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# Analyzing Improved Rank of e-Governance and Acceptance in India

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## ABSTRACT

E-Government is basically an application of ICT to provide government services to people via the Internet. This paper provides an overview of the economy, ICT status and e-government in the state. In India, where the IT literacy rate is very small and a large segment of the population lives below the poverty line, there is also a lack of understanding among people about the use and benefits of e-government services. There are also a range of obstacles to the operation of e-government services. This research paper addresses major obstacles to the acceptance and adoption of e-government services in India.

## KEYWORDS

e-Government, Adoption in India, Adoption of e-Government, Rank of e-governance, GOI, e-Governance in India.

## Introduction

### E-Governance: World View and India's Status.

The United Nations e-Government Survey 2020 finds that most countries have devised new methods of providing digital services to its citizens yet some of the population do not have access to digital services. Increased use of information by public sector of information and communication technology will lead to improved interactions with the government and results in efficient management wherein citizens are benefitted with advanced e-service combined with better access to information. The efforts in most countries are in the form in publishing a large amount of information online, moving beyond simple websites and offering national portals that act as a main starting point for users to connect to government services in various ministries. Many developing countries need to devote additional effort to transactional services to electronically engage citizens in public consultation and decision-making. According to UN e-Government survey there is new energy taking place in the role of government in terms of digital services in COVID-19 pandemic which has brought challenges among the poorest countries.

The top 20 countries in the e-Government survey have better financial resources and hence explore innovative initiatives to rollout advanced e-Government services and creating conducive environment for citizen engagement and empowerment. Higher ranking to developed countries reflects their impeccable telecommunication infrastructure and human capital components which is long

term investment if the literacy rate is low then having a great website will not work as citizens cannot read or write or if digital divide exists. India has improved by 22 places to be in top 100 countries in ranking by securing 96 th position in ranking from 2014. India was ranked 118 in 2014 and improved by 11 places and achieved 96 rank in 2018 survey. The jump reflects the enhanced digital technologies and innovations impacting public sector resulting in changed lifestyle.

One of the reasons to fill digital gap between developed and developing countries is the fall in price of mobile products which help in filling digital gap between developed and developing countries. Other tools to increase Internet accessibility and narrowing the gaps are establishment of telecentres, KIOSKS, community centers and other outlets. Increased mobile technology has triggered the development of more mobile e-Government services. The UN survey took place during the pandemic COVID-19 revealed that in difficult time of social distancing and quarantine digital solutions plays very important role to keep the citizens informed. Cyber security and data privacy are major concerns and progress will definitely face these challenges. The UN e-Government survey reveals increase in innovative method of digital services with improved digital infrastructure, sustainable e-government platforms by using limited resources to implement digital government infrastructure. The paper highlights the issue related to need of assessment framework as well as challenges faced by Indian states and Union territories.

**E-Government And Its Acceptance**

E-Government is a multidisciplinary concept for web-based services offered by local, state and federal agencies. (Palvia & Sharma, 2007) E-Government is the use of information and communication technology, particularly the Internet and the World Wide Web, to increase the efficiency, cost and quality of government information. Services given to its customers, such as residents, companies, workers and other government agencies. While the implementation of e-government has the potential to provide better services to people at a lower cost, there are problems with acceptance. Some of the most difficult topics in IT research is to understand why people are embracing or rejecting new information technology. (Adawi-AI, Yousafza, & Pallister, September,2005)

Bank of the World (www.worldbank.org) Government refers to the use by government agencies of information technology such as the Wide Area Network, the Internet and Mobile Computing, which have the potential to transform ties with people, companies and other branches of government. Such technologies can serve a number of different purposes: Better delivery of government services to people, improved relations with business and industry, empowerment of people through access to knowledge or more effective governance. The resulting benefits can include less corruption, greater transparency, increased convenience, revenue growth and/or cost reduction. "(Palvia & Sharma, 2007)

