ICT and Good Governance: A Study of Indian Environment

Nirmaljeet Singh Kalsi[1], Ravi Kiran[2]* and S. C. Vaidhya[3]

ABSTRACT

ICT has been recognized as the engine for growth and a source of energy for the social and economic empowerment of any country, specially a third world country. Relationship between Information and Communication Technologies (ICT) is coming to be recognized increasingly world over. Today, governments are empowering masses through IT as it can prove to be effective short-cut to higher levels of equity in the emerging Global Digital Networked Information Economy. Framing Information and Communication Technology Strategies and Policies are complex exercises which encompass a variety of issues covering areas such as infrastructure, human challenges, technology, architecture, standards, administrative, information, security, financial, legal, privacy, quality of service etc. The enthusiasm for realizing the potential of ICTs is often dampened by the barriers to successful implementation. This research is an effort to study whether the new information and communication technologies can make a significant contribution to the achievement of good governance. There is an urgent need to carry out study in the Indian environment to take a snapshot of the possible barriers in the implementation of e governance applications and draw a meaningful framework in this direction to workout alternative solutions to remove these barriers.

Keywords: e-Governance, Good Governance, Information and Communication Technologies (ICT)

1. Introduction

Governance and good governance are increasingly being used in development literature. Governance describes the process of decision-making and the process by which decisions are implemented (or not implemented). Thus the Good Governance is the process whereby public institutions conduct public affairs, manage public resources and guarantee the realization of rights and services. Good governance accomplishes this in a manner essentially free of abuse and corruption, and with due regard for the rule of law. Good governance defines an ideal which is difficult to achieve in its totality. Good Governance may be defined as the processes that guides the political and socio-economic relationships, with commitment to democratic values, trusted services and just and honest business. Good Governance should be participatory, transparent and accountable. It provides a framework within which political, social and economic priorities are based on a broad consensus in society, and the voices of the poorest and most vulnerable are considered for the decision-making processes. In addition, Good Governance has major implications for equity, poverty and quality of life.

[1] Ministry of Home Affairs, Government of India, New Delhi, India
[2] School of Management & Social Sciences, Thapar University, Patiala,147004, India
[3] University Business School, Panjab University, Chandigarh-160014, India
* *Corresponding Author:* (E-mail : rkiran@thapar.edu, Telephone: +91 9876114591)

The rapid development, deployment and proliferation of the new and emerging information and communication technologies (ICTs) herald new opportunities for growth and development in countries around the world. Governments worldwide are seeking to harness the potential offered by these new technologies to create new dimensions of economic and social progress. Immediate challenges relate to the need for requisite efforts by Governments to aim at transcending the digital divide by narrowing the digital gap through incrementally (i) putting in place the necessary national information infrastructure; (ii) developing and nurturing the necessary human resource to operate the national information infrastructure; and (iii) providing adequate financial resources to implement both the infrastructural and human resource requirements.

2. Review of Literature

A review of literature pertaining to the study is a pre-requisite for research as it enables the investigator to have a proper perspective of the subject and avoid the pit falls and difficulties experienced by predecessors. Thus, the planning and execution of any research study should be preceded by a thorough review of literature in related fields since it helps to familiarize with the work that has been done in that area., eliminates the possibility of unnecessary duplication of efforts and helps in providing a valuable information on research techniques. After analyzing the concept of good governance, the review of ICT related studies has been presented under the following heads:

- Good Governance
- ICT for Improved Governance
- Knowledge and IT for Decision Making Strategies

2.1 Good Governance

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

Roumeen, Islam (2003) explored the link between information flows and governance through his study "Do More Transparent Governments Govern Better?" with the objective to examine how the availability of information may affect governance. Specifically, it looks at (a) how the availability of basic economic data affects governance and (b) how the legal framework governing access to information might affect the quality of governance. Empirical analysis showed that countries which have better information flows as measured by both indicators have better quality governance. Regions where the media have a greater reach were also the areas where voters were more informed about political choices and able to cast votes accordingly. They need timely information on decisions related to various aspects of government activity, on how these decisions will be implemented, information on the consequences of these decisions and the process through which they are reached.

This paper examined how the presence of Freedom of Information (FOI) laws may affect how countries govern. The purpose of all such laws is to define a framework for the sharing of information. Economic theory tells us that information is needed to make sound economic and political choices, to monitor agents and reward or punish accordingly. Better availability of economic data and the ability of people to demand and receive the information they need is highly correlated with governance. Governments that do not produce, organize and share information will be hampered in policymaking. Good policymaking requires up-to-date information on the economic situation; good policymaking requires the sharing of information

for better coordination, analysis and monitoring.

