned Behaviour (TPB) (Ajzen, 1985); the Technology Acceptance Model (TAM) (Davis, 1989; Davis et al., 1989); the Diffusion of Innovation Theory (DOI) (Rogers, 1962) and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003).

Though these models were tested and adopted two decades ago still they have potential to assist the IS researchers to develop a most advanced and robust theoretical model with slight modification. This advance model will be the most suitable one to implement e-government services. The following paragraphs are self explanatory and show the power of these information system adoption theories of e-government.

Below TABLE 2.2 depicted the summaries of adoption theories which are frequently used in the area of e-government adoption.

<table>
<thead>
<tr>
<th>Adoption Theories</th>
<th>Authors &amp; Year</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRA</td>
<td>Fishbein &amp; Ajzen (1975)</td>
<td>Ajzen and Fishbein (1980) TRA model is a contemporary one. Giving more importance to the human behavioral and their valid reasons this model is well structured to produce a positive approach and dismiss the negative conduct of the users.</td>
</tr>
<tr>
<td>Model</td>
<td>Author</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>TPB</td>
<td>Ajzen (1985)</td>
<td>Due to addition of one more construct in TRA model (i.e. perceived behavior control), permits better prediction of behaviors not completely under the individual’s complete control.</td>
</tr>
<tr>
<td>TAM</td>
<td>Davis (1989)</td>
<td>TAM has a super structure attracted and recognized by many authors to developed their most acceptable and acknowledgeable conceptual model in the field of information system theories. TAM has the capacity and skill to get anticipated results from the users’ in acceptance of information systems.</td>
</tr>
<tr>
<td>DOI</td>
<td>Roger’s (1962)</td>
<td>The signal of acceptance is explored from the research area of diffusion of innovation theory for comfortable and insulated feelings of their expectation for the use of information system.</td>
</tr>
<tr>
<td>UTAUT</td>
<td>Venkatesh et al (2003)</td>
<td>The UTAUT model is proposed based on eight models. This model ensures a better and robust model for technology acceptance.</td>
</tr>
</tbody>
</table>

### 2.6. E-Government Adoption Studies

The existence of evolution of life continues to exist due to adoptability according to the nature, i.e. it declares the processes of mightiest survive. The same concept demands in the e-Government to adopt the adoptability to use the fullest capacity of ICT to offer a highest degree of its services to the citizens. The present world trend shows all the developed and developing countries shifted from traditional to an e-Government system. If you keenly observe the e-Government adopted countries many of them defer from one another according to the nature of wants and demands of the people. There is bound to have some degree of disagreement in the implementation of e-Government. It depends upon their capacity to adopt and the need of various factors like infrastructure, literacy, culture, income status, internet penetration, etc. There is a lot of variation exist in the implementation of e-Government due to the complexities involved in adopting the new system. Given below is the TABLE 2.3 list the summaries of e-Governance adoption studies in various countries.
<table>
<thead>
<tr>
<th>Authors &amp; Year</th>
<th>Country</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warkentin et al (2002)</td>
<td>USA</td>
<td>Trust is an important factor for intention to adopt e-Government.</td>
</tr>
<tr>
<td>Carter &amp; Belanger (2004)</td>
<td>USA</td>
<td>Relative advantage, compatibility, image are the significant predictors for influencing citizen adoption to use e-government services, whereas ease of use has no significance.</td>
</tr>
<tr>
<td>Srivastava &amp; Teo (2005)</td>
<td>Singapore</td>
<td>The authors have pointed out that building trust is the major factor which increases citizen adoption to use e-government services.</td>
</tr>
<tr>
<td>Phang et al (2005)</td>
<td>Singapore</td>
<td>Compatibility and image were found to be insignificant for predicting perceived usefulness.</td>
</tr>
<tr>
<td>Mofleh &amp; Wanous (2008)</td>
<td>Jordan</td>
<td>Compatibility, Trust in government, Trust in the Internet contributing factors for intention to use e-government whereas Awareness, Pervious Experiences has no significance.</td>
</tr>
<tr>
<td>Colesca &amp; Dobrica (2008)</td>
<td>Romania</td>
<td>The proposed study suggests that the citizen's who have higher perception about usefulness, ease of use, quality and trust in e-government services will have high degree of satisfaction which increase the adoption rate of e-government service.</td>
</tr>
<tr>
<td>Kaur &amp; Rashid (2008)</td>
<td>Malaysia</td>
<td>Complexity, security concern, privacy concern and IT illiteracy are negatively affecting the adoption rate.</td>
</tr>
<tr>
<td>Bwalya (2009)</td>
<td>Zambia</td>
<td>This model will suit for all SADC (Southern African Development Community) countries because their contextual environment is similar.</td>
</tr>
<tr>
<td>Alomari et al (2009)</td>
<td>Jordan</td>
<td>The author believes that the same model can be easily adapted in the Middle-Eastern countries because their social culture and civilization are similar.</td>
</tr>
<tr>
<td>Hussein et al (2010)</td>
<td>Malaysia</td>
<td>The factors are trust of the internet, trust of the government, perceived risk, internal political self-efficacy, and external political self-efficacy, perceived ease of use, perceived usefulness, and intention to use.</td>
</tr>
<tr>
<td>Author(s) &amp; Year</td>
<td>Country</td>
<td>Summary</td>
</tr>
<tr>
<td>-----------------</td>
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<td>---------</td>
</tr>
<tr>
<td>Karokola et al (2011)</td>
<td>Tanzania</td>
<td>Rejecting one of the factors (perceived risk) and the others factors showed the favorably authentic approval of the citizens’ intention to use e-Government system.</td>
</tr>
<tr>
<td>Al-Hurjhan et al (2011)</td>
<td>Jordan</td>
<td>The study reveals that perceived ease of use has no significant with behavioral intention as well as with perceived usefulness. The factor perceived IT security on the service deliverers has no positive relationship with e-government adoption.</td>
</tr>
<tr>
<td>Rokhman (2011)</td>
<td>Indonesia</td>
<td>Relative advantage and compability are the significant predictors for intention to use e-government, whereas image and ease of use has no significance.</td>
</tr>
<tr>
<td>Ahmad et al (2012)</td>
<td>Pakistan</td>
<td>The author explains that this model has a strong base and platform for decision makers to take quick decision while designing and implementing the processes of e-government services in Pakistan and other developing countries.</td>
</tr>
<tr>
<td>Ayyash et al (2012)</td>
<td>Palestinian</td>
<td>The research study intended to magnitude the impact of user’s trust in the authenticity of e-government.</td>
</tr>
<tr>
<td>Alshehri et al (2012)</td>
<td>Saudi Arabia</td>
<td>The result of the study the government should rethink and act to develop a suitable model free from the said barriers before implementing e-government services.</td>
</tr>
<tr>
<td>Zafiropoulos et al (2012)</td>
<td>Greece</td>
<td>Trust, Perceived Risk, Image, Subjective norm and Output quality has no significance with behavioral intention to use e-government services. The study also reveals that cognitive and intrinsic factors hold the key concern for the government to increase behavioral intention to use e-government services.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Country</td>
<td>Summary</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Barua (2012)</td>
<td>India</td>
<td>The author concludes that the same model can be used in different states pension management system with slight modification if required.</td>
</tr>
<tr>
<td>Safeen &amp; Kammani</td>
<td>Saudi Arabia</td>
<td>This paper meaningfully concentrates and elaborately discusses on different issues, challenges, adoption factors for e-government implementation. This theoretical model fixes a boundary on these factors (technological, financial, website quality, user/human, managerial and political perspectives) and also presents a skillful conceptual framework for better e-government performance.</td>
</tr>
<tr>
<td>Iyer &amp; Srivastava</td>
<td>India</td>
<td>The factors identified in this study are Computer anxiety, Computer self-efficacy, Familiarity, Responsiveness, Security and Website Design. The study reveals that the four factors (Computer anxiety, Computer self-efficacy, Familiarity and Website Design) had significant impact on citizens’ intention to use e-government services whereas responsiveness and security has no significance.</td>
</tr>
</tbody>
</table>