The adoption and progress of e-government depends to a large extent on the ability of people to follow this innovation. (Carter, 2005) Today, many governments face the obstacle of a low level of citizen acceptance of e-government services. (Belanger, 2008) The implementation of e-government is taking place in a violent social political environment. This must also be carefully explained not only from a technical viewpoint, but also from a physical, political and cultural viewpoint. Governments would not be able to take proactive steps to update the e-government without knowing what motivates the public

to use e-government services. (Gilbert, in 2004)

**Need For Assessment Framework**

The vision of the NeGP aims to "make all government services available to the common man in his locality, through common service channels, and to ensure the quality, accountability and reliability of these services at affordable cost, in order to meet the basic needs of the common man." The e-Governance initiatives since early 90s were in all three categories i.e., Government to Citizen (G2C), Government to Business (G2B) and Government to Government (G2G). The G2C initiatives were in the form of projects viz., Computerization of Land records was launched by Union Ministry of Rural development in eight states and union territories, The Bhoomi project was launched in Karnataka for land registry automation, Gyandoot Citizen Service Delivery was launched in Dhar district , Madhya Pradesh, Lokvani Citizen Complaint Management and Single Window Citizen Services was launched in Uttar Pradesh district of Sitapur, FRIENDS Single Window Citizens Services was introduced in Thiruvananthapuram, Kerala, and the e-Mitra project to expand Single Window Citizens Services was introduced in Rajasthan, e-Seva was launched for extending basic services to urban citizens in Hyderabad, Andhra Pradesh, RACE project was launched for electricity tariff billing of urban citizens in Patna, Bihar and CET project for joint entrance examination was launched in Karnataka. G2B initiatives were launched in the form of an e-procurement project in Andhra Pradesh, an e-procurement project in Gujarat, and MCA 21 launched by the Ministry of Corporate Affairs to provide online corporate registration services to all stakeholders in the company. G2G initiatives were in the form of Khajane project for automation of all treasury related activities in Karnataka, and SmartGov project launched in Andhra Pradesh automating the workflow of government. These initiatives were piecemeal approaches and their individual offerings could not extend benefits to end-users as advocated in the National e-Governance Plan (NeGP). This plan seeks to develop the right e-Governance and institutional framework, build core infrastructure and policies, and introduce a range of mission-mode projects at the middle, state level to develop a citizen-centric and business-centric e-Governance climate [Tripathi et al., 2007]. Some states/UTs have surged ahead of others as they gained by the experience of the implementation of such projects and even developed state wide infrastructure as part of these pilot projects. Thus, they have a clear edge of implementation over other states and UTs who did not participate in such initiatives. NeGP lays the same vision for all the states and UTs and thus the states and UTs which ‘lagged behind” need to assess and study the strategic initiatives of these ‘early adopters’ to emulate their strategy (Jha and Shivani , 2020, p.13).

The lack of systematic mechanisms for tracking and reviewing e-Government initiatives has contributed to a major delay in the growth of e-Government at country level [Kunstelj et al., 2004]. From the experience of United States and Canada which have higher level of e-Government and earlier assessment of development of e-Government, the future direction of e-Government evaluation aims towards simplifying indicators and stressing the assessment of outcome as a whole [Shan et al., 2009]. Furthermore, the current approaches to monitoring, evaluating, and benchmarking e-Government development do not support comprehensive e-Government assessment and need to be further improved in order to give policymakers better evaluation criteria for their decisions [Kunstelj et al., 2004]. There are three types of circumstances that need assessment in e-government. One is the environment; second is evaluating the

performance of an e-government program or project; and third is the overall impact of e-government on general government functioning, economic development and citizen servicing. Accordingly, we need three kinds of approaches of evaluation such as (i) E-readiness assessment of states or region (ii) Hierarchy of measures taken by the e-government program or project (iii) Overall impact of e-government

