e-Governance Applications for citizens - Issues and Framework

S. Prem Kumar

[1] Professor, Department of M.C.A, GPCET,
Kurnool, Andhra Pradesh, India.

J. Keziya rani

Asst. Professor, S.K.D.U, Dept of CST,
Ananthapur, A.P, India

Dr. C. Umashankar

Professor Department of OR SQC, Rayalaseema
University,
Kurnool, Andhra Pradesh, India.

Dr. V.V.Venkata Ramana

Technical Director, NIC,
Hyderabad, Andhra Pradesh, India.

Abstract— **To bridge the gap between government and citizens, to provide effective and efficient services, to increase productivity and to extend other benefits to its citizens, the governments of various countries introduced e-Governance applications. The applications employ information technology, telecommunication network incorporating government policies over internet to serve the citizens better. The growing importance of e-Governance, spreading its branches in varied fields is going out of control. This is sprouting up new issues giving raise to the unsuccessful penetration of the e-Governance applications and is to be controlled. The three major fields of e-Governance applications are Government to Citizens(G2C), Government to Business(G2B) and Government to Government(G2G). The citizens are the power of nation and their satisfaction is ultimate. The government services to citizens should be given utmost importance, as and when it fails resulting in citizen unrest. The problem of this nature is to be minimized with the proposed basic G2C frame work which includes the elements of Planning, Social Audit, Professional Audit, Audits on Facilities, Performance Audit and Funding. These elements are implemented with quality, security and reliability following the standards of Six Sigma, Capability Maturity Model Interface (CMMI) and Bureau of Indian Standards (BIS).**

Keywords: e-Governance, G2C, G2B, G2G issues, Audit Framework, Standards

1. INTRODUCTION

Citizens are the strength of nation and their satisfaction is ultimate. e-Governance is the modernization of the traditional governmental activities to facilitate citizens with improved services and to ensure smooth government to citizen transactions using electronic and network media. Its goal is to have greater citizen participation in the nation's capital facilitating public to achieve their objectives at any time and from any location, eliminating physical travel and expenditure. In day to day transactions e-Governance has become part of every citizen's governmental transactions and realizing its importance the government of India, in an ambitious way to accommodate the different framework structure of e-Governance policies, introduced different levels of e-Governance projects viz., central, state and mixed level projects to study and analyze the impact of e-Governance for practical implementation for fast, smooth and efficient transactions which helps in presenting the procedures with precession. The applications employ information technology, telecommunication network implementing government policies over internet to serve better. The growing importance of e-Governance, spreading its branches in varied fields is going out of control sprouting up to new issues giving rise to the unsuccessful penetration of the e-Governance applications and it is quite obvious that its extensive application usage leads to various implementation, maintenance and social issues which are to be addressed.

2. e-GOVERNANCE ISSUES

Though the intention of e-Governance is good "*To service all - hurt none*", due to some environmental, financial, economic limitations it is causing inconvenience and is becoming demon. Issues of e-Governance can be classified as Government to Citizens(G2C) issues, Government to Business(G2B) issues and Government to Government(G2G) issues. As the government is for the people, by the people and to the people, serving citizens is the motto leading to the nation's development. The author sorts out the government to citizens issues and proposes various framework elements to control and curtail them.

A. G2C implementation issues

The G2C category of e-Governance includes all the interactions between government and citizens that can take

place electronically. G2C applications enable citizens to pay taxes, receive payments and documents, interact with government at any time from any location, improved accounting and record keeping, reduced processing time etc. On the administrative side the information can be stored in databases and backup copies in various locations with security of transactions. Satisfying the G2C perception, the limelight implementations of G2C are in the fields of tourism and recreation, education, finding government services, health and safety information etc. Presently, many government agencies and departments are scheduling for more diversified, innovative e-services like electronic voting. These activities though booming, causing negative affects with irksome situations along with some implementation issues.

