A Critical Study of Implication of Render Billing in E-Governance Services

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Abstract: *Electronic Governance or E-Governance is the application of information and technology (ITC) for delivering government services and providing efficiency, transparency and exchange of information. E-Governance assumes greater importance in the context of management of today's governmental structures to achieve rapid economic growth and improved quality of life. According to the various literature surveys done we find that there are many issues in a developing country like India which needs to be overcome, so that e-governance can be effectively applied. But it has also been proven that India has the tremendous power of developing the E-Governance in various sectors. The proposed research focuses on E-Governance working architecture. The E-Governance Billing System research will improve the public administration organizations and deliver more efficient and cost effective services, as well as better information and knowledge about the E-Governance. The E-Governance Billing System will be a mean of taking E-Governance to Public.*

Keywords *– Billing System, E-Governance, Information & Technology (ITC), Governmental Structures, E-Literacy Rate, Kisan, Post-Office, RTO.*

I. INTRODUCTION

The actual term governance comes from an ancient Greek word, kebernon, which means to steer. In current usage, to govern means to steer, to control, and to influence from a position of authority. The aim of our research is to literate common public of India about the E-Governance. We have found a solution to it by our E-Governance Billing System. This research contributes towards the "Digital India" Agenda, a project initiated by our Prime Minister Narendra Modi.

This proposed work has a system which will be a prototype to pay most of the respective bill of Government or Government Undertaking Agencies. This will be done by just logging in to our system without filling the details of every field. Thus it will increase the efficiency, effectiveness, transparency and accountability of informational & transactional exchanges with in Government, between Government & Government agencies of National, State, Municipal & Local levels. It is also providing the basic information & procedures to help farmers to help them maintain & grow their crop efficiently along with the helpline. RTO related issues about traffic rules breaking are also handled in this research.

The research work also focuses on increasing the e-literacy rate of the people which is just 6.14% in India (dr. Pawan Malhan). It also focuses on improving the technical knowledge of the people and will immune them from technical frauds. It will also remove redundancy and inaccuracy to a great extent. It will increase the level of participation of Societies, Public & Private Sectors.

II. DESIGNED & SUGGESTED FRAMEWORK OF E-GOVERNANCE

Success of the e-governance applications depends on four important pillars which are technology, service providers, users and their satisfaction. The term e-governance represents the implementation of various government services to citizens by giving them the convenience to avail services "Anytime, Anywhere".

In the course of the study, it occurred to researchers to devise a layered framework for the successful implementation of e-governance applications fig. 3. A conscious attempt was therefore made to construct such a model. The researchers therefore present a "Layered Framework for Implementation of e-governance services" [1] by considering all the positive aspects of Information Technology. It is therefore presented in the following Fig. 2. The researchers have combined all the functionalities and operations of the successful implementation of

e-governance services and has developed a new framework to serve the need of today's environment. For designing framework, researchers have refereed several significant initiatives have been taken at the Centre, the State level and District level in this direction. Namely few are Ahmadabad Municipal Corporation (AMC), Kalyan Dombivali Municipal Corporation (KDMC), Pimpari Chinchwad Municipal Corporation (PCMC) at municipal corporation level. Andhra Pradesh, Maharashtra, Madhya Pradesh, Karnataka, Punjab etc at a State level. Pakistan, Jordan, Qatar etc at the international level.

The approach is primarily heuristic through technical and other details. This is because the wanted to construct a framework which is work at various levels by using the unique identity of Indian citizens through UID /Aadhar Card. The current framework followed by the government is not adequate to the unique identity of the Indian citizen. To my knowledge such a layered framework catering to the needs of the implementation of e-governance applications has not been devised so far.

The Layered Framework for implementation of e-governance services consists of various layers, components and a few other factors which work on the unique identity of Indian citizens through UID /Aadhar Card. Each layer of architecture is represented by number and hence client layer has a number 1 followed by presentation layer has a 2 number and application layer has 3 number. Further Security layer has 4 number and data layer has a 5 number. Following Fig.1 shows the importance of each layer in layered framework.
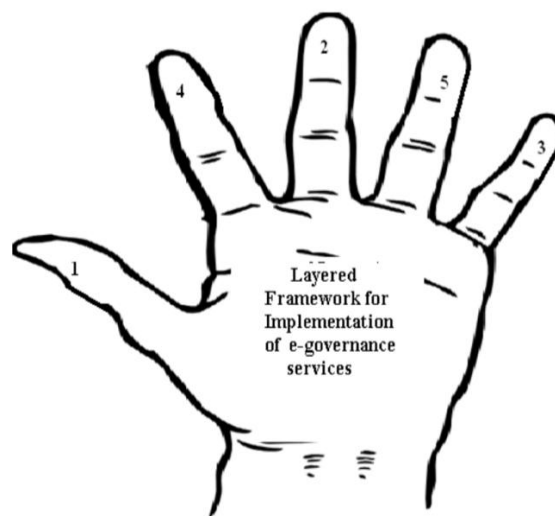