Various stake holders are involved in provision and use of e-Governance offerings by states and UTs in India as part of NeGP viz., government agencies, public-private partners and end user's or citizens. Challenges in assessment of e-Governance initiatives by states and UTs have been (i) appointment of a self-assessment agency to study impact of the project (ii) Lack of comprehensive framework (iii) lack of quality of longitudinal data (iv) lack of accessibility of evaluation reports and (v) lack of funds for comprehensive assessment (Gupta et al., 2007). Keeping all these limitations and challenges aim to design an easily implementable overall impact assessment framework for states and union territories and create a baseline of data. For design of an overall impact assessment framework the following available frameworks were analyzed (i) E-Governance assessment framework (EAF), India (ii) Skoch e-Governance report card (iii) e governance Economics Project (eGEP), EU (iv) Impact Assessment framework, IIM Ahmedabad, India (v) VAN-DAM model, Australia and (vi) A Public value Framework, UK.

EAF framework is a multi-criteria framework, designed by joint team efforts of IIM Ahmedabad and NISG, Hyderabad with primary focus to access the overall impact on the citizens by the e-Governance service offerings of Indian states and UTs. All key stake holders were incorporated to get valuable inputs to guide the lifecycle management of the e-Governance service offerings to the citizens. The framework was designed prior to launch of NeGP to be used to assess the overall impact of e-Governance service offerings. EAF evaluation is in five dimensions: I service orientation (user convenience and citizen focus) (ii) technology (architecture, standards, health, scalability , reliability) (iii) sustainability (internal / organizational , legal and commercial) (iv) cost effectiveness (cost efficiency attribute) (v) replicability (functional and technical).

## E-Government: Challenges

### 1. Governance Offerings

It is generally emphasized that an impartial agency will carry out an assessment in order to gain an objective opinion. This external agency shall be primarily dependent on the project owners and other agencies involved for all the project/plan related information. Such agencies generally tend to either give distorted information about the project/plan or give information that does not represent the true perspective. In fact, by providing a self-assessment tool the implementer's and various agencies involved shall be in a better position to assess their own e-governance offerings on an on-going basis. Moreover, these assessment indicators and attributes shall act as yardstick for assessing the projects/plan right from the project/plan conceptualization phases; thereby developing efficient and holistic e-Gov offerings for the citizens. The future strategy to be adopted to enhance the integrated benefits to the citizens/end users of these e-governance offerings can also be decided by all these multiple implementing agencies.

### 2. Lack of Comprehensive Framework

A comprehensive framework should be a true indicator of the integrated benefits of e-governance offerings to the end users'/citizens of states and UTs of India as part of NeGP. The assessment framework which have been developed or are in use for continuous assessment need to be

altered/modified to suit our requirement of ongoing assessment analysis of G2C-U and G2C-R offerings by states and UTs of India. These assessment indicators need to be modified so as to receive correct inputs of various stake holders at lowest level of strategy implementation i.e., CSCs and District Centers. An effort has thus been made in this research work to alter and modify the existing EAF version 2.0 framework so as to solicit inputs of lowest level strategy implementers' of NeGP in states and UTs of India.

**3. Non-Availability of Baseline Data**

This is incredibly important to provide data on the operation of the infrastructure prior to the introduction of the new program in order to make changes in the previous systems. Basic line data is basically as-is the mechanism analyzed during the design phase of the project. In most of the plan/projects, it has been seen that the base-line data was not captured; hence it is taken as a perception of the stakeholder, thereby giving an in-correct assessment of the impact made by the plan/project. Moreover, there is no authentic baseline data to measure the continuous improvement in NeGP implementation in states and UTs of India after some time has elapsed and its continuous use by its citizens has begun. Any futuristic strategy prediction study cannot be done as previous data for integrated benefits achieved by previous adoption strategy of these e-governance offerings as part of NeGP does not exist. We therefore in our research work have created a baseline data post NeGP implementation with effect Jan 2010 and predicted futuristic strategy for enhancing. integrated benefits to the users/citizens of states and UTs of India post NeGP.

**4. Lack of Visibility of Assessment Reports**

It has been shown that the majority of the time the assessments are carried out as part of a contractual requirement of the project / plan and, once the requirement for such a mission has been fulfilled, the study is ignored (Gupta et al., 2007). In the event of high clarity and exposure provided to the evaluation study, it will provide ample preparation for the project / plan implementer and help them develop a innovative strategy to maximize the integrated benefits for people as part of the NeGP.