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

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

Richard Heeks (2001) studied the effect of new information and communication technologies and how it can make a significant contribution to the achievement of good governance goals through his study "Understanding e-Governance for Development**"**. The paper outlines the three main contributions of e-governance: improving government processes (e-administration); connecting citizens (e-citizens and e-services); and building external interactions (e-society). Case studies are used to show that e-governance is a current, not just future, reality for developing countries. However, most e-governance initiatives fail. Countries therefore face two challenges. First, the strategic challenge of e-readiness: preparing six identified pre-conditions for e-governance i.e. Data Systems Infrastructure, Legal Infrastructure, Institutional Infrastructure Ready, Human Infrastructure, Technological Infrastructure, and Leadership and Strategic Thinking. Second, the tactical challenge of closing design-reality gaps: adopting best practice in e-governance projects in order to avoid failure and to achieve success.

The study further elaborates new systemic approaches to information systems (IS) to the heart of reform. A central role for ICTs, as governance becomes and recognised as more information-intensive, ICTs become an essential part of more governance initiatives. ICTs are also recognised as a key lever to change. They are no longer isolated on the sidelines. An integrated role for ICTs, e-governance means using ICTs as servants to the master of good governance. ICTs are no longer seen as an end in themselves and they are seen to work only as part of a wider systemic 'package'. Overall, then, e-governance is the ICT-enabled route to achieving good governance.

2.2 ICT for Improved Governance

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

Bhavya Lal (1999) reviewed the issues facing African countries in adopting information and

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

A cross-national multilingual online survey focused on issues related to the European Knowledge Society and its impacts on living conditions, industrial relations and working conditions by the year 2015. A Delphi report "European Knowledge Society Foresight" was submitted to by Rafael Popper (2003) to European Foundation for the Improvement of Living and Working Conditions. The report concluded that one of the major contributors in reinforcing KS (Knowledge Society) trend would be widespread use of ICT in e-governance. This enhances transparency in the procedures concerning the relationship between the citizen and the state in my country. This was further seen as a KS trend that will increase two industrial relations factors (economic growth / wealth creation, and entrepreneurship and innovativeness). Furthermore, the widespread use of ICT in e-governance will increase social cohesion and sustainability / environmental quality. A considerable number of participants believed that the use of ICT in e-governance will increase the employee autonomy and responsibility at work but there was still a substantial amount of opinions that the statement will have no effect over the factor. Uncertainties about the impacts of ICT in e-governance were reported in the way it will affect social exclusion or divides, work-life balance and job creation.

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

The study by Christopher A. Cooper et al (2008) tests theories about political trust and citizen competence using the case of zoning. Many scholars argue that citizens with higher levels of political trust are more likely to grant bureaucratic discretion to public administrators than citizens with lower levels of trust. Trust, therefore, can relieve the tension between managerial flexibility and political accountability in the modern administrative state. Unfortunately, there is little empirical evidence showing that trust is actually associated with citizens' willingness to cede policy-making power to government. The results depict that trust in local government is found to be an important predictor of support for zoning, but trust in state government and trust in national government have no effect. These findings suggest that trust affects policy choice and helps determine how much power citizens grant to local administrators.

The study by David Coursey and Donald F. Norris (2008) presents empirical evidence from three surveys of local e-government in the United States to test whether the normative models are accurate or useful for understanding the actual development of e-government. Research into e-government is relatively new. Nevertheless much contemporary thinking and writing about e-government is driven by normative models

that appeared less than a decade ago. The authors find that local e-government is mainly informational, with a few transactions but virtually no indication of the high-level functions predicted in the models. Thus, the models do not accurately describe or predict the development of e-government, at least among American local governments. These models, though intellectually interesting, are purely speculative, having been developed without linkage to the literature about information technology and government.

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

3. Knowledge and IT for Decision Making Strategies

The development approach to IT initiatives, however, offers no direction as to how IT can directly improve the use of implicit knowledge on individual and inter-subjective levels, and how that kind interaction can improve the decision-making process in the organization.