It is difficult to have a straight jacket to put all the adoption models into a single common model that would satisfy all the needs and wants of the users when amidst various diversities in cultural region, political structure, literacy, IT infrastructure, languages, behaviour and economic identities exist. It is difficult to have such one common model when action and reaction continuously or perceptually exist on demand to go for an era of innovation of new system and wants to occur forever and ever. Each adoption model given in the TABLE 2.4 is different with respect to its country perspectives, citizens’ as well as government employees’ perspectives. It is very difficult to develop a holistic model for to fit all the needs of the citizens.

2.7 Gap Analysis

Extant literature review reveals that major studies focus more on e-government adoption in developed and developing countries based on citizens’ perspectives. Each study has used various factors in a different public utility service sector to understand the adoption of the e-
government system. There is no common agreement to determine which factors contribute to the adoption of e-Government, which leads to a gap in the literature review. Based on the gap, the study tries to identify the most suitable adoption factors for measuring the intention to use e-Government system in India.

The e-government literature review also revealed the absence of a holistic model for public utility service sector in India. There is a complete negation of e-Governance in public utility sectors, which created a wide gap in the interaction between government and citizens. This study reviewed various literatures in the area of e-governance and provides suitable factors for developing a holistic model in the public utility sector.

Another research gap emerged in the area of e-governance is the employees’ adoption of the e-government system. Extant literature review reflected that role of an employee in implementing e-governance play an important role. Though various studies have been undertaken in different countries, but very few studies focused on employee’s perspective of e-governance in Indian context (Barua, 2012). However few studies had been undertaken to study the role of employee perspectives on the impact of e-governance in public sector. The present study was undertaken to bridge this gap. This study tries to identify the most suitable factors for measuring the adoption of the e-Government system in India based on employee perspectives.
CHAPTER 3
THEORETICAL FRAMEWORK

3.1. Introduction
Based on various adoption theories (Theory of Reasoned Action (TRA) (Fishbein & Azjen, 1975) and Technology Acceptance Model (TAM) (Davis, 1989), Unified Theory of Acceptance and Use of Technology (UTAUT) model (Venkatesh et al., 2003)), the following factors are derived to represent the theoretical model in FIGURE 3.1. Finally, the factors discussed in this chapter will be mapped in a conceptual model that will form the basis for the empirical research.