**5. Lack of Funds For Holistic Assessment**

As we have already seen, a systematic and thorough evaluation will include a wide range of expertise. This will also require quite a lot of time resources for surveys, travel, interviewing, secondary data research, and review. Normally, an in-depth and holistic assessment study would require quite a lot of funding, which is normally unavailable (Gupta et al., 2007). Thus, it is recommended that management institutions/research organizations/centers of excellence of e-governance be allocated funds to do a holistic continuous detailed assessment of states and UTs of India post NeGP.

**6. Other Challenges**

There are some more similar issues and challenges pointed out in a study done by Centre of e-Governance, IIM, Ahmedabad on impact assessment (Bhatnagar et al., 2007) for e-Governance projects:

(a) Often evaluation studies had been done by agencies that may be seen as having an interest in showing a positive outcome.

(b) Different studies of the same project/plan showed very different outcomes, thus indicating a lack of credibility of the results.

(c) Part of the explanation for the inconsistent results was the use of very small samples and lack of rigor in sampling when gathering data from device clients. Consequently, the findings could not easily

be produced across the entire client population.

(d) The studies evaluated the functioning of the computerized system but were not able to assess the difference made by ICT use, as the need for counterfactuals was ignored.

(e) Finally, since different studies did not use a standard methodology, it was difficult to compare the outcome of a project with other projects.

## 1. Global Measurements: Shortcomings, Opportunities and Learning's

E-Government strategies could be formulated after an integrated assessment is undertaken with inputs from all stakeholders involved in the implementation process. An integrated continuous e-Governance assessment system provides important knowledge for policy and decision-makers. In the context of developing countries, it is imperative to analyze the conditions, opportunities and obstacles of an existing environment, to obtain a realistic and workable e-Government strategy that supports public administration reforms and sustainable national development (Dzhusupova et al., 2010). Due to rapidly changing environments, the lifecycle of e-Government Readiness Assessment in developing countries is very short and thus a continuous e- Government assessment framework incorporating all stakeholders' needs to be developed.

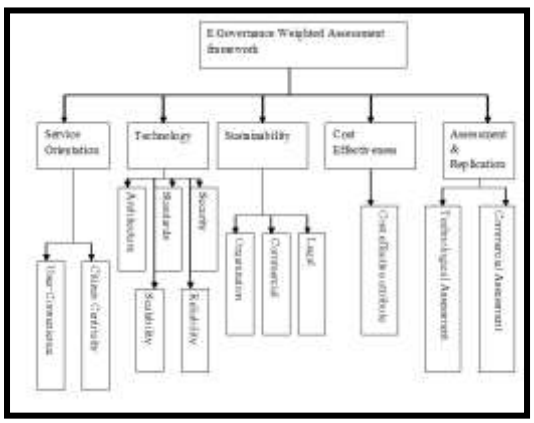


**Figure 1: EAF Version 2.0 Framework For Assessment Of Pilot Projects**

A continuous assessment framework shall provide baseline data and strategy formulation/validation tools. While there are different approaches to e-Government Readiness Assessment, each providing inputs to e-Government development, a review of the literature on the subject revealed lack of labor on methodologies for e-Government Readiness Assessment applicable for various levels of state and focused on the requirements of developing countries (Dzhusupova et al., 2010).