Fig. 1 Importance of each Layer in Layered Frameworks

Researchers have set the priority for each layer according to their importance in the implementation strategy. Presentation layer has a highest priority as compared to other layers. The middle finger shows the highest priority with number 2 of the Presentation layer followed by second priority to the Security layer with number 4 and third priority to the Data Layer with number 5. The fourth priority is for the Client layer with number 1 and fifth priority is for the Application layer with number 3.

This framework is created and presented based on earlier studies, the researcher's experience and the conclusions arrived at from literature review and analysis of primary data. The researchers have presented this framework knowing full well that it can't immediately replace the current framework. It requires some extra time as well as basic preparation before implementation. Designed framework is based on the unique identity of citizens through UID/Aadhar card. This framework is the best combination of the unique identity of citizens with its high security of data. As per e-governance current status, this framework is the best combination of all the studied frameworks implemented by various local, municipal, state and central governments. The full form of abbreviations which are used in Fig. 2 layered framework for the implementation of e-governance services are as follows [5]

- PC: Personal Computer
- CFC: Citizen Facilitation Center
- UID: Unique Identification Number
- UTM: Unified Threat Management
- XML: Extensible Markup Language
- SMS: Short Messages Service
- SMTP: Simple Mail Transfer Protocol
- GIS: Geographical Information system

- VPN: Virtual Private Network
- ULB: Urban Local Body

The First layer that is client layer represents the various e-government application delivery channels with operating agents. The operating agents may be an external user or internal user of the system. External users are citizens, business users and vendors whereas internal users are administrators, CFC operators, PMC employees and/or government bodies. The user can avail e-governance services through various delivery channels like mobiles, kiosks, CFCs, web ports, personal computers, digital TV's as well as through video conferencing. For availing any e-governance services, the user has to first validate his/her UID card. The UID card can be validated by using the PMC registrar system, in which the user can send a request through a mobile device/POS device/biometric scanner for validation purposes. Once the PMC registrar system receives the user's request, the request is passed/forwarded to the UID authentication server. Requested details will be matched with the UID database and validations will take place.

After validation, by using gateways, the user can avail any services related to e-governance applications through presentation layer. The presentation layer manages the interface proposed for the users interacting with the e-governance application. The application layer is the core of the e-government application. Implementation of e- governance includes many services and a few of them are birth and death certificate registration, portal for farmers, kisaan SMS system, plant quarantine information system [fig. 4], grievance redressal, assessment and payment of property tax, e-procurement, and health department services including food licenses etc., building approval and water bill. It also includes maintenance of the personal information of all PMC employees and their payroll systems with all the account details. The security layer consists of authentication and access & identity management. Authentication is the process of verifying the digital identity of the sender of a communication, such as a request to log in. Identity management is a significant component in providing trusted and reliable online delivery of government services. The data layer ensures the governmental administration data storage and persistence and government officials & common public have different privileges fig 5. During the interaction, proper authentication and access management will take place for security purposes and after completion of the transaction the details will be stored in the particular database. Furthermore, this Layered Framework is post implemented with Cloud Computing. It is cost effective and saves implementation and maintenance costs.
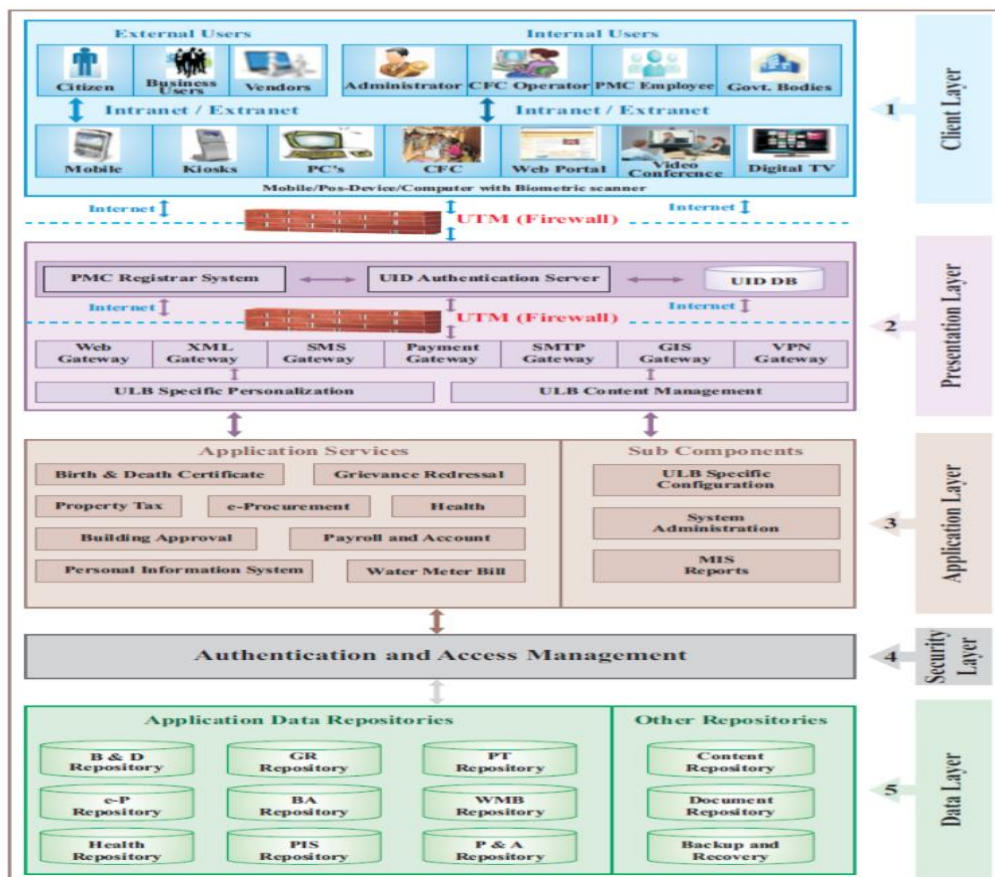