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

D. Roman Kulchitsky (2001) considered the possibility that IT and public managers in developing countries may be designing IT-for-decision-making initiatives based on unrealistic assumptions through his paper **"**Cargo Cults, Knowledge, and IT-for-Decision-Making Strategies in Developing Countries**"**. It argues that the problem with development thinking is that it views IT initiatives as allocation constraints. This creates the expectation that IT strategies can optimize new technologies, human resources processes, and structures within organizations. Consequently, knowledge is treated as an afterthought in IT strategies without consideration for its special characteristics. This article suggests that the challenges facing IT and public managers in developing countries are not allocation constraints but knowledge problems.

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

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

design, manage and utilize ICTs for decision-making practices.

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

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

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

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

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

The basic Objective of the present Study is:

- To evolve a Shared Vision of Stakeholders for leveraging the Information & Communication Technologies for realizing Good Governance

3.1 Research Methodology

After the literature review, a questionnaire was developed to study a shared vision of stakeholders, e.g., Citizens, Government (Politicians and Bureaucrats) and Academia, Businessmen and Professionals of the

factors that lead to Good Governance. The questionnaire is based on five-point Likert's scale. The respondents were asked to rate the options according to their choices. Random stratified sampling technique has been used for collecting the data. The sample includes the urban, semi-urban and rural areas. Data has been collected from the Politicians and Bureaucrats, Academia, Businessmen and Professionals. The three sets of questionnaires were administered to 2900 persons. In response to these questionnaires 849 responses have been received details of which have been discussed in the paper.

3.2 Data Reliability

The questionnaire was tested for validation and Reliability. The reliability index of the questionnaire was found to be quite good and is given below:

Table 1: Reliability Statistics

Variable	Cronbach's Alpha	No. of Items
Factors for providing Good Governance & a good quality administration	.915	45
Frequency of Use of the Services	.973	78
Service Outlet types the Citizen Wants	.954	17
Timeframe in which the Citizen wants e-Governance services, How much extra is the Citizen is willing to pay for Nearness of service to Home, Creating awareness & training of citizens – ICT Education.	.917	52
Total	.972	192

4. Data Analysis

4.1 Demographic Profile

Demographic profile of Respondents as given in Table 2 depicts that 287/ 849 non-urban, about 1/3 of the respondents are females, 388/849 are married, 3/4 females are unmarried, mostly students. 259/296. Females participating in the survey are generally higher educated than 369/ 553 males. Non BPL in non urban is almost equal to Non BPL in urban, .BPL in non urban is almost equal to BPL in urban. Mean age c -30, B -40, Acad / IT – 46.600 / 849 are below 35 years. About 399/ 849 i.e. 50% are married, 475/ 849 are middle class.

Table 2: Demographic Profile

Group	Number	Percentage
Gender		
Male	553	65.14
Female	296	34.86
Marital Stat.		
Single	450	53.00
Married	388	45.70
Widowed/ Divorced	11	1.29

Education		
Illiterate	21	02.43
Under Grad.	200	23.55
Graduation	318	37.45
Post Grad.	73	08.59
Income		
BPL	27	03.18
Non Tax Payer(not BPL Card Holder)	515	60.65
Tax payer	307	36.16
Total	849	100.00

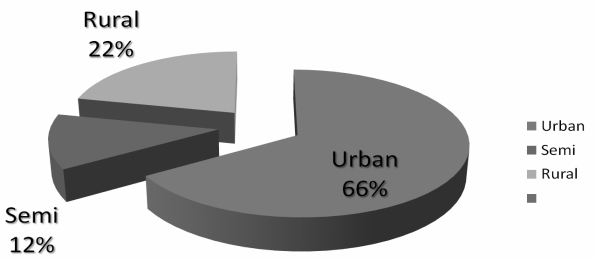

Figure 1: Area (Urban, Rural, Semi-Urban)

4.2 Young Population below 35 Years – Few Facts

More than 70% of the respondents having TV/Cable are up-to 35 years of age, 68% of the total respondents having mobile phones are up-to 35 years of age, more than 66% of the total respondents Laptops and internet connectivity are up-to 35 years of age. Education profile represents wide spectrum. 74% of the respondents have done at least graduation, 23% are HS and below and about 3% are illiterates. Access to the TV / Phones/ Cell Phone: Proportion of Non tax payers owning TVs is more than the tax payers owning TVs but the same is true of cable and mobile. In fixed line it is other way'