3.2. Factors affecting Intention use to e-Government System (Citizens’ Perspective)
3.2.1. Dependent Variable
3.2.1.1. Intention to use e-Government System
There are different theoretical models and frameworks used in the e-government literature to explain intention to use and actual use of egovernment public services by citizens and organizations (Carter & Belanger, 2005, 2008; Ebbers & van Dijk 2007; Layne & Lee, 2001; Lau et al. 2007; Reddick, 2005, 2004; Van Dijk et al.2008). Warkentin et al. (2002) describe adoption as the intention of citizens to engage in e-Government to receive information and request services from the government. Carter and Belanger (2005) measure it as intent to use, while Gilbert and Balestrini (2004) measure it as willingness to use e-Government services. Both willingness and intention to use could be considered as one-dimensional measures of adoption. The relationship between intentions to use e-Government services along with ten independent variables are measured using this model.

3.2.2. Independent variables
3.2.2.1. Perceived Ease of Use
Perceived ease of use is defined as “the degree to which a person believes that using a particular system would be free of physical and mental effort” (Karavasilis, I et.al, 2010). More and more people tend to use a particular website because of its simplicity and adaptability. Perceived Ease of Use and Usefulness is an important dimension to identify citizens’ satisfaction (Yoo and Donthu, 2001; Davis, 1989). Perceived ease of use can also be
defined as a user’s trust which favors to tend to go for a particular web site of being its userfriendliness, adoptability and a zero free zone of physical and mental effort. Perceived ease of use is powerful inner urge and a spot shoot of people/ citizens’ satisfaction.

3.2.2.2. Perceived Usefulness
Perceived usefulness is defined as “the degree to which a person believes that using a particular system would enhance his or her job performance” (Karavasilis, I et.al, 2010). Perceived usefulness refers to the state of mind to which a person feels to put his seal of endorsement for using a particular system that would enhance his or her job performance, whereas perceived ease of use is the degree to which a person feels that using a particular system would be free of effort (Davis et al. 1989).

3.2.2.3. Perceived Risk
Perceived risk is defined as “combination of uncertainty plus seriousness of outcome involved ”(Horst et al.2007).As well risk it can be as defined “the citizen’s subjective expectation of suffering a loss in pursuit of a desired outcome” (Warkentin, M. et.al, 2002). Always risk factor is negative correlated with the intention use services. Perceived risk can be defined as to be or not to be, either one would be an unseemingly loomed outcome.

3.2.2.4. Computer Self Efficacy
Compeau and Higgins (1995) defined computer self-efficacy as “an individual’s perceptions of his or her ability to use computers in the accomplishment of a task”. The definition is based on the concept of self efficacy introduced by Bandura (1986) as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not only with the skills one has but with judgments of what one can do with whatever skill one possesses”. Computer self efficacy can be defined as one’s confirmed multi-skilled judgment to bring about the desired results through the use of computer.

3.2.2.5. Local Language
Communication and interaction will be meaningful, only if internet language is in the local language and this will lead to understand them the facilities offered by ICT. In the present context the reason for not reaching the advantages offered by government through ICT
because of illiterate are being unable to understand the content and services other than their own language and this local language barrier somewhat pulls down the mighty power of e-Government system (Yong, 2004).

3.2.2.6. Familiarity

Familiarity is a process of human mind to bring back or to recollect the past experiences to present in our mind. Our mind registers and interacts with new things when we hear or see them for the first time, which it learns and records, and brings back when we happen to see something similar (Luhmann, 1979). In the same way citizens, who are not familiar with the use of online system, they become more familiar once they come in contact with the government agencies for their operational technique.

3.2.2.7. Personalization

In the online environment, the need for personalization is important as well, since there is no direct contact between citizens and the government. In the absence of personalization, citizens may have ripples of dissatisfaction concerning the method of payment, delivery methods and service process. Hence, the government must ensure that tailor-made and need-based online services and personalization are made available on e-Government system (Madu & Madu, 2002; Lee & Lin, 2005 and Hongxiu & Reima, 2009).

3.2.2.8. Security

Security is defined as protecting user’s information from misuse and malpractice. There is a general feeling among citizens that there is lack of security while doing online transaction on e-Government website (DeBenedictis et.al, 2002). In e-Governance operations, the complete security, privacy and unsnooping of information is an unstated agreement between the citizens and the government. Though it is not a fundamental right in India, it is one in developed countries.

3.2.2.9. Computer Anxiety

Computer anxiety is defined in many ways by different authors, but each one definition is close to each others. Computer anxiety refers to individual’s apprehension when he or she is faced with the possibility of using computers (Simonson et al., 1987, cited in Venkatesh, 2000). Moreover, Howard and Smith (1986) define that computer anxiety as the tendency of
a person to experience a level of uneasiness over his or her impending use of a computer. Initially computer anxiety unnerves the user because of not being habituated and feels uncomfortable entering into new system. Several researches have investigated computer anxiety as a key factor in influencing the different types of technology intention such as E-mail (Elasmar & Cartar 1996) and computer usage (Compeau & Higgins 1995).

3.2.2.10. Website Quality

Website can be termed as a brain of our human body which controls every activity and therefore the quality of website must be unequable and free from ambiguity with simple good design where mass people can easily follow the content. In all respect website should establish its simplicity in satisfying user’s requirements then only it can be called a well designed website. While accepting and supporting of Nielsen (2000) view poor quality of website will produce a violent backward swing and produce a negative emotional sensitiveness. Researchers reasonably brought out the factors that significantly affected the success of websites especially within the domain of electronic system (Kuan et.al., 2008).