Population Explosion: India is fifth biggest country in area and stands second with dense population of 1,015 millions. Increased population increases the need of citizens and can be answered through computerization of the public needs through e-Governance applications. This satisfies to some extent but it is not in a position to meet the demands of the huge public.

Poverty: About 30% of the Indian population is below poverty line. They don't even have proper food, clothing and house to reside. It is becoming meaningless to computerize the government activities, which are not in reach of poor citizens.

Illiteracy: Literacy rate is around 60% and rest 40% are dependent on farming, labor works and can't even read or write and hence the online activities are not in approach of the illiterate public.

Villages: India is with more than 6 lakhs of undeveloped villages with 72% of rural population. The urbanization and other development activities are far away from the near feature which ripples the G2C activities.

Corruption: Improper utilization of funds, Corruption, favoritism, unnecessary involvement or negligence of officials and political leaders is hampering the growth of G2C implementation.

Telecom Problems: The infrastructure of telecommunication services are to be developed and existing system should be improved with advancements like ubiquitous, broad band and other future technologies.

Unaffordable Cost: The cost of telecom and internet activities is not within the reach of general public. Lack of financial elements like affordability with public, telecom rationing system, free browsing centers etc is limiting the progress.

Funding Problems: India is a developing country requiring a greater financial support to launch G2C projects. Insufficient allotments of funds for investigating the project, analysis, developing, launching and maintaining is one of the major issues.

Lack Of Reliability: Reliability of the political parties and the stability of government is the foremost factor for G2C development. Various G2C projects are proposed to initiate but nagging owing to lack of political reliability, regional discriminations etc.

Lack Of Technical Skills: Lack of technical knowledge to our politicians, authorities is other aspect hampering the progress of G2C activities.

Computer Illiteracy: Though some section of Public is educated, they lack technical knowledge and are far away from minimum computer and internet operating skills.

Category Of Citizens: The G2C activities should target the category of citizens to whom they are designed for. Improper target designing leads to ambiguity of application leading to its failure.

Human Touch: Value should be given for "human touch and feelings" rather than totally concentrating on the technical aspects and designing activities. Importance for human feelings, pleasing interactions and concern towards citizens are missing elements.

Economic And Financial Issues: Short of financial clarity, economic transaction over internet on government tariffs, customs and taxation policies creating mishap to G2C application utility. Proper regulatory agencies, online economic strategies correlating traditional strategies are missing creating issues.

Lack Of Trust: The key financial barrier of G2C is electronic payment systems. Suspicious of fraud in money transfer activities and the incidents of cyber crimes, online bank thefts supported it.

Lack Of Online Support: Public require online support in clarifying their doubts while working with G2C applications. Lack of privacy, protection, confidentiality, online documents and other transactional activities of some applications are creating ambiguity.

Apart from the discussed issues the factors like pseudo e-Governance applications, regional, religious, linguistic and other social factors are catalyzing the G2C issues.

3. FRAMEWORK FOR G2C ACTIVITIES

The discussed problems can be minimized with the proposed G2C frame work which includes the elements of

Planning, Social audit, Professional audit, Audits on Facilities, Performance Audit and Funding.

A. Planning: Determining the goals and the means of achieving these goals with time bounded scheduling is done in this phase. Every e-governance activity commences with planning and is followed by organizing, leading and controlling. Top management of concern departments is responsible for preparing a master schedule plan which sets both the long-run and short-run directions. The current changing global scenario, citizen behavior, social trends, economic policies, government stability, environment of implementations, psychological aspects, beliefs of the society are to be considered in scheduling.

B. Social audit: Social audit is the most important of various framework elements because G2C is the process designed for public benefit and hence it is the responsibility of government to make people participate in its design and implementation. Social audit is a process in which the people work with the government to monitor and assess the planning and implementation of application which ultimately leads to citizen satisfaction. The failure of various e-governance applications can be controlled with citizen partnership leading to success and prosperity of society. This will bring the views and facts of the people to government, makes people participate in the task of confirmation and acceptability by government. Features of social audit are collecting the evidence, community participation, fairness, stakeholder involvement, no allegations, repeat audits and results sharing.

