E-GOVERNANCE: GOVERNMENT TO CITIZEN(G2C) INITIATIVES IN INDIA

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Abstract

The e-Governance scenario in India has come a long way since computers were first introduced in India.Presently the e-governance initiatives in India face lot of challenges in all spheres whether it is Government to Government interaction, Government to Business services or on-line services to the common man by the Government. There are standardised approaches to automate government to government interactions all over the world, the government to citizen model needs lot of attention keeping in mind pace of innovations in this field to suit the Indian needs. Government of India has initiated several projects that can give us some insights on the development of G2C delivery models in this area. In this paper an analysis have been made of G2C practices followed in India. The focus of the study is to make people at large aware of these automated services so that they can avail these services more conveniently.

Keywords:e-Governance;ICT;IoT;ITR;NeGP.

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1. Introduction

Electronic governance or **e-governance** is the application of information and communication technology (ICT) for delivering government services, exchange of information communication transactions, integration of various stand-alone systems and services between government-to-customer (G2C), government-to-business (G2B), government-to-government (G2G) as well as back office processes and interactions within the entire government framework. (Saugata & Masud, 2007).Through e-governance, government services will be made available to citizens in a convenient, efficient and transparent manner. The three main target groups that can be distinguished in governance concepts are government, citizens and businesses/interest groups. In e-governance there are no distinct boundaries. (Garson, 2006)

Models of e-governance:

Generally four basic models are available – government-to-citizen (customer), government-to-employees, government-to-government and government-to-business. (Garson, 2006)

Government-to-customer (G2C)

Under this a variety of ICT services are provided by Government to citizens in an efficient and economical manner. Technology helps in strengthening the relationship between government and citizens.

Methods: A number of methods can be employed for government-to-customer e-governance. These are:

1.   Technology makes two way communication between these two parties quicker and allows citizens message the public administrators instantly and directly. Citizens can cast votes electronically.

2.   Online or telephonic completion of transactions related to payment of services just like payment for availing city utilities.

3.   No requirement of face to face contact for Mundane services such as name or address changes, applying for services or grants, or transferring existing services are more convenient. Miller, W & Walling, J, (2013). "Government in the twenty-first century: New Avenues of Study". Taking Sides. New York, NY: McGraw Hill.

Government to employees

It is one of four main primary interactions in the delivery model of E-Governance. Employees can maintain online communication with the government and their own companies through online tools, sources, and articles that help. E-Governance relationship with Employees allows new learning technology in one simple place as the computer. Documents can now be stored and shared with other colleagues online. (Fang, 2014) Employees can become paperless and can send important documents back and forth to colleagues all over the world instead of taking out print outs of these records or fax thereby leading to paper wastage. A number of softwares are used for maintaining personal information and records of employees. Use of technology in Government-Employee relationship is beneficial in many ways:

- **Maintenaince of E-payrolls** i.e. maintaining online records of employees pays from wherein employees can paychecks, pay stubs, pay bills, and even can keep records for complying with tax formatlities.

- **Knowledge of benefits:** Employee will be able to look up what benefits an employee is receiving and what benefits they have a right to claim as per latest government notifications like compensation,retirement benefits etc.

- **Provision of E-training:** New as well as current employees can learn latest training modules through the development of new technology in a convenient manner.employees can be made up to date by providing the important and latest material through the use of visuals, animation, videos, etc. It is usually a computer based learning tool, although not always. Employees can learn on their own through distance learning mode as e-learning is provided without restricting them to class room learning.

- **Personal records maintenance:** employees personal records can be maintained like their social security numbers, tax information, current address, and other information.

Government to government

It involves online interaction between Government organisations, departments, and authorities. There can be non commercial interaction between local and central Government. G2G systems on one side can help in making government administration more transparent, speedy and accountable and on other side can meet society's needs and expectations by providing efficient

public services through effective interaction between all the concerned parties that is people, businesses and government.

It can be applied in two forms:

Internal facing - Single Governments departments, agencies, organisations and authorities are joining up.

External facing - multiple Governments IS systems are joined up.

Government to business

When online non-commercial interaction occurs between local and central government and the commercial business sector then comes into picture Government-to-Business (G2B) model. Interaction between government agencies and trading companies takes place through the Internet and these are generally in the form of professional transactions between the company and the regulatory agencies.

