# Empowerment through E-Governance in Developing Economies: The Case of India[1]

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## Abstract

This paper focuses on strategies undertaken in India and other developing economies to achieve empowerment of all stakeholders, particularly the rural poor, through context oriented policies of e-governance. With a strong emphasis on principles of governance, the government's involvement in the implementation of information and communication technology at all levels of central and state governments is analyzed. The goal of the digital economy is to have a universal reach. Additional reforms are suggested to address the limitations in the current measures.

*Keywords:* Empowerment, E-governance, Reforms, ICT

## Introduction

The exponential growth of technology, internet, and mobile connectivity has prompted businesses and governments to offer their services with increased efficiency while their customers and citizens have started demanding enhanced output and value. The information age has paved the way for emphatic democratic participation and requirement of information with full disclosure-cum-transparency. India's information technology (IT) sector employs more than a million people with $17 billion revenues per annum; however, so far, the benefits of the *digital economy* are somewhat limited to select urban areas. The other areas, particularly in poor states, have not derived any such advantages. This results in not only a rural-urban digital divide but also a new urban-urban digital divide among different states [Das and Narayanan, 2005]. The United Nations (UN) ranked India as having minimal e-government capacity with a meager score of 1.29 in 2001, but considered the country to have a promising interactive presence. The UN observed that India had benefited from the combination of political leadership and professional civil service. The study also identified the enormous infrastructure and human capital challenges for India as it continues to lose qualified personnel to other countries. The need for e-governance stems from its potential benefits such as, efficiency, improved services, better accessibility of public services, and transparency [Gajendra, Xi, and Wang, 2012].

The United Nations Educational, Scientific, and Cultural Organization (UNESCO) defines governance as "the exercise of political, economic and administrative authority in the management of a country's affairs' and e-governance as "the performance of this governance via the electronic medium in order to facilitate an efficient, speedy and transparent process of disseminating information to the public, and other agencies, and for performing government administration activities". The concept of e-governance emphasizes governance and not technology. Therefore, India desires to maintain 20% of its efforts in technology while the remaining 80% would involve management. Estimates indicate that 35% of e-government projects are likely to be total failures, 50% to be partial failures and the remaining 15% will be successful [Heeks, 2003]. The reasons for such failures are attributed to direct and indirect financial costs, opportunity costs, political costs, beneficiary costs, and future costs. This paper focuses on strategies undertaken in India to achieve empowerment of all stakeholders, particularly the rural poor, through context oriented policies of e-governance. With a strong emphasis on principles of governance, the government's involvement in the implementation of information and communication technology at all levels of central and state governments is analyzed. The goal of the digital economy is to have a universal reach. Additional reforms are suggested for the limitations in the current measures.

## Literature Review

Traditional businesses and industrial houses are embracing the digital economy with alacrity thus redefining the business landscape forthwith to create new markets and sectors for the existing business line. They are ready to reap the benefits of lower inventory costs, instant access to distributors and suppliers, faster response time and greater customer satisfaction

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[Sharma, 2000]. The customer-centric digital economy needs business leaders and strategic thinkers to develop a new skill-set to recognize the evolving future and make critical decisions for the organization [Srinivasanand Balasubramanian, 2003]. Governments in developing economies are vastly encouraged by the advent of technology-based banking services round-the-clock in industrialized societies. Even weaker economies such as Ghana, Tanzania, and Kenya have introduced a national clearing house, decentralized district governance, and reduction of corruption respectively through enabling information technology in their operations [Backus, 2001].

Reforms at the grassroots level in local administrations in India have created both direct and representative democratic channels that place administrative and fiscal development power in individual village administrations. This has been deemed Empowered Deliberative Democracy (EDD) [Fung and Wright, 2001].

In general, public governance revolves around social, economic, cultural, political and legal dimensions of the environment. The technology conditions have helped India reach beyond the common parameters. The paradigm shifts in public organizations by the application of e-Government technology are ultimately aimed at improving functional efficiency and effectiveness of government organizations [Haque and Pathrannarakul, 2013].

After a comparative analysis of key policy statements on e-government reform made in the US, British, and EU initiatives, Chadwick and May cite the marginalization of the internet by the government use of technology and conclude that "an executive-driven, "managerial" model of interaction has assumed dominance at the expense of "consultative" and "participatory" possibilities" [Chadwick and May, 2003]. Definitions of e-government, e-administration and e-governance are wide-ranging. The importance of distinguishing between e-government and e-governance for both scholarship and practice is addressed in depth [Bannister and Connolly, 2012]. E-government is narrow in scope as it points out to a government offering its services and functions to its citizens through technological platforms and may be seen in e-tax and e-health. E-governance is broad in approach as it deals with the use of technology to manage resources in the implementation of policy and directed towards all stakeholders.