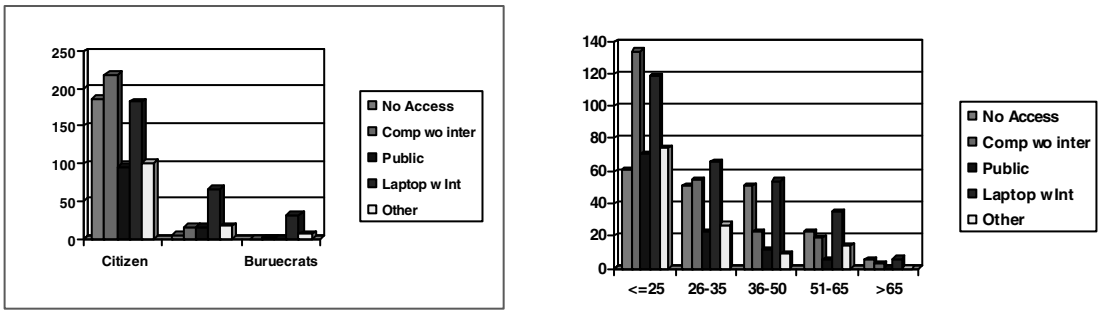

Figure 2: PC, Internet Access Vs Stakeholders and Age Group

4.3 Factors Contributing To Good Governance

After the demographic profile of the respondents, Factor analysis was conducted for section IV.2 and sectionIV.3 to focus on the level of ICT led e- governance services citizen wants. The research also tries to find out how much extra the Citizen is willing to pay for service being available in close proximity to home.

Priority of Factors as indicated by the citizens.
Table 3 highlights the Priority of Factors as indicated by the citizens. All respondents in all categories agree completely that the following factors contribute to good governance. These are**:** i) Good education facilities by the government which are job oriented, ii) Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc., iii) Safety of Life & property and peaceful Law and Order, iv) Creating new job opportunities in the private sector and the government, v) Effectiveness and efficiency of the working of government and its staff, vi) Good business environment with free-market economy, vii) reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and viii) Providing total freedom of speech, of religion, of work and an attitude of noninterference by government.

Five factors least relevant for good governance on the priority list are: i) Total freedom, ii) Provision of more concessions and free bies, iii) Reducing inequalities by special provision for poor, iv) Good business environment and v) Citizen centric services. An attitudinal change is visible in the mindsets of Indian citizens where freebies are losing their importance. The citizens are ready to pay a price for a good service.

Table 3: Priority of Factors as indicated by the citizen

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

Factor Analysis for finding factor for providing Good Governance
After analyzing the priority of citizens of factors considered important for good Governance, factor analysis was conducted to find the factors through principle component analysis with varimax rotation and Kiser normalization. The details about the factor included the factor no., factor name, their Eigen values, items under each factor and their item loading is given in the following Table 4:

Table 4: Factors for Good Governance with their Item Loading

Factor No	Factor Name	Eigen Value Total	% of Variance	Items	Item Loading
1.	Provision of Basic Fundamental Facilities and SMART Governance	5.803	41.449	1. Maintaining rule of law and Peaceful law and order and applying the same rules/ yardstick to everyone 2. Creating new job opportunities in the private sector and the government 3. Transparency and accountability in the dealings with the government 4. Citizen centric services in a responsive manner, 5. Corruption free dealings with the government 6. Basic Infrastructure development like roads, bridges, power, telecom, Airports, irrigation, transport etc, 7. Effectiveness and efficiency of the working of government and its staff , 8. Overall economic development of the state, growth rate of economy 9. Good education facilities by the government which are job oriented.	.776 .773 .756 .755 .733 .688 .688 .679 .677
2.	Creation of conducive Environment	2.050	14.646	1. Provide more concessions & freebies by the government, even at the cost of overall development 2. Reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor 3. Good business environment with free-market economy	.853 .582 .519

Two factors namely, i) Provision of Basic Fundamental Facilities and SMART Governance (infrastructure, education, safety, good economy, jobs and SMART Governance ii) Creation of conducive Environment account for a total variance of 56.095. SMART Governance means Simple, Moral, Accountable, Responsive and Transparent Governance. These factors are explained below:

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

2 Creation of conducive Environment: This factor has emerged as the second most important determinant of the research with a total variance of 14.646. The major elements consisting this factor include: i) Provide more concessions & freebies by the government, even at the cost of overall development (.853), ii) reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor (.582) and iii) Good business environment with free-market economy (.519).