Internationally, variety of e-Governance readiness assessments are conducted over the last decade. These include the United Nations e-Government Survey reports by UNDESA, Global e-Government reports by the Centre for Public Policy, Brown University (CPP-BU) (Darell et al., 2007), the e-Government Leadership reports by Accenture, and e-Government Rankings by Waseda University. These e-Government Readiness Assessment specialize in ranking countries supported a composite index but none of them stress on development of endless assessment methodology. The UNDESA series on e-Government and therefore the Brown University rankings cover over 190 countries each. The UNDESA surveys use a composite index supported ICT infrastructure development, human development and maturity of online presence of governments, whilst CPP-BU focuses totally on the event and maturity of online presence of governments within the ranked countries (Dzhusupova et al., 2010). Accenture and Waseda University, on the other hand, evaluate comparatively few countries compared to the consumer services assisted by UNDESA or CPP-BU and the promotion and management of e-Government. In comparison to UNDESA, CPP-BU, Accenture or Waseda University, the eMacao e-Government Readiness Assessment (Elsa et al., 2005) was

developed to provide comprehensive information on strategic planning at the organization level. The survey, conducted by the UNU-IIST Center for Electronic Governance, provided information about different individual agencies involved in implementation efforts, the relationships between the agencies and therefore the services they produce or receive to/from the environment or other agencies (Dzhusupova et al., 2010). A comparative analysis of all five documented e-Government readiness assessment approaches revealed that existing frameworks don't take multi-stakeholders' input during assessment. Furthermore, they're not sensitive to the general country context. Nevertheless, this is especially important for developing countries with poor public policy, lack of capital and low human and institutional ability (Dzhusupova et al., 2010).

A thorough survey of literature revealed that none of the e-Governance readiness assessment could be adapted to the Indian conditions, thus efforts started since 2004, in developing e-Governance readiness assessment framework. The first effort in this direction was made by Centre of e-Governance, IIM, Ahmedabad outlining a multi-criteria assessment framework for pilot projects called e-Governance Assessment Framework (EAF) (Rao et al., 2005). These efforts were funded by Department of Information Technology, Government of India. In 2005, the SKOCH Consulting Group also developed an impact evaluation system based on feedback from users of pilot projects and called it the Skoch e-Governance Report Card (Kochhar et al., 2005). Based on this impact assessment framework developed by Skoch an Impact assessment framework was developed by Centre of e-Governance, IIM, Ahmedabad in 2007 (Bhatnagar et al., 2007). The EAF framework was later modified in 2006 and EAF version 2.0 was formulated for assessment of pilot projects. In India implementation of NeGP, advocated integrating all pilot projects on a common platform and providing services to users through a common interface. Thus, the EAF framework needed to be modified to deal with integrated assessment and incorporate multi stakeholders' input. Therefore, an integrated e-Governance assessment framework (IGAF) based on EAF version 2.0 was developed for integrated assessment of states and UTs of India incorporating input of multi stakeholders involved in the implementation process.

## 2. Service Delivery Paradigm

The Government Service Delivery paradigm is facing tough challenges due to constraints of regulatory compliance and cost cutting (Sachdeva et. al., 2006). There is a need to improve the service delivered to the citizen through CSCs post NeGP on dimensions such as speed, quality, reliability, convenience and cost. It needs to incorporate the following features:

(a) Speed of delivery in response to user demand measured in days/hrs/mins.

(b) Percentage of user population from socially & backward classes benefited from e-Governance services.

(c) Suitability of CSC locations (kiosks) w. r. to socially & economically backward classes.

(d) Arrangements to ensure availability of service during user convenient time slots if power and connectivity are available during prime time.

(e) Extent of reduction cost to user-estimate the % reduction in direct cost like travel cost etc.,

(f) Security feature exists to maintain privacy of citizen.

Thus, service delivery paradigm can be a combination of six KPIs viz., service

orientation user centricity, commercial sustainability, cost effectiveness and technological security.

## Conclusion

E-government services act as an instrument of reform and a tool to transform government operations. The primary objective of this paper is to provide a conceptual model that identifies the factors influencing the citizens' intention to use e-government services in India. The model proposed in the paper extends the TAM model by including constructs from DOI theory and literature review for Indian context. The research attempts to provide insights into issues involved in ICT infrastructure availability, building trust and awareness among citizens' regarding Web based services and accessing their importance in acceptance of e-government services. Empirical testing of hypotheses generated from the model will lead to better understanding of these constructs and will help e-government practitioners in improving their services in terms of reach and acceptance.

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