This model can help businesses a lot by reducing many hurdles for them. And this can be done by providing necessary information immediately and enabling communication using digital technology by e-business (XML).In addition, the government should re-use the data in the report proper, and take advantage of commercial electronic transaction protocol. (IGI-GLOBAL, 2014) Government services are concentrated to the following groups: human services; community Services; judicial services; transport services; land resources; business services; financial Services and other. (Bakry, 2004)

 G2B model can help businesses in reducing their compliance costs to carry out all regulatory provisions with the government. Electronic way of conducting business can save a lot of time as compared to human doing business. No need for taking appointments with government and wasting time. More and more companies are conducting business online as online communication with government can reduce their transaction costs. With technology as most of the work is done electronically, less workers will be needed to reduce the business cost.

E-Government provides vast information that business needs and that too in more clear manner. Planning and forecasting is of utmost importance for any business and it requires great amount of

data.The government collects a lot of economic, demographic and other trends in the data. This makes the data more accessible to companies which may use for future planning and hence economic prosperity.

Businesses generally do not know how, when and what provisions they should comply with. E-Government can help businesses know what government regulations they should comply with by navigating through Government sites. The electronic filings of applications for environmental permits can make us understand this fact which generally companies often do not know how, when, and what they must apply..

Government to business key points:

1.   Red tapism will be cut down. Generally a business takes time to comply with rules and regulations which may cause delay in G2B.but this model will allow a much faster process between two interacting parties with less delays and also reducing decreasing the number of rules and regulations to comply with.

2.   This model helps in running key lines of business: meeting regulations, economic development, trade, obtaining permits/licenses, getting grants/loans, and management of the assets.

Objectives of the study:

1.   To give an understanding of various dimensions of e-Governance concept.

2.   To give an account of various e-Governance initiatives initiated by Governmnet of India for its citizens.

Research methodology:

Published data in form of various reports, articles and research papers has been used in compilation of this study. Various departments of Governmnet of India at union as well as state level have been tapped to provide an insight into online functioning of these departments to provide conveneience o the clientele they serve.

Results and Analysis

Initiatives by Government of India in Government to Consumer Model:

e- transportation: In the current fast paced and dynamic environmnet E-Transportation   has proved to be a boon. Governemnet can provide e transportation facilities through road,rail,water or air in following way:

o   Online Booking and cancellation of tickets

o   Issue and renewal of driving licences

o   Registration and renewal of vehicles

o   Transfer of vehicles

o   Payment of licence fee

o   Paymnet of fee and taxes for vehicle registration

Table1 Instances of e-transportation initiatives in India:

Hyderabad based first Integrated e-Transportation Marketplace:	Hyderabad based FreightBazaar.com has recently launched its updated integrated e-transportation platform.The new platform includes features such as
	• e-confirmation of truck hiring,
	• update facility for Trips status and Payment status,
	• Document vault for Trucks & driver details
	• Multi-user and role based functionality is added for the MSME and Enterprise customers.
	"With the launch of the updated platform, users can now manage pre-hiring as well as post-hiring processes online. Most of the online players currently pass only leads." says Ganesh Rewanwar, Co-founder & CEO, FreightBazaar.com. FreightBazaar platform can also be accessed through a user-friendly Android App mTrux. (PTI, 2015)

National Transport Project – Vahan and Sarathi	Transport Mission Mode Project – through its flagship applications Vahan (for Vehicle Registration) and Sarathi (for Driving License) – has achieved 100% automation of 1000+ RTOs all across the country. Almost 18 crore Vehicle records and 8 crore License records are available in its repository. The consolidated data in State and National Registry act as the base for a large number of online citizen-centric applications and information services.
	Now the RTO-centric Vahan and Sarathi applications have been revamped to Centralized, Web-enabled architecture with single database and application for the whole country. The system is accessible over internet for RTO users through secured log-in and authentication. Online services are also facilitated to citizen, trade and so on so that for availing transport services, RTO visits can be minimized. There will be emphasis on modern ICT tools like cloud infrastructure, Centralized Authentication System (CAS) and Single Sign On (SSO), Multi-device capability, Multi-lingual support, Open API, Mobile Apps and so on. Quality and scope of G-G/G-B/G-C services will be enhanced.
	The new system will consolidate the database and applications for all RTOs across all states into a common, centralized platform and deliver the core services of Vahan and Sarathi throughout the country. This will be built on the backbone of a robust data network with adequate bandwidth and built-in redundancy to facilitate highest acceptable standard of speed, information security and fault tolerance. The data and application for the whole country will be maintained in a national level data center backed up by a Disaster Recovery Center – both of which will have the latest hardware, software and control infrastructure to achieve optimum operational