Citizen's Perception about various Government Institutions and their services on the basis of Priority for improving this service through Computerisation / use of IT/ e-Governance

Table 5: Factors for improving this service through Computerisation / use of IT/ e-Governance

Factor No	Factor Name	Eigen Value Total	% of Variance	Items	Item Loading
1.	**Public Utilities and Basic Services**	7.043	27.090	1. Land Records, Registration & Transfer of property, copies of other Records, Property Tax, revenue related cases	.788
				2. Deputy Commissioner/ SDM/ Tehsildar's Office for Licences, Permits, NOC's, & all kinds of Certificates etc	.778
				3. Civil surgeon/ Chief medical Officer's Office for Birth / Death certificate, handicap certificate	.746
				4. Hospital / Dispensaries / PHC for health services like Vaccination, Maternity Care, Family Planning, Medicines, Ambulance Services, Blood Bank, etc.	.701
				5. Municipal / Civic Services for water supply, sewerage, trade licenses, Birth & death certificates, passing of building plans	.711
				6. Education from Govt. School/ College - admissions, quality of teaching, attendance, results, certificates, scholarships	.669
				7. Police Station/ for Registration of complaint/ FIR	.677
				8. Electricity connections, quality, timings, cuts, problems	.628
				9. Utility Bill Payment – Electricity, water, sewer, phone, mobile	.590
				10. Food & Civil Supplies – Ration card, ration depots, supplies	.564
2.	**Agriculture , procurement, banking and related Services**	5.822	22.392	1. Tenders pertaining to all departments/ Agencies	.812
				2. Information under the Right to Information Act, 2005	.799
				3. Redressal of Grievance in the Government	.764
				4. Procurement of food grains, facilities in mandi, payments, Crop Insurance, contract farming,	.672
				5. Cooperative Societies Related works – loans, agri inputs etc.	.638
				6. Agriculture services related- seeds, insecticides, pesticides, fertilizers, irrigation, extension services, Weather Reports, Disaster Warnings	.618
				7. Consumer Welfare & Consumer Rights from Consumer Courts, Legal Assistance	.571
				8. Banks, Bank loans, insurance, financing (Micro Credit) etc	.553
3	**Welfare and development**	4.721	18.158	1. Social Security, pensions, Welfare of SC	.772
				2. Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law & Rules (VAT, RTO)	.735
				3. Sales taxes, VAT, Excise, Entry tax, other taxes	.712
				4. Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc.	.636

Factor analysis of the priority for improving this service through Computerisation / use of IT/ e-Governance resulted in three factors namely: i) Public Utilities and Basic Services ii) Agriculture , procurement, banking and related Services and Welfare and development account for a total variance of

67.639. Public Utilities and Basic Services factor includes basic services like Medical, Health, Education, Police , Public utilities like Electricity connections, quality, timings, cuts, problems and Utility Bill Payment – Electricity, water, sewer, phone, mobile. It emerges as a most important factor and explains 27.09 per cent of total variation.

Another factor covering Agriculture, procurement, banking and related Services explains 22.39 per cent of variation. Along with agriculture services, procurement and banking and financial services it also includes: Tenders pertaining to all departments/ Agencies and Information under the Right to Information Act, 2005. Redressal of Grievance, Consumer Welfare and Consumer Rights also are included in this factor.

Additional services: Social Security, pensions, Welfare of SC, ii Industrial project related clearances, approvals, subsidies, labour laws, compliances of Law & Rules (VAT, RTO), iii Sales taxes, VAT, Excise, Entry tax, other taxes and iv Urban Development- quality of service, allotment of plots, passing of plans, change in land use etc. This factor explains 18.16 percent of total variation.

Citizens prefer to have good service and are ready to pay for it. Eighteen percent of the respondents prefer simple information while twenty four percent want to get the forms filled. Sex wise analysis of the level of ICT led e- governance services citizen wants reveals that both males and females prefer simple information. The next option preferred is for filling the forms followed by payment option.