3.3. Theoretical Model for Citizens’ Perspectives

Based on the above discussed independent and dependent factors the theoretical model is derived (Figure 3.1).

**FIGURE 3.1 THEORETICAL FRAMEWORK**

This model utilized ten independent variables (perceived ease of use, perceived usefulness, security, perceived risk, computer self efficacy, computer anxiety, language barrier, website
quality, familiarity and personalization) and one dependent variable (intention to use) to formulate the theoretical model used for the study.

3.4. Factors affecting Intention use to e-Government System (Employees’ Perspective)

3.4.1. Dependent Variable

3.4.1.1. Intention to Use

Intention to use is defined “as a citizen’s intention to adopt and make use of a certain tool in the future “(Ajzen, 1988; 1991; Taylor & Todd, 1995; Venkatesh & Brown, 2001; Venkatesh et al., 2003). The measurement for intention to use includes the intention to use the technology, predict and plan to use the technology in near use. In this study the factor intention to use is used to measure the behavioral intention of the employee to use e-government system.

3.4.2. Independent Variable

3.4.2.1. Performance Expectancy

Performance expectancy is defined “as the degree to which an individual believes that using the system will help him or her to attain gains in job performance” (Venkatesh et al., 2003). Performance expectancy is the exception of his or her skilled capacity coupled with by using new system will strengthen their belief to attain a high degree of job performance.

3.4.2.2. Job Fit

Job fit is defined as “the extent to which an individual believes that using a technology can enhance the performance of his job or her job (e.g. obtaining better information for decision making or reducing the time required for completing important job tasks)” (Thompson et al., 1991). According to Tornatsky and Klein’s (1982) in their innovation adoption theory, they found that factor job fit help the employees to complete their task on quality assured time bound frame work. It also is use to measure the performance of an employee based on the newly implemented e-government system.
3.4.2.3. Facilitating Conditions

Facilitating conditions is defined as “the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system” (Venkatesh et al., 2003). Facilitating condition can be defined as an individual agreement with the atmospheric condition favoring him to have strong faith or belief on an organization and infrastructure to support the user system. Favorable condition is not only factor but the user’s adequately trained IT knowledge will certainly push him towards the use of new technology. In this study, facilitating conditions was measured by identifying the ability of the person to access the online e-government system with the help of his or her past experience in the field of information technology. According to Venkatesh et al., (2003) argues that facilitating conditions construct is not an significant factor for predicting intention, but it can be used to identify factor for technology usage. Mahadeo (2009) opined that the factor facilitating conditions are considered to be a motivating factor for citizens’ intention to use e-government services.

3.4.2.4. Compatibility

Compatibility is defined as “the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters” (Rogers, 1995). In this study compatibility mainly focus on the existing work practice along with the way of conducting the job with the new system. Computerized system being a versatile one to assists for establishing and to measuring the ability of employee performance in comparison with the use of tradition method.

3.5. Theoretical Model for Employees’ Perspective

This theoretical model is designed based on the above discussed independent and dependent factors. This model utilized four independent variables (performance expectancy, effort expectancy, facilitating conditions, compatibility) and one dependent variable (intention to use) to formulate the theoretical model for employees’ perspectives (Figure 3.2).
FIGURE 3.2 THEORETICAL FRAMEWORK

Compatibility

Job-Fit

Performance Expectancy

Facilitating Conditions

Intention to use
E-Government system
CHAPTER 4
RESEARCH METHODOLOGY

4.1. Research Design
The basic feature of the research design is as follows; the plan should be specific and should match to the actual problem, it is a strategy for gathering and analyzing the data for their hypothesis, time and cost analysis should be made in advance. Thus it should contain a clear statement of the research problems, the techniques and procedures should be done systematically, the sampling design should be properly taken into account for processing and analyzing the data and the methods should be effectively followed to solve the problems.

Research design is classified broadly into three types. They are exploratory, descriptive, casual relationship research respectively. In this study all the three types of research designs were used in different stages forming the preparation of the research problem, objectives of the study and by hypotheses of the study. In this study the exploratory research helps to familiarize with the research problem or concept to be studied. In this study descriptive research helps to identify the characteristics of the population as well as it helps to specify clearly target population taken for this research. Casual research tries to identify the relationship between the independent and dependent variables that are going to be tested in this study.

Both citizens and government employees’ behaviors were studied to understand the impact of e-Governance in public utility service sector in India. This study undertook a combination of exploratory, descriptive and causal relationship. Based on the theoretical framework of the study the questionnaire design was framed and then data collection was planned and executed.

4.2. Pretesting / Pilot study
After the questionnaire was designed, based on the literature review, the questionnaire was pretested before releasing it to the respondents. Pretesting helped to identify the critical errors occurred in the questionnaire. In this study the pretesting was conducted by the experts in the field of e-governance and had work experience in the e-governance projects. Based on the input given by the experts in the field of e-governance the structure and the wordings in the
questionnaire were changed to get appropriate answer from the respondents. The main purpose of pretesting helped the researcher to reduce the ambiguity wordings in the questions and to regularize the flow of the question and to find the time taken by the respondents to answer the questions.