	performance, safety and security.
	The development of the new system is complete and implementation has already started in Delhi, Uttarakhand, Chandigarh, Himachal Pradesh, Odisha and so on. Roll-out is planned in all states in the next few months. Once implemented, the new system will make the transport system much secure, transparent and user-friendly for Citizen, Trade and Government. (MINISTRY OF ROAD TRANSPORT & HIGHWAYS)
	VAHAN has proved to be a highly flexible and comprehensive system that is taking care of all the burdensome activities of Vehicle Registration. Transport Department is now able to deal with more important business issues. The software enablescomputerisation of the processes at RTO/ARTO Offices involving Vehicle Registration, Fitness, Taxes, Permits & Enforcement.
Andhra Pradesh CFST(Citizen Friendly Services of Transport):	This Department by Andhra Pradesh government is providing computerised services such as Issue of learner licensees ,Issue of driving licenses ,Renewal of driving licenses etc
OSRTC: The Orissa State Road Transport Corporation	This project was started by Orissa Governmnet to provide transport related facilities online
HRTC: Himachal Road Transport Corporation	This project is for online bookings, cancellation of seats, for enquiry about departure of buses, availability of seats and buses etc.

E-Help: Government is using ICT for the facilitaion of disaster and crisis management. Technology is used so as to reduce the response time of the government agencies to the disasters. With the help of technology online information relating to disasters is made available to government which can furtehr speed up the rescue work.

Use of ICT in Disaster Management by Indian Governmnet: According to Ms Debjani Ghosh, President,MAIT,"For the Digital India vision to be successfully realized, it is crucial that we recognize and leverage the potential of emerging technologies such as IoT in disaster management,so as to avoid or minimize the negative impacts of unforeseen events on citizen lives and the economy....In this hyper-connected era,internet of Things (IoT) plays an important role by interconnecting intelligent devices for the purpose of sharing information. It also provides early warnings through sensor based technologies,thereby creating innovative and effective systems for disaster management."

Table 2:Disaster management networks in India

Disaster Managemnt Network	Details(Ministry of Home Affairs)
India Disaster Resource Network (IDRN)	IDRN is a web based platform, for managing inventory of equipment, skilled human resources and critical supplies for emergency response. • Enable decision makers to find answers on availability of equipment and human resources & assess the level of preparedness for specific disasters. National Data Centre hosts the online inventory of resources at the national level & this inventory is maintained at the central level by National Institute of Disaster Management (NIDM). it is accessible by only only the authorized Government officers. District Collectors/Magistrate are the authorized officials to get the latest information and use theservices of District Informatics Officers to upload the information from time to time.
GIS in Disaster Management	The Ministry of Home Affairs have initiated the development of a GIS based National Database for Emergency Management

	(NDEM) in collaboration with various Govt. Ministries/agencies. A multi layered GIS platform has been developed by NIC.BHUVAN is single largest Web GIS portal for free data and services over India from ISRO and it allows 3D visualization, 2D visualization, street map overlays, WMS services for land use and land cover, flood inundation (events wise rapid assessment and annual inundation, geohazards, forest fire (daily), free RS data download, free 30m DEM from Cartosat-1 data etc . States have built Geo-informatics decision support systems. National GIS project is conceptualised by India Government under Digital India
Hazard forecasting and warning networks in India	1. Seismological Observations Network: India has a great network of Seismic stations where Seismological observations are made. Data by these stations have been collected data over long periods of time, and this data is used for proactive Hazard Risk Analysis for mitigation effort. 2. Drought Warning Network: The drought assessment is based on a comparative evaluation of satellite observed green vegetation cover of a district in any specific time period, with that of any similar period in previous years. 3. Tsunami Warning Network: it

	depends on size and continuity of waves detected. This Indian tsunami warning system operates using 3 tiers, e.g., 'watch', 'alert' and 'warning'. (Budhiraja)

e- Taxation: The scenario of taxation in India is changing due to implementation of e-filing. Due to e taxation it has become easy to file retuns and pay taxes.Online tax alerts can remind persons of their tax liability in advance.