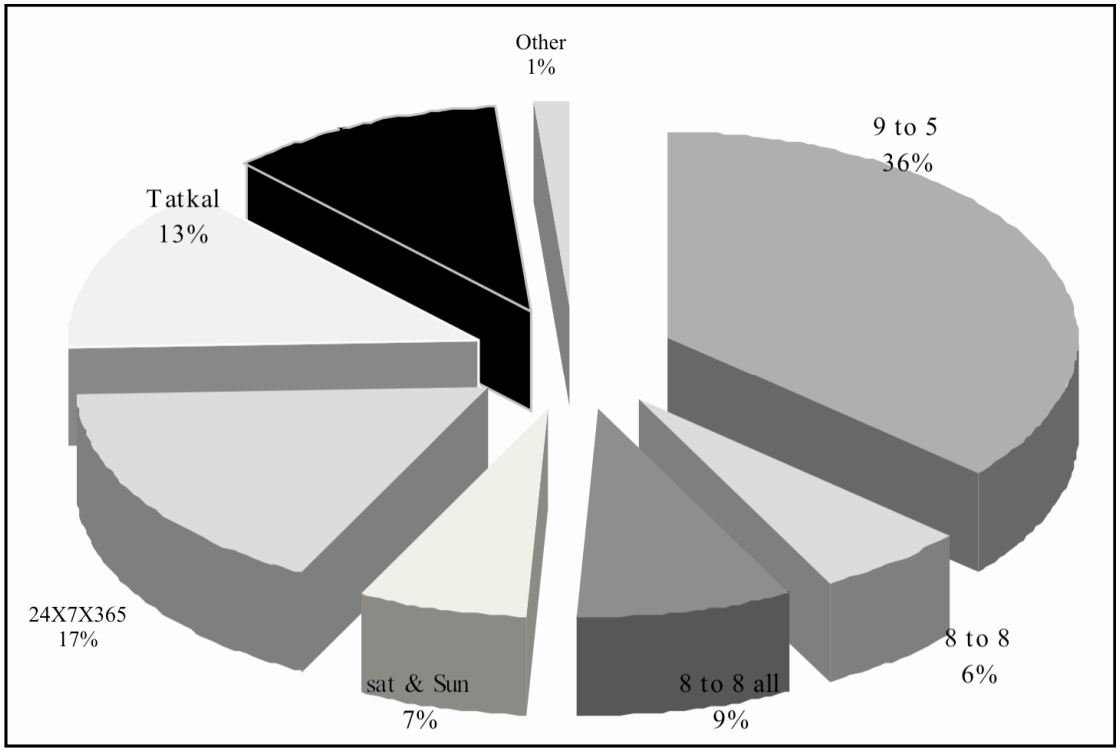

Figure 3: Level of ICT led e- governance services citizen wants

Most of the respondents in all categories prefer to have service from 9AM to 5PM. Seventeen per cent prefer to have 24*7*365 and thirteen percent prefer Tatkal, i.e. immediate service.

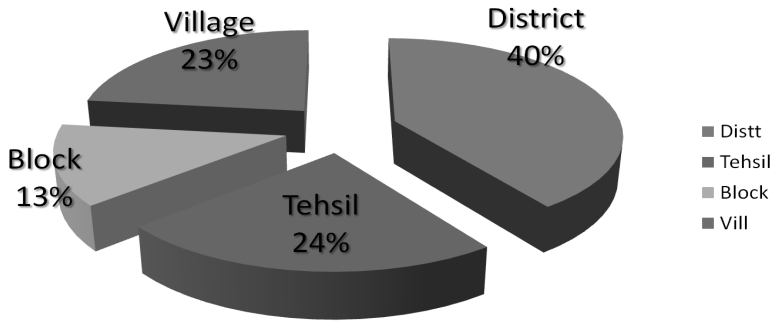

Figure 4: Citizen's willingness to pay extra for nearness of service to his home

Table 6: Relevance of factors contributing to the success or Effectiveness for Improved Services through Computerized Government Services / e-Governance

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

The above table depicts that the citizens value convenience, transparency, awareness, Proper maintenance of Government record and Simplicity of procedures and interface.

5. Concluding Remarks

The above study was done to find out whether information & Communication Technology has unique characteristics which make it the most potent tool for good governance. ICT is the most Pervasive and Cross-Cutting technology tool which can be applied to the full range of human activities. ICT is multifunctional and flexible to meet diverse needs. E-governance is the use of Information and Communication Technologies to facilitate the processes of Government and Public Administration for

achieving Good Governance. There are various facets of Good Governance. Changes to government processes, e.g. by decentralization generally to improve efficiency and effectiveness and to save costs. e-government is no longer an experiment in administrative reform but a permanent part of the governing process. e-governance allows real-time participation in the governmental and democratic process. e-governance ensures better policy outcomes, higher quality services and greater engagement with citizens. These could be online services and information that increase democratic participation, accountability, transparency, and the quality and speed of services.

Information & Communication Technology by itself is not the cure-all to the world's problems. But it can be a powerful tool to facilitate and enable affordable solutions for firstly the Infrastructure Development, secondly the Basic Human Needs, quality of life and Development i.e. education, healthcare & Empowerment, thirdly the Economic Development i.e. entrepreneurship, investments, employment & revenues, and lastly & most importantly the Good Governance i.e. Improved Citizen services & High Internal Efficiencies.