Fig. 2 Layered Framework for the Implementation of e-governance Services.

III.   LITERATURE SURVEY

| Sr. No.	Name of Author	Paper Title	Contribution
1	Dr. Sanjay Kumar Dwivedi, Ajay Kumar Bharti [2]	E-Governance in India – Problems and acceptability	It describes the various problems that India is facing and E-governance acceptability.
2	Kiran Yadav and Sanatan Tiwari [10]	E-Governance in India: Opportunities and Challenges	It also states about the various challenge a developing country faces and its impact on rural areas.
3	Dr. Shirin Madon [9]	Evaluating the developmental impact of E-governance initiatives: An Exploratory Framework	It describes the range of ITC generated application, how much it is used by the users and its application and knowledge survey done in Kerala.

IV.   FIGURES
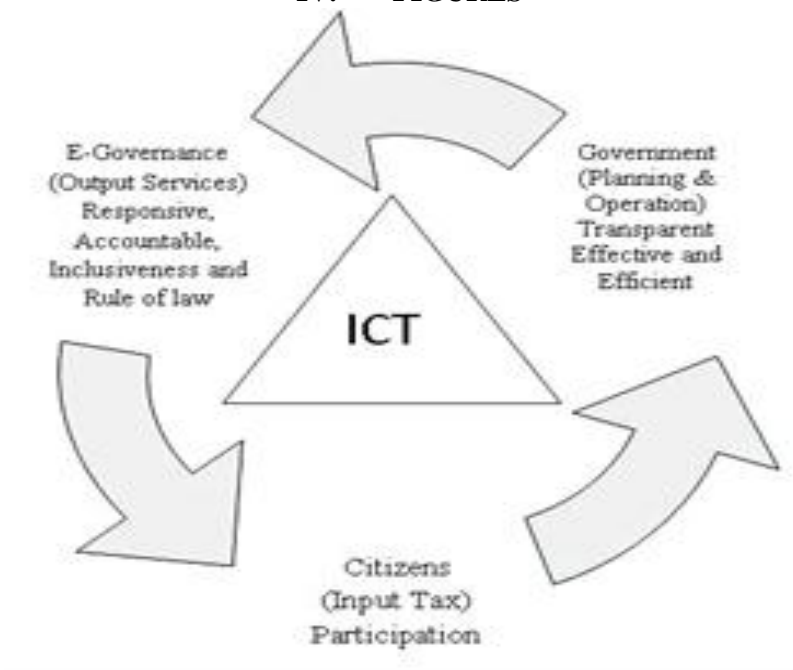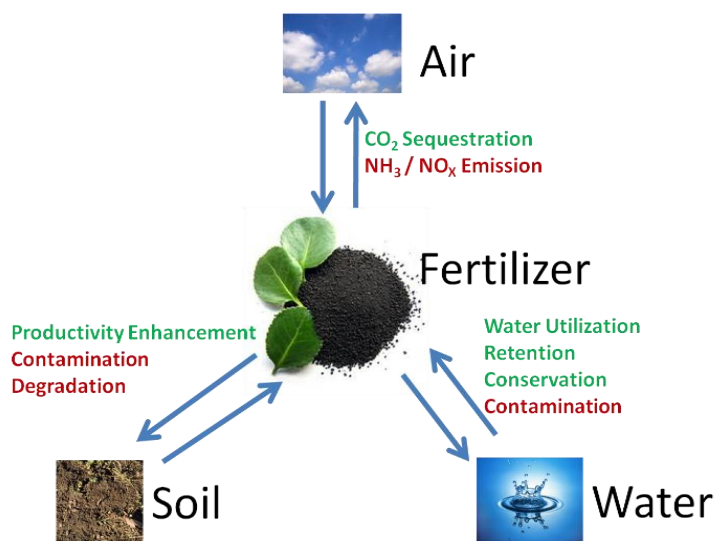

Fig. 3 Conceptual Model of E-Governance
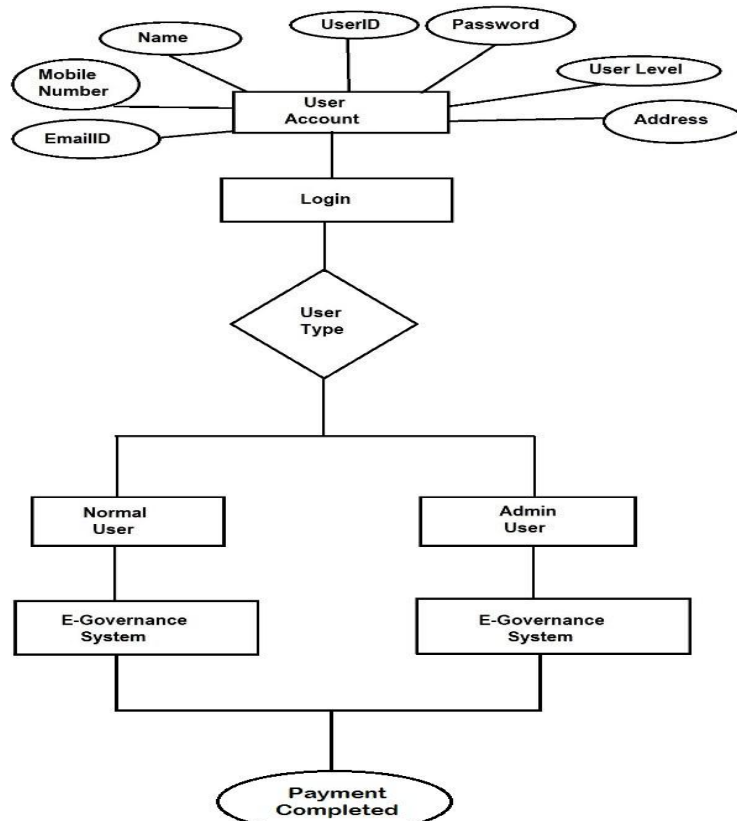

Fig. 4 Crop Management

Fig. 5 Entity Relationship Diagram

V.   PROBLEM STATEMENT

- The main necessity for India is 'Digital India'.
- Only 6.14% people in India are Technically Literate. To increase the Technical Literacy.
- Gateway for making IT's aware to Common Public.
- Concept of Digitization for 'Digital India'.
- Ease of modes of paying the bills among illiterate people.
- Details of types of bills paid by the people of India.
- Making the most promising use of Internet & its application to our own benefits.
- Time consumption of the people of India.
- Inequality in gaining the access to Public Sector Services between various sections of citizens.
- Economical growth of India.

VI.   CONCLUSION

Implementation of e-governance services help citizens to interact directly with government and understand government policies through which they can easily contribute to the decision making process. Consequently, transparency would be maintained between citizens and government and this would help in growth of the nation. This also help citizens to avail civic services 'Anywhere, Anytime' according to their convenience. Citizens have very positive attitude with this e-governance service. Assessment and payment of property tax is most widely used e-governance services and which will help NMC to increase their revenues but need to create awareness of other e-governance services.

All the employees are educated and have completed the IT literacy course. Most of the young employees are not satisfied with the training which was given during the implementation of e-governance services. They are not satisfied because they expect more from the software companies who train them. Employees training satisfaction ratio is very low and hence need to increase the number of training sessions so that they could be easily satisfied and give better services to the citizens. Due to implementation of e-governance services more transparency is maintained in tendering the process and the saving is approximately 250 crores per year. Implementation of e-governance services helps NMC to detect the frauds in "Birth and Death Certificates" module.

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