C. Professional audit: G2C Work audit is a series of activities performed on ongoing implementations of a scheme or group of schemes that provide a specific service to public. The applications are interactive or transaction based. This means information is collected or provided by the customer and a service is then delivered. The goal of Professional audit is to provide a start-to-finish solution to the customer with satisfaction. The professional audit procedures involve the auditing of designing, developing, implementing, training, marketing, maintenance of G2C applications.

D. Audits on Facilities: This includes all the physical and abstract elements which are involved in developing and implementing the e-Governance applications. The telecommunication network, electricity, kiosks, different source of access media like mobiles telephony, radios, computers and television etc can be considered as infrastructure. The comfort, convenience, ease of use and pricing are the core factors that drive the citizens to e-Governance. The expenditure or the efforts, invested or likely to invest on the infrastructure creation for the e-Governance project should be considered. The major considerable points in providing facilities are identification, assessment and safe guarding the infrastructure.

E. Performance audit: Time is precious for every individual and the performance of application bothers more. It concerns the efficiency, effectiveness, economy of a particular government activity. The performance is directly related to downtime of e-Governance application. The measure of performance of e-Governance projects is the citizen satisfaction in terms of comfort. The different elements responsible for performance are network, security, cables and connectors, servers, applications, service providers, e-commerce. The said elements are associated with negative effects like hardware problems, software problems, human error and service provider error. The poor performance leads to loss of revenue and productivity. Hence there should be some means of estimating the revenue loss and productivity loss incurred due to low performance.

F. Funding: The financial grants for G2C are considered in budget planning. The cost overruns due to improper project planning, unfair expenditure and saving, maintenance cost, unexpected transaction costs, corruption, funding polices of government are to be considered. Heavy investment is needed in the initial stages of G2C projects. This is the direct expenditure. Long term funding arrangements are to be done with bonds, leasing that guarantee long-term funding and smooth expenditures for large investments by spreading expenses over several periods. While funding the Government should consider the project not only in financial terms, but also in terms of social outcomes and social benefits.

4. UMBRELLA ACTIVITIES

The framework elements should be constantly safeguarded by standards and are considered as umbrella activities. As the G2C is continuous process, it should adopt certain standards to attain quality, security and reliability. Standards are defined as a technical specification for public benefit approved by a body recognized at the national or international level. Quality of software is the major considerable factor in G2C applications and it is to be improved periodically by enhancing its functionality, reliability, usability, efficiency, maintainability and portability. The security characteristics speak about confidentiality and data protection discipline. The two views of security are physical security and logical security. Physical security protects the G2C physical information system assets like personnel, facilities, hardware, documentation and supplies. Logical security protects data, information and software. The reliability aspects are concern with availability, correctness, clarity, rapidity of G2C applications. The G2C implementation standards are technical standards, security standards, data and metadata

data standards, localization standards and quality standards. The preferred, best suited scientific and statistical standards are Six Sigma, Capability Maturity Model Interface (CMMI) and Bureau of Indian Standards (BIS). The joint implementation of CMMI and Six Sigma with responsiveness to sequence, to their relationship will result in customer satisfaction, reduction of misdirected costs and faster delivery of service.

5. CONCLUSION

Precession and smooth transactions of G2C can be attained with the proposed framework elements leading to successful functioning. The constant vigilance of framework elements amalgamated with standards will lay a pavement for G2C applications to reach the desired bench mark levels of services. This results in précised transactions between government citizen agencies.   The success of G2C implementations of e-Governance, not only make the public enjoy but also helps in progress of Nation. The framework elements catalyze e-Governance to e^2-Governance which means Excellent E-Governance.

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AUTHORS PROFILE

Mr S. Prem Kumar M.C.A, M.Phil, is with 20 years of teaching experience in the field of computer science and presently occupied the chair of MCA Head of the Department, G. Pullaiah college of Engineering and Technology. He authored various books on Cobol, C, Java programming and published papers in National, International Journals and proceedings of International Conferences.