The respondents in all three categories agree completely that the factors contributing to the good governance are : Good education facilities, Basic Infrastructure, Safety, Peaceful Law and Order, Creating new job opportunities, Effectiveness and efficiency of the working of government and its staff, Good business environment, reducing digital divide and other inequalities in the society by positive discrimination in favour of the poorest of the poor and Providing total freedom of speech, of religion, of work and an attitude of noninterference by government.

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

The analysis also depicts that Indian Citizen today is interested more in the deliverable outputs from the Government services than the inputs going into the process of e-Governance. Citizens want to see a single face of the government, yearning that all the government services should be available from just one kiosk like a general store. The citizen does not want to go from department to department and kiosk to kiosk to avail different services. There is an expectation that these outputs should be delivered at the doorstep in a manner desired and at the chosen time, rather than that by the government. This is the minimum expectation the Indian citizen has from the e-Governance.

Two factors namely, i) Provision of Basic Fundamental Facilities and SMART Governance and ii) Creation of conducive Environment account for a total variance of 56.095. The requirements and expectations of the citizens from e-Governance and how it is actually reflected and translated into the functioning of the government, is very interesting. The citizen demands speedy service, easy accessibility, reduced corruption, more transparency, and accountability. Factor analysis of the priority for improving this service through Computerisation / use of IT/ e-Governance resulted in three factors namely: i) Public Utilities and Basic Services ii) Agriculture , procurement, banking and related Services and Welfare and development account for a total variance of 67.639. Overall results depict that Citizens in all categories value convenience, transparency, awareness, Proper maintenance of Government record and Simplicity of procedures and interface.

References

1. Andrulis, Jeremy and Hirning, Katie (2002), *"Collaborative government services: Building for the future,"* IBM Institute for Business Value.
2. Backus, Michiel (2001) , *"E-Governance and Developing Countries* ", IICD Research Brief - No 1, March , http://www.ftpiicd.org/files/research/briefs/brief1.doc
3. Chen , Yu-Che and Thurmaier, Kurt (2008), *"Advancing E-Government: Financing Challenges and Opportunities" ,* Public Administration Review, Volume 68. Issue 3, pp 537-548, May|June 2008
4. Coursey, David and Norris, Donald F. (2008), *"Models of E-Government: Are They Correct? An Empirical Assessment,"* Public Administration Review, Volume 68 Issue 3 Page 523-536, May|June 2008
5. Corradini, Flavio. Paganelli, Eleonora and Polzonetti, Alberto (2007), " *The e-Government digital credentials,"* Int. J. Electronic Governance, Vol. 1, No. 1, pp 17-37
6. Cooper ,Christopher A., *H*. Gibbs Knott and Brennan, Kathleen, M. (2007)*, "The Importance of Trust in Government for Public Administration:* The Case of Zoning, Public Administration Review, Volume 68 Issue 3, pp 459-468, May| June, 2008
7. Dada, Danish,(2006), *"The failure of e-government in developing countries:* A literature review," The Electronic Journal on Information Systems in Developing Countries, 26,7 pp1-10
8. Deloitte Research (2000) , *"At the Dawn of E-government A global public sector study"* Deloitte Consulting and Deloitte & Touche, pp.14 www.egov.vic.gov.au/pdfs/e-government.pdf
9. Digital Opportunity Initiative (DOI) Report (2001) *Creating a Development Dynamic,* July, http://www.opt-init.org/framework.html
10. E-Government—Connecting Efficient Administration and Responsive Democracy. A Study by the Bertelsmann Foundation, in cooperation with Booz, Allen, Hamilton, 2001 http://www.begix.de, or http://www.bertelsmann-stiftung.de
11. Global Corruption Report (2003), *"E-government and access to information"* pp 24 www.transparency.org/content/download/4345/26442/file/04_E-government
12. Heeks, Richard (2001) *Understanding e-Governance for Development,'* Working Paper, iGovernment Working Papers series, IDPM Working papers
13. India: e-Readiness Assessment Report 2003
14. Islam, Roumeen, (June 2003)*"Do More Transparent Governments Govern Better?"*. World Bank Policy Research Working Paper No. 3077. Available at SSRN: http://ssrn.com/abstract=636439
15. Koneru, Indira (2007), *"e-Governance: Empowering Citizens through e-Inclusion ,"*The Icfai Journal of Governance and Public Policy, Vol. 2, No. 3, pp. 53-68, September 2007
16. Kulchitsky , D. Roman (2001) *"Cargo Cults, Knowledge, and IT-for-Decision-Making Strategies in Developing Countries"* Volume 11, No. 3, December.
17. Lal, Bhavya (1999) *"Information and Communication Technologies for Improved Governance",* African Development Forum ADF '99.
18. Modan, Shirin (2004) *Evaluating the Developmental Impact of E-Governance Initiatives: An exploratory framework,* The Electronic Journal on Information Systems in Developing Countries, 20, 5, 1-13 ,http://www.ejisdc.org
19. Mohammad Shakil Akther , Takashi Onishi and Tetsuo Kidokoro l (2007) *" E-government in a developing country: citizen-centric approach for success,"* Int. J. Electronic Governance, Vol. 1, No. 1, pp38-51.
20. OECD, December 2001, *e-government: analysis framework and methodology* PUMA2001/16/ANN/REV, Dec 13 www-it.fmi.uni-sofia.bg/eg/res/JT00118445.doc
21. OECD Directorate for Science, Technology and Industry, (2003), *"ICT and Economic Growth: Evidence from OECD Countries, Industries and Firms,".* ISBN 92-64-10128-4 www.ingentaconnect.com/content/oecd/16815378/2003/00002003/00000004/9203031ec001.
22. Pitroda , Sam (1993) *"Development, Democracy, And The Village Telephone",* Harvard Business Review Nov/Dec93, Volume 71, Number 6
23. Report on e Government Leadership: Engaging the Customer by Accenture www.accenture.com.
24. Rogers Okot-Uma, (2000) *"Electronic Governance: Re-inventing Good Governance,"* August, 2000, Commonwealth Secretariat, London, UK, page 5
25. Saxena, K.B.C.(2005), *"Towards excellence in e-governance,"* International Journal of Public Sector Management, Volume: 18 , Issue: 6, pp 498 – 513
26. Singapore - Strategies for e-Government- Infocomm Development Authority of Singapore Email:

wu_choy_peng@ida.gov.sg November, 2003.
27. Steven, A. Rosell (1995) *Changing Maps, Governing in a World of Rapid Change.* Carleton University Press. 1995 p. 252
28. Steven, Clift, Democracy is Online (1998) *Internet Society's* March/April, http://www.e-democracy.org/do/article.html
29. Tapscott, Don and Agnew, David (1999) *"Governance In A Digital Economy," Finance and Development,* December 1999, Volume 36, Number 4 pp 34-37
30. The Working Group on E-Government in the Developing World (2002), *"Roadmap for E-government in the Developing World - 10 Questions E-Government Leaders Should Ask Themselves,"* April, 08.
31. Thomas, B. Riley, Rogers W'O. Okot-Uma, (2000) *Electronic Governance and Electronic Democracy: Living and Working In The Connected World,* Commonwealth Centre For Electronic Governance
32. West, Darrell M. (2002) *Report on Global E-Government,* Sept. www.InsidePolitics.org.
33. UNPAN (2001), *Benchmarking E-government: A Global Perspective* – Assessing the Progress of the UN Member States, a joint report of the United Nations Division for Public Economics and Public Administration, available at: www.unpan.org/e-government/Benchmarking%20E-gov%2020001.pdf .

About the Authors

Nirmaljeet Singh Kalsi, a B. Tech from IIT, Roorkee , M. Tech from IIT Delhi, is a senior IAS officer, working as Joint Secretary (CS), Ministry of Home Affairs, Government of India, New Delhi. Mr Kalsi earlier served as Director-cum-Secretary, Department of Information Technology, Government of Punjab. Mr Kalsi, a keen researcher has a lot of projects to his credit. Currently he is pursuing his Ph D from Thapar University, Patiala.

Ravi Kiran currently working as Associate Professor, in School of Management and Social Sciences. She is M Phil from Panjab University and Ph D from Thapar University, Patiala. She has published over 60 papers in refereed Indian/international journals and Conferences & is guiding nine PhD students and a number of projects at post graduate level. Her area of specialization is Industrial Management, business Environment and E- business. She has finished four R& D projects and is currently working on a Thapar University sponsored Project.

S. C. Vaidya is Dean, Academics, Panjab University,Chandigarh. Dr Vaidya is Professor, University Business School. He is M com Ph.D.and has published over 40 papers in refereed Indian/international journals and Conferences and has guided sixteen PhD students. His area of Expertise is Total Cost Management and e-commerce. Dr Vaidya is also engaged in many consultancy projects