A pilot studies for a sample size of 148 respondents were collected from the citizens’ of Mumbai as well as 30 respondents were collected from the employees of Mumbai working in different government departments. This was used to test the reliability and validity of the scales used in the study. Some items with lower factor loadings (< .5) and cross loadings were removed after pre-testing. The pre-testing also asserted that there were no issues on comprehensibility of the statements used in designing the questionnaire. It helped in estimating that 10-15 minutes time was taken by the respondents to the answer the questionnaire.

4.3. Questionnaire and Scale Validation

A questionnaire was designed to gather the necessary information. Based on the literature review in the field of e-Government adoption studies the questionnaire was developed for both citizens and employees perspectives. The questionnaire was created in such way that the respondent could give quick response.

For measuring the citizens’ intention to use e-government system as well as employees’ intention to use e-government system a seven–point Likert’ scale was used. Likert’ Scale is the most widely used for scaling responses in survey research. Each item of the questionnaire was measured on a seven–point Likert’ scale with end points of ‘strongly agree’(7) and ‘strongly disagree’(1). Reliability helped to identify the internal consistency among the variables which was grouped together to measure the same construct. With the help of Cronbach’s alpha the reliability coefficient was measured to find out the consistency of the entire scale. The validity of the citizens and employees perspective of e-government system scale was measured by content and constructs validity. The construct items were identified from the past literature of e-government adoption studies. The construct validity of that scale was measured by conducting exploratory factor analysis. Factor analysis was conducted to evaluate the consistency, stability of the model. Principal component analysis with varimax rotation was used to evaluate and identify the component factors.
4.4. Final Questionnaire Design

A questionnaire was designed to gather the necessary information. Based on the literature review in the field of e-Government adoption studies the questionnaire was developed for both citizens and employees perspectives. The citizens’ questionnaire had three different sections along with a preface. The preface addresses of the respondent provide a brief on the study and the scale to be used by the researcher. The first section was aimed at collecting general information about the awareness of the e-Governance system and various e-Government services used by the citizens’. The second section of the questionnaire consisted of statements aimed at ascertaining and measuring various factors which leads to citizens’ intention to use e-Government system. The third section was aimed at collecting citizens’ demographic data of the respondents.

Employees’ questionnaire design followed by three sections, the first section asked about the general information about the ICT and e-governance training attended by the employees and second section consisted of statements aimed at ascertaining and measuring various factors which leads to employees’ intention to use e-Government system. The third section was aimed at collecting employees’ demographic data of the respondents.

4.5. Sampling Plan for Data Collection

Neuman, W.L. (2007) defines, “Sampling is a process of selecting samples from a group or population to become the foundation for estimating and predicting the outcome of the population as well as to detect the unknown piece of information”. The convenience sampling was used in this study because the researcher has no population list of Indian citizens’ to be studied. The advantage of this sampling method was to incur less cost and time, very easy to carry out with few rules in data collection. Sample size was defined as the number of observations used for calculating the estimates of a given population. Great care was taken before finalizing the sample size for a given research study.

A total of 1000 samples were considered for this study out that 750 were responses for citizens’ scale and 250 were responses for employee e-government scale. For justification of sample size, this study first considered the rule given by Hair et.al (2005) in deciding sample size by the number of variables in the questionnaire multiplied by 10 (i.e. 1 : 10 ratio ). That was the
minimum requirement fixed for an adequate sample size. In this research study the citizen questionnaire had 47 variables (47:10 ratio), hence 470 sample sizes were enough to do the analysis. In same way the employee questionnaire had 18 variables (18:10 ratio), hence 180 sample sizes were adequate enough to do the analysis. Total sample size required for the entire study was 470 plus 180 totaling 650 sample size. Comfrey and Lee (1992) suggest that sample size of: 50 – very poor; 100 – poor; 200 – fair; 300 – good; 500 – very good; 1000 or more – excellent. The survey questionnaire was distributed among a total of 750 respondents to citizens. From citizens a total of 550 responses were collected, out of which 498 were usable with 66.4% of response rate. The employees’ questionnaire was distributed among a total of 250 respondents of government employees’. From the total of 110 responses were obtained with response rate of 44.0%.

The KMO metric and Bartlett’s test for measuring sampling adequacy for the citizen’s perspective of e-government system scale. The result showed that the KMO value obtained was 0.870, which was great (Field, 2009). Bartlett test of Sphericity had the p-value of 0.000 which was less than 0.05; it stated that the model was statistically significant for conducting factor analysis. The KMO value obtained for employee perspective was 0.567, which was mediocre (Field, 2009). Bartlett test of Sphericity had the p-value of 0.000 which was less than 0.05, it stated that the model was statistically significant for conducting factor analysis.

4.6. Statistical Analysis Techniques
Suitable statistical analysis tools were used to analyze the data. Appropriate univariate, bivariate and multivariate analyses were used depending on the nature of variables and objective of the study.

4.7. Ethical Consideration
Ethical aspects regarding the confidentiality, privacy, and consent of data were seriously considered during the research process. During the data collection process, the respondents were briefed about the objectives of the study and ensured data were not been used for any other purpose than the academic research objectives. To ensure the confidentiality and privacy of the respondents, only aggregate results were used. No respondent was forced to answer any question in which they were not comfortable. Respondents’ personal information such as name, address, contact information, and bank name were not used in the study.
CHAPTER 5
DATA ANALYSIS & FINDINGS OF THE RESEARCH

5.1. Introduction

To test the theoretical model described in Chapter 3, the study dealt with respondents drawn from citizens’ from all over India. This study used these respondents to determine the impact of e-Governance in public utility service sector in India.