Table3;ITR wise receipt of e-returnss-June,2016

S.No.	Form	FY 2014-15 (From 01/04/2014 to 31/03/2015)	FY 2015-16 (From 01/04/2015 to 31/03/2016)	FY 2016-17 (From 01/04/2016 to 30/06/2016)
1	ITR-1	13010682	17946687	3047044
2	ITR-2	3614874	2236078	256987
3	ITR-2A	0	1174205	192234
4	ITR-3	769081	888598	51585
5	ITR-4S	5450081	8135210	1359295
6	ITR-4	9343539	10646974	1288477
7	ITR-5	1065650	1252465	91328
8	ITR-6	752070	778069	27968
9	ITR-7	168017	285451	33638
	Grand Total	34173994	43343737	6348556

Source: Income Tax Department

Table 4: Year on Year summary of e-Filed ITR forms

S.No.	Form	FY 2015-16 (From 01/04/2015 to 30/06/2015)	FY 2016-17 (From 01/04/2016 to 30/06/2016)	Growth (%)
1	ITR-1	593899	3047044	413.06
2	ITR-2	96281	256987	166.91
3	ITR-2A	875	192234	21869.60
4	ITR-3	29831	51585	72.92
5	ITR-4S	430348	1359295	215.86
6	ITR-4	478976	1288477	169.01
7	ITR-5	35276	91328	158.90
8	ITR-6	21043	27968	32.91
9	ITR-7	16746	33638	100.87
	Grand Total	1703275	6348556	272.73

Source: Income Ta x Department

The above facts and figure clearly shows that India revolutionary changes in ICT has given it a great advantage in form of advancement in e-filing field of income tax department. E-filing is the processing in which tax related information is filed through internet with the help of software. India introduced E-filing of income tax for all categories of income tax assesses in September, 2004 initially on a voluntary usage basis. But from July, 2006, it was made mandatory for all corporate firms to e-file their income tax returns. Further pursuing this process,from assessment year 2007 to 2008, e-filing of income tax return was made mandatory for all companies and from 2013 Individuals having more than INR 10 lakh income are mandate for filling income tax online. (Anees & Kumar, 2014)

e-Educational Sevices: Governmnet is providing online learning to its citizens by using ICT in education. It is best suited for distance learning.

Table5:e-Educational Initiavies in India

National Career service Portal	This portal is nmaintained by government for job seekers. This portal provides various services like: o Online and offline Registration by Job seekers o Guidance about skills in demand o Assistance in regard to career o Information about jobs,jobs fairs,training programmes
NCERT books downloadable	Students can download online NCERT books which are availablefor class I to XII in both readable and printable versions and available in English,Hindi and Urdu. S
Exam results online	Students can check their results for

	examinations online.
Online employment news	vacancies in UPSC,employment exchanges,PSUs, Air force atc are made available online.
Educational loans	Students can apply for loans online for higher education.

e-courts: judicial process can be made ICT enabled.Distant hearing,online summons and warrants and online publication of judgements and decrees can speed the judicial workings which otherwise are very risky. Interoperable Criminal Justice System shall be strengthened by leveraging several related applications, i.e. e-Courts, e-Police, e-Jails and e-Prosecution. Indian Governemnt has initiated the eCourts Mission Mode Project as a part of national e- Prosecution.

e Courts Mission Mode Project: The objective of the project is to provide designated services to litigants, lawyers and the judiciary through ICT enablement of e Governance courts.

Table 6:Status of implementation as on 30th September, 2015, for main components of the project is given as under

Phase	Status
Phase I: Basic infrastructure for ICT enablement	ICT infrastructure of the Supreme Court and High Court have been upgraded. (ii) Laptops have been provided to 14,309 judicial officers. (iii) A Case Information System (CIS) software has been developed and made available for deployment at all computerised courts. (iv) Entry of case data has been initiated, and data in respect of over 4.5 crore pending

and decided cases in more than 13,000 courts is available online.