Most functions of an e-government revolve around inter-organizational relationships covering policy coordination, implementation, and public service delivery. E-administration describes intra-organizational relationships that govern policy development, organizational activities, and knowledge management. E-governance focuses on the interaction among citizens, governmental institutions, and the bureaucracy and thus is based on a democratic process, openness of the government, and the transparency in decision-making at all levels. The relationship between e-government and e-governance rests on static, dynamic and integrated strategy clusters and so, are supply-based, demand-driven and interactive respectively [Haiyan, 2011]. Human factors unfortunately act as hindrances in the adaptability of e-governance initiatives in the public sectors of India and so considering those factors before implementation is critical to reap the benefits of good governance [Mishra and Sharma, 2013]. The view of treating e-government projects as opportunities for innovation must extend to wider innovation to create more democratic forms of governance [Navarra and Cornford, 2012].

## The Indian Context

India has about 150 million fixed broadband internet subscribers, a penetration of just over 10%, which is dwarfed by 80% penetration in the United States. The country makes up for this limitation with more than 865 million mobile phone subscribers, which accounts for a penetration of about 70%. Two-thirds of the population being in its thirties, the digital revolution is transforming the society at a fast pace [Dahiya, 2013]. This has led to the government implementing its citizen-centric initiatives through computerization of all its departments with a sense of service orientation and transparency. The evolution of e-governance has brought all the services offered by the central and state governments closer to all citizens alike with a collective vision and shared cause. The gap between a developing economy and an industrialized society with regards to e-government is shown in Table 1.

**Table 1: India Compared to the US for E-government Indicators (2012)**

|  | India | USA |
|---|---|---|
| E-government development index | 0.3829 | 0.8687 |
| World ranking in e-gov. development | 125 | 5 |
| E-information | 25 | 75 |
| E-consultation | 14 | 78 |
| E-decision making | 17 | 50 |
| Extent of e-participation | 15 | 74 |

*Source: United Nations E-Government Survey 2012*

A series of broad steps taken by the government in the past four decades for a better and more efficient use of technology is listed in Table 2. The main thrust for e-Governance was provided by the launching of the National Satellite-based Computer Network (NICNET) in 1987. NICNET was extended via the state capitals to all district headquarters by 1990. In the ensuing years, with ongoing computerization, telephone connectivity, and internet connectivity, the government established a large number of e-Governance initiatives, both at the central and state levels. The Department of Electronics and Information Technology formulated the National e-Governance Plan (NeGP) in 2006 to boost the e-Governance process and offer citizen services, business services, and government services. All public services are delivered through electronic platforms thus getting the name e-transaction.

**Table 2: Major Initiatives in India for ICT Proliferation**

| Year | Steps / Establishment of Unit | Objective(s) |
|---|---|---|
| 1970 | The Department of Electronics | Increasing importance of technology |
| 1977 | The National Informatics Centre (NIC) | First step toward e-governance<br>Focus on information and communication |
| 1980s | Use of computers | Manage databases and process information |
| 1987 | National Satellite-based Computer Network (NICNET) | Main thrust for e-governance |
| 1987 | District Information System of the National Informatics Centre | All district offices linked |
| 1990 | Extension of NICNET to State capitals and district headquarters |  |
| 1998 | National Task Force on IT and Software Development | Assimilate and process all spheres of knowledge |
| 1999 | Union Ministry of IT |  |
| 2000 | 12-point agenda for e-governance identified |  |
| 2006 | National e-governance plan (NeGP) |  |

*Source: "Promoting e-governance: The Smart Way Forward", Chapter 4, Government of India,*
*Second Administrative Reforms Commission, 11th Report, December 2008*

They use information and communications technology (ICT) tools to improve access, enhance transparency, and reduce response time. They provide visibility for the national and state level services of e-governance projects and present status on actual utilization of various systems at various locations. Service is requested through electronic means (self-access or assisted access) including mobile devices; the workflow, the approval process, database, and service delivery are all electronic (digitized). The purpose and scope of e-transactions are to improve access, enhance transparency, and reduce response time. In the recent two months of January and February of 2014, there have been 162 million e-transactions at the central level (286 million at the state level) with 8,200 per 1,000 of population. This is clear evidence of the mammoth success that e-transactions have generated. The categories of e-transactions span over the major categories of statutory and non-statutory services, utility bill payments, business-to-citizen (B2C) services, informational services, social benefits and mobile governance. Table 3

indicates the degree of reach of such e-governance services within the population through the availability of mobile connections along with a comparison to select markets. The status of India in a growing global mobile market is captured in Figure 1.