This chapter tests the reliability and validity of the scales used by administering factor analyses and Cronbach Alpha tests. This is followed by testing of hypotheses by applying correlation, regression, t-test and ANOVA tests. It also comprises of descriptive statistics reflecting the characteristics of the sample. Standard Statistical Package for Social Sciences (SPPSS) version 12.0 software was used for analyzing the data.

5.2. Summary of Results

The test of hypotheses uses bivariate and multivariate techniques have been applied to analyze in this chapter. The following Table 5.1 summaries the numbers of the hypotheses suggested and offered in Chapter 1. Additionally, it shows whether these research hypotheses are accepted or not. Table 5.1 demonstrates research hypotheses that were tested to examine whether the independent variables significantly explained the dependent variables. The research hypotheses were supported by the data and it means that all the independent variables significantly clarified and explained the intention to use e-government system.

<table>
<thead>
<tr>
<th>H.No</th>
<th>Null Hypotheses- Citizens’ Perspectives of e-government system</th>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H10</td>
<td>Perceived ease of use of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta=.444 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H20</td>
<td>Computer Self Efficacy of e-Government services has no negative influence on intention to use the e-Government system.</td>
<td>Regression Beta=.647 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H.No</td>
<td>Null Hypotheses- Citizens’ Perspectives of e-government system</td>
<td>Test</td>
<td>Result</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------</td>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>H3₀</td>
<td>Website Quality of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .115 p-value=.021</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H4₀</td>
<td>Personalization of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .377 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H5₀</td>
<td>Perceived risk of e-Government services has no negative influence on intention to use the e-Government system.</td>
<td>Regression Beta= .112 p-value=.024</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H6₀</td>
<td>Computer Anxiety of e-Government services has no negative influence on intention to use the e-Government system.</td>
<td>Regression Beta= .183 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H7₀</td>
<td>Familiarity of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .358 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H8₀</td>
<td>Perceived Usefulness of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .499 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H9₀</td>
<td>Local Language of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .114 p-value=.022</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H10₀</td>
<td>Security of e-Government services has no positive influence on intention to use the e-Government system.</td>
<td>Regression Beta= .211 p-value=.000</td>
<td>Null hypothesis rejected</td>
</tr>
<tr>
<td>H11₀</td>
<td>There is no significant difference between genders in predicting the overall intention to use the e-Government system.</td>
<td>Independent t-test p-value = .515</td>
<td>Null hypothesis accepted</td>
</tr>
</tbody>
</table>
### H. No | Null Hypotheses - Citizens’ Perspectives of e-government system | Test | Result
--- | --- | --- | ---
H12₀ | There is no significant difference across different age categories of citizens’ in predicting the overall intention to use the e-Government system. | One Way ANOVA | Null hypothesis rejected<br>Sig=.130

H13₀ | There is no significant difference in income category of citizens’ in predicting the overall intention to use the e-Government system. | One Way ANOVA | Null hypothesis rejected<br>Sig=.033

H14₀ | There is no significant difference in education category of citizens’ in predicting the overall intention to use the e-Government system. | One Way ANOVA | Null hypothesis rejected<br>Sig=.049

#### Null Hypothesis - Employees’ Perspectives of e-government system

| H. No | Performance Expectancy of e-Government services has no significant influence on intention to use the e-Government system. | Regression | Null hypothesis accepted<br>Beta= -.055<br>p-value=.382

| H. No | Compatibility of e-Government services has no significant influence on intention to use the e-Government system. | Regression | Null hypothesis rejected<br>Beta=.170<br>p-value=.007

| H. No | Job fit of e-Government services has no significant influence on intention to use the e-Government system. | Regression | Null hypothesis rejected<br>Beta=.769<br>p-value=.000

| H. No | Facilitating Conditions of e-Government services has no significant influence on intention to use the e-Government system. | Regression | Null hypothesis accepted<br>Beta= -.074<br>p-value=.225

### 5.3 Citizens’ Perspective of e-Government System Theoretical Model Testing

The theoretical model of citizen perspective of e-government system which is explained in chapter III is tested using multiple regressions. A multiple regression analysis was conducted in order to identify the independent variables that best explain intention to use the e-government system (the dependent variable). The multiple regression technique is used to analysis the most contributed independent variable to the explanation of the variance of a dependent variable. The ten independent variables namely perceived ease of use, computer
self-efficacy, website quality, personalization, perceived risk, familiarity, computer anxiety, local language, perceived usefulness and security along with one dependent variable intention to use the were used in the multiple regression with the results are displayed in TABLE 5.2.