(v)   Judicial Service Centre (JSC) have established at all computerised courts.

(vi)   Over 14,000 Judicial Officers have been trained in the use of UBUNTU-Linux OS and over 4000 court staff have been trained in CIS software.

(vii)   Process Re-engineering has been initiated in all High Courts to study and suggest simplification in existing rules, processes, procedures and forms.

(viii)   Video Conferencing between 500 courts and corresponding jails: Pilot launched in five districts have been completed and roll out in remaining locations across the country is under process.

(ix)   *Service Delivery and National Judicial Data Grid*:   The national e-Courts   portal (http://www.ecourts.gov.in(link is external)) has become operational. The portal provides online services to litigants such as details of case registration, cause list, case status, daily orders, and final judgments. Currently, litigants can access case status information in respect of over 5.5 crore pending and decided cases and more than 1.79 crore orders/judgments pertaining to district and subordinate Courts.

	The portal has been linked to the eTaal, which is a web portal for dissemination of e-Transaction statistics of Central and State level e-Governance Projects including Mission Mode Projects, and the portal has recorded 25.49 crore transactions so far, which is among top five if not the highest among all other eGovernance Projects.
Phase II of e Courts Integrated Mission Mode Project	The services envisaged to be taken up during Phase II, which would be at the disposal of the citizens, include installation of touch screen based Kiosks with printers in each Court Complex, fetching information through Mobile, facilitating improved performance of courts through change management and process re-engineering, installation of Video Conferencing facility at all Court Complexes and corresponding jails, use of e-filing, e-Payment and mobile applications and also for the composite set of services to be provided through the Judicial Service Centres. Further, the judiciary can also benefit from the project by provisioning of Hand held process service devices for process servers to ensure transparent and time bound delivery of court notices and summons, Digital Signature Certificates (DSCs) to Court officials to enable them to issue certified e-documents to lawyers and litigants, and provisioning of laptops and printers to Judicial Officers. The

	court management system would also be created under the project through digitisation, document management, Judicial Knowledge Management and Learning Tools Management. Also the use of solar energy has also been proposed at some court complexes enabling the courts to help the environment actively.
	In line with the Digital India Programme of the Government of India which emphasises on Citizen centric services, the project would also focus on Digital Infrastructure as a Core Utility to Every Citizen providing Governance and Services on Demand subsequently digitally empowering the Citizens. (Digital India)

Source: Department of Justice, Government of India

E-health:E-health initiatives of Indian government aim at providing timely, effective and economical healthcare services to Indian population. As masses in India have little access to healthcare services, E-health is particularly relevant for them.The rating agency Fitch says that the current size of the Indian healthcare industry is $65 billion and is expected to reach to $100 billion by 2015, while India's healthcare information technology market is expected to hit $2.45 billion in 2018, more than three times the $381.3 million reached in 2012. (Health Information Technology and Digitization of Indian Healthcare, 2015)

Present Status of e-health in India

• Patient education and communications is done electronically through email, text messaging, and social media.

• To streamline and maintain patient records innovative IT solutions like Cloud platforms are used for technology implementations in hospitals.

- Usage of m-Health technology aids the government's objective of providing healthcare throughout the country.

e- citizenship: Ict is enabling Indian governmnet in provision of services to citizens of india like issuance and renewal of documents like ration cards,passports, election cards,identity cards etc in an effective and efficient manner.