**TABLE 5.2 MODEL SUMMARY OF CITIZENS’ PERSPECTIVE OF E-GOVERNMENT SYSTEM**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variables</th>
<th>Unstandardized Coefficients B</th>
<th>Std. Error</th>
<th>Standardized Coefficients Beta weights</th>
<th>t</th>
<th>Sig.</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention to use the e-government system</td>
<td>(Constant)</td>
<td>.299</td>
<td>.280</td>
<td></td>
<td>1.069</td>
<td>.286</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Perceived Ease of Use</td>
<td>.190</td>
<td>.039</td>
<td>.199</td>
<td>4.946</td>
<td>.000**</td>
<td>1.420</td>
</tr>
<tr>
<td></td>
<td>Website Quality</td>
<td>.059</td>
<td>.030</td>
<td>.090</td>
<td>1.947</td>
<td>.052</td>
<td>1.893</td>
</tr>
<tr>
<td></td>
<td>Personalization</td>
<td>.040</td>
<td>.034</td>
<td>.049</td>
<td>1.163</td>
<td>.246</td>
<td>1.555</td>
</tr>
<tr>
<td></td>
<td>Perceived Risk</td>
<td>.051</td>
<td>.027</td>
<td>.067</td>
<td>1.892</td>
<td>.059</td>
<td>1.095</td>
</tr>
<tr>
<td></td>
<td>Computer Anxiety</td>
<td>.096</td>
<td>.023</td>
<td>.182</td>
<td>4.199</td>
<td>.000**</td>
<td>1.650</td>
</tr>
<tr>
<td></td>
<td>Computer Self-Efficacy</td>
<td>.338</td>
<td>.032</td>
<td>.434</td>
<td>10.478</td>
<td>.000**</td>
<td>1.513</td>
</tr>
<tr>
<td></td>
<td>Perceived Usefulness</td>
<td>.161</td>
<td>.036</td>
<td>.185</td>
<td>4.451</td>
<td>.000**</td>
<td>1.523</td>
</tr>
<tr>
<td></td>
<td>Familiarity</td>
<td>.046</td>
<td>.031</td>
<td>.060</td>
<td>1.510</td>
<td>.132</td>
<td>1.399</td>
</tr>
<tr>
<td></td>
<td>Local Language</td>
<td>.010</td>
<td>.021</td>
<td>.018</td>
<td>.503</td>
<td>.615</td>
<td>1.136</td>
</tr>
<tr>
<td></td>
<td>Security</td>
<td>.010</td>
<td>.031</td>
<td>.014</td>
<td>.334</td>
<td>.739</td>
<td>1.574</td>
</tr>
</tbody>
</table>

- **F-value** 49.281**, p-value= 0.000
- **R²** .558
- **Adjusted R²** .547

**Significant (p < 0.01)**

The larger F-value (49.281) suggests that the model fit is good. It can be seen that the R square value is .558, which indicate that the proposed model explains 55.8% of the variance in the dependent variable – intention to use the e-government system. The probability value of p was found significant at 0.01 level (p<0.01). The results of multiple regression analysis indicate that computer self-efficacy (β = .434, p=.000) was found to be the most significantly related factor affecting the intention to use the e-government system in India. Perceived ease of use (β = .199, p=.000) was the second important factor followed by computer self-efficacy. Perceived usefulness (β = .185, p=.000) was the third factor followed by ease of use. Computer
anxiety ($\beta = .182$, $p=.000$) and website quality ($\beta = .090$, $p=.000$) also had a significant effect on the intention to use the e-government system in India. The factors perceived risk, personalization, familiarity, local language and security are not significant predictors for intention to use the e-government system. Multicollinearity refers to a situation in which two or more independent variables in a multiple regression model are highly correlated. We have perfect multicollinearity if the correlation between two independent variables is equal to 1 or -1. Multicollinearity can exist when the Variance inflation factor (VIF) value is above the threshold value of 10 (Field, 2009). Table 5.2 illustrates that the (VIF) for the model varied between (1.095) for perceived risk and (1.893) for website quality, which are below the recommended level. As a result, the (VIF) suggest that the independent variables (perceived ease of use, computer self-efficacy, website quality, personalization, perceived risk, familiarity, computer anxiety, local language, perceived usefulness and security) do not have high correlation with each other.

5.4. Summary of Findings of the Study

5.4.1. Factors determining the Citizens’ Perspective of e-Government System in Indian Context

This study identified factors contributing for citizen intention to use e-Government system from various e-government adoption literatures. This study identified ten independent variables namely perceived ease of use, perceived usefulness, security, website quality, computer anxiety, computer self efficacy, personalization, familiarity, local language and perceived risk and one dependent variable i.e. intention to use.

5.4.2. Explaining Theoretical Framework for Citizens’ Intention to use e-Government System in Indian Context

Based on the literature review in e-government adoption studies it reveals that there exists an absence of a holistic model in the area of e-government system. Therefore it is necessary for the government to develop a citizen oriented theoretical framework for their intuitied intention to use e-government system. The study developed a model with ten independent variables and one dependent variable. The citizens’ perspective model with ten independent variables records 55.8% of the variance towards the dependent variable – intention to use e-government system. The analysis registers the computer self-efficacy is the first and for most important predictor for intention to use e-government system in India. Perceived ease of use holds second important factor followed by computer self-efficacy.
5.4.3 The influence of Demographic factors of Citizens’ Perspective of e-Government System

This study also recognizes the contribution made by the demographic variables like age, gender, income and education which are influencing towards the intention to use e-government system. This finding suggests that gender has no significant in predicting intention to use e-government system, in the sense both male and female are more interested to use new system for performing their task. The findings suggest that age has no significant influence on intention to e-government system. This means that people in all age groups are interested to use new system and feel more comfortable to use online system.

The findings also suggest that there is a significant difference in income categories of citizens’ overall predicting the intention to use e-government system. The higher income group people have the capacity to own computer and internet facilities to use online system at their door step, whereas the low income group shows very marginal intention to use e-government system due to non-availability of resources.

The findings also suggest that there is a considerable difference in education categories of citizens’ overall predicting the intention to use the e-government system. In fact, educated people by virtue of their knowledge know how to use on-line system, and they can easily adapt to the new system compared those who have no experience in using the on-line system. Demographic variables like age, income and education are the more contributing towards the intention to use the e-government system, whereas the gender have no difference in intention to use the e-government system.

5.4.4. Factors determining the Employees’ Perspective of e-Government System in Indian Context

This study reveals the factors contributing for employees’ intention to use e-Government system by going through various e-government adoption literatures. This study also recognizes four independent variables namely performance expectancy, compatibility, job fit and facilitating conditions and one dependent variable i.e. intention to use.
5.4.5. Explaining Theoretical Framework for Employees’ intention to use e-Government System in Indian Context

Based on the study of the various literature reviews in e-government adoption a meaningful theoretical model has been developed for employees’ intention to use the e-government system to assist employees for the better understanding of e-government system in India. The developed model consists of four independent variables and one dependent variable. The multiple regression analysis results showed that the model is clearly explaining 79.5% of the variance towards the dependent variable – intention to use the e-government system. The analysis shows that the job fit holds to be the most important predictor for employees’ intention to use the e-government system in India. Compatibility marks the second important factor followed by job fit. The factors’ performance expectancy and facilitating conditions are not significant predictors for employees’ intention to use the e-government system.

5.4.6. Reasons for Not Using e-Government Services

There are numbers of acceptable reasons for not using e-government services by citizens as well as the government employees. The known major factors for not using these services are unavailability of resources, lack of internet access, poverty, lack of awareness, illiteracy, lack of security and privacy in online website, digital divide, and lack of periodic updation of the content of the website, technical issues, language barrier, etc. If the government is keen on redressing these issues, the government could see a greater number of citizens use of e-government services will be a successful one.
CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

This chapter unfolds the findings of the research. This research offers a possible relationship between the past studies and the present research findings. The importance of e-Governance in all public utility service sectors in India is expressively stressed in this study. After taking notes from various literatures of e-government adoption studies, an analyzed holistic theoretical model has been developed for both citizens’ and employees’ intention to use e-government system. All the efforts have been taken during this study, to build these multi-skilled theoretical models for citizens’ and employees’ perspectives, is towards the intention to use, striding towards excellence in impact of e-governance in the public utility service sector in India. Public utility services are basically framed to give a lot of benefits to its citizens. The success of e-government is fully dependent on the citizens’ willingness to use the new system. The powerful mechanism of ICT will create a favorable impact on citizens to involve voluntarily them for utilizing the services offered by the government. This research study also attempts to get bright glimpse about the factors that facilitate the intention to use e-government services by both citizens’ perspective as well as employees’ perspective. Then this chapter follows on a brief discussion of the managerial implications for academicians and practitioners, an outline of possible area of future research in the e-government system.

6.1. Theoretical Implications

The research scholars will find more useful insights concerning the citizens and employees intention to use the e-government system from this study. This is a unique citizen model developed in the area of e-government research, especially to influence more and more citizens’ towards the usage of e-government services. The research is relevant for government to citizens (G2C) and government to employees (G2E). It provides insights and methodology for measuring the intention to use the e-Government system in public utility service sectors. Based on various e-Government adoption studies the study proposes two theoretical models: namely employees’ perspective and citizens’ perspective for intention to use the e-Government system and maximize user satisfaction. This study has the orientation of recognizing the major factors which contributes more for implementing e-Governance in the field of public utility service sectors. This study also reveals that there is a need to study
both employees’ and citizens’ attitude towards using e-government system which helps them to provide the necessary resources for implementing the new system.

6.2. Managerial Implications
This research oriented theoretical model will serve as a strong base for making decisions by the practitioners (government institutions, government officials and e-Government practitioners) at the time of developing a suitable system for e-government. This model can be easily implemented by the government in various public departments because the proposed model is based on various well established theories in the field of technology adoption. Being in the era of digital world it is mandatory for the government to provide online system for servicing both the citizens’ as well as employees.

India has huge human capital and IT wealth; hence government of India has to focus on building successful e-government system. The findings from the research study will definitely give a clear set of objectives for the government for structuring various guidelines for implementing the e-government system in public utility service sectors. Government officials as well as e-Government practitioners can take these frameworks as a pilot model for testing the intention to use e-government system in public utility service sectors. If government focuses more attention on well-defined strategies to maximize the usage of the online system, it will create a great impact upon the minds of the citizen to move forward and interact with the online system.

6.3. Area for Future Research
Research can be usually extended further for improvising and upgrading, and the research presented here has no exception. India being vast populated country with multiple setbacks, marches forward to improve the present condition of giving services and include many untouched areas with their undaunted wealth of ICT for which India alone stands for. For challenging future achievements the participation of public-private partnership will prove that the power of ICT instrument will disqualify all the barriers and bring great results in their achievements. This study brings out the need of e-Governance even in the rural sectors that holds major block of population. The rural Indian people have started realizing the power of ICT to handle any type of complicated issues with ease. This influence and response from the citizens’ encourage government to introduce full fledged e-Government system in the rural
sectors. The research has focused on studying government employees’ perspective in only limited public sectors. Researchers can further explore many other public services and bring out a more robust model for implementing e-government system in government departments.
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Publications/ Conferences of Research scholar