1. **Online Passport Services for Indian citizens   (Passport Seva):**The government of India has started Passport Seva Project (PSP) to provide best –in- class passport and related services to Indian citizens. Key aspects of the service transformation achieved by PSP are as follows:

a. **Anywhere Anytime Access : online submission of** passport applications by citizens of India through the PSP portal (www.passportindia.gov.in) at their convenience. There is no need to stand in long queues.

b. **Increased Network:** As extended arms of 37 Passport Offices, 77 Passport Seva Kendras (PSKs) have been made operational across the country and 16 Passport Seva Laghu Kendras(PSLKs) are being established as part of Passport Seva.

c. **Improved Amenities :**The PSK provides a world class ambience. Amenities in every PSK include helpful guides, information kiosks, photocopying, food and beverage facilities, public phone booth, baby care, newspapers and journals and television in a comfortable air-conditioned waiting lounge. The Electronic Queue Management System ensures the 'first-in-first-out' principle in application processing.

d. **State of the Art Technology Infrastructure :** Passport Seva is supported by state-of-the-art technology infrastructure which enables end-to-end passport services to be delivered with enhanced security comparable to the best in the world. The photograph and biometrics of the applicants are captured when they visit the PSK. Their applications and supporting documents are digitized and stored in the system for further processing.

e. **Integration with Police and India Post :** The PSP network connects with the State Police across all the states and union territories. The applicant's data is sent electronically for police verification. PSP also provides an interface to India Post for tracking delivery of passport to citizens.

f. **Call Centre & Helpdesk :** A multi-lingual National call centre operating in 17 Indian languages enables citizens to obtain passport service related information and receive updates

about their passport applications, round the clock, seven days a week. An e-mail based helpdesk besides a mobile based application 'mPassport Seva' provides information on passport services.

2.   **e-Ration:** The ration card is an important document which needs to every citizen in India.various state governemnets have made the process of issuance of Ration Card online.

a.   **e-ration card service for all residents of Delhi :** (SRIVASTAVA, 2016) Delhi Chief Minister Arvind Kejriwal recently launched e-ration card service for all residents of Delhi.this service is provided by the Department of Food Supplies & Consumer Affairs under the state government and the e-ration card is available under 'Khadya Suraksha' of the Delhi Government.Raion card can be applied and downloaded online while sitting at home or being at work. Availability of food along with their prices is also available online. The cards will also be delivered to the postal address of the applicants.

Benefits:

a)   E-ration card has brought immense convenience to the inhabitants of Delhi as it has lowered the delays in preparation and delivery of ration cards to the beneficiaries. Now, if an applicant applies online for new ration card facility, s/he will be intimated about its status on her/his registered mobile number.

b)   It has also helped in eradicating corruption in the Public Distribution System (PDS) and ensured that the entitlements reach the deserving common man. The move has proven to be a major success in bringing about transparency in the PDS and tackling the vicious cycle of corruption at the base level of food distribution. Kejriwal said ration is a right of the unprivileged class and no corruption will be tolerated at all in denying this right to the people.

b.   UP Online Ration Card e-Services: In Uttar Pradesh, State Goverement is providing various kinds of facilities.Right now more then hundreds of websites are running online. Online Ration Card is one of process for it in Uttar Pradesh state. T The UP state is providing this online through there online govt websites uponline.up.nic.in and edistrict.up.nic.in

3. e-Voter ID Card: it is very essential for every Indian Citizen who is 18 or above to have Voter ID card. This card is very important for legal documentation in varied government offices ,but is primarily used as a ticket to vote.Obtaining a Voter's card is no longer a humdrum. Now one need not be in long lines after the dominance of the E world. The process is now very simple and uncomplicated. Now there is no reason for any eligible citizen of India to not have a Voter

Id. The Voters ID card or is also termed as Election card. Applying for Election card online has become time saving and conducive.

4. **e-postal services:**The Apex Committee for the National e-Governance Plan (NeGP) chaired by Cabinet Secretary has approved the inclusion of Posts as a Mission Mode Project (MMP) under the NeGP. Modernisation of Postal Services has been undertaken by the Department of Posts through computerization and networking of all post offices using a central server-based system, and setting up of comouterised registration centres(CRSc).

Conclusion

Present study has made an attempt to analyse Government to citizen aspect of e-governance. This study has covered Government to citizen model of E-Governance in India. Various departments of Government have been computerised and services rendered by them are made online. A large number of initiatives have been taken in this category by the Union and the State Governrnents of India to extend the reach of e- governance to a large number of people and enhance the quality of government services to citizens, to bring in more transparency, to reduce corruption and subjectivity, to reduce costs for citizens and to make government more accessible. Some the services have been discussed in this study which will make citizens of India aware of these online services and they can take maximum benefit from them.

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