ICT governed programs and initiatives are intended to curb, cut, mitigate, and control corruption [Ionescu, 2013]. Citizens have overcome the perils of bribes and corruption prevalent in the bureaucracy at all levels. They may now use e-transactions for obtaining certificates, licenses and permits, collect land revenue, participate in integrated finance management services, make payments for residential tax, commercial tax and utilities, receive social welfare and pension, use passport and visa services, derive benefits from financial inclusion, and apply for skill development, and state specific services. Such expanded services from a country ranked seventh in the world behind major industrialized countries has accomplished improved planning, monitoring mechanisms, cost savings through rationalization, and effective administration and delivery of a wide variety of public services. This is the true empowerment of all citizens, especially the rural poor.

**Table 3: India Compared to Select Countries for Market Penetration (%)**

| Ratio of Mobile Connections to Population | | | |
|---|---|---|---|
| | **2010** | **2011** | **2012** |
| Bangladesh | 48.82 | 61.19 | 70.09 |
| Bhutan | 51.70 | 66.11 | 74.15 |
| Brazil | 105.34 | 127.73 | 133.35 |
| China | 62.63 | 72.24 | 81.85 |
| France | 97.43 | 100.39 | 106.73 |
| Germany | 132.40 | 139.08 | 138.21 |
| India | 61.00 | 71.51 | 68.26 |
| Nepal | 30.93 | 44.45 | 55.24 |
| Pakistan | 59.09 | 63.76 | 67.74 |
| Russian Federation | 153.88 | 160.76 | 162.60 |
| Singapore | 142.05 | 148.70 | 152.91 |
| Sri Lanka | 84.57 | 93.35 | 104.71 |
| USA | 100.36 | 107.86 | 109.49 |

*Source: GSMA Intelligence*

**Figure 1: India Compared to France and the USA for Market Penetration**
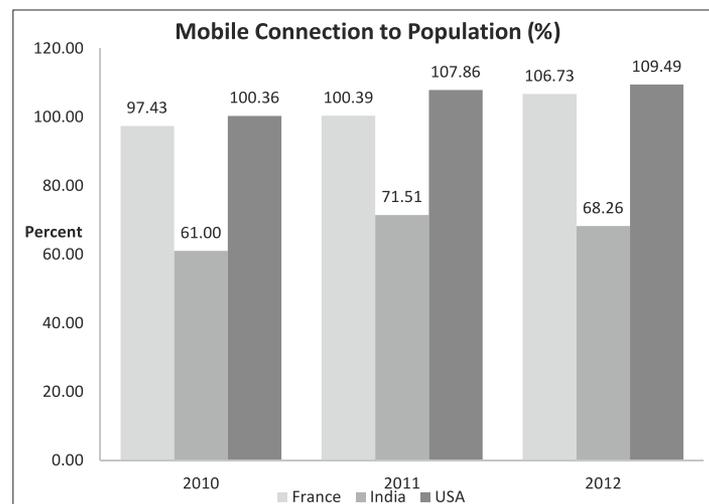


*Source: The Mobile Policy Handbook 2013, GSMA, UK*

## National E-Governance Plan

The National E-Governance Plan (NeGP) is an integration of a collective vision and shared purpose. It takes a holistic view of diverse e-governance efforts undertaken and highlights the central and state governments making a combined effort to implement major initiatives. They may be broadly classified into three categories, namely, government to citizen (G2C), government to business (G2B), and government to government (G2G) initiatives. The G2C initiatives comprised of computerization of land records and service delivery thereof for establishing ownership, title, transfer, and tenancy besides offering solutions to grievances and complaints. Some of the G2B initiatives were intended to provide congenial legal environment, expedite processes and provide relevant information to businesses. E-procurement and e-filing of statutory documents fall under this category. G2G initiatives are meant to increase the efficiency with which internal government processes share information among themselves to assist in the decision-making. The government has identified 31 projects as Mission Mode Projects (MMPs) where each one focuses on one key aspect of e-governance. Banking, agriculture, pension, immigration, foreign direct investment for e-trade, and insurance are some examples of MMPs. Some of the key benefits of e-governance accomplished through these measures are shown in Table 4.

## Challenges, Suggested Reforms and Conclusion

According to the UN, for the majority of Asian countries, the e-government environment is weak and addressing the infrastructure gaps should be their top priority[3]. The major reason for individual projects' failure is due to the gap between the design of technology and the reality of its context of application [Dada, 2006]. Certain e-governance applications have failed as they have been implemented with a techno-centric bias instead of governance-centric initiative [Saxena, 2005]. Failures also stem from the use of existing technology from the industrialized societies in developing countries whose needs are vastly different [Brewer, 2005]. There are numerous criticisms against such e-governance initiatives. First, skeptics raise questions as to whether e-governance can eradicate poverty, reduce inequality and satisfy basic human needs in a poor country like India [Haque, 2002]. The government may overcome such criticisms by suitable reforms. Secondly, critics stir up a fear that information technology may end up creating the equivalent of India's deeply divisive caste system in the 21st century [Hariharan, 2002]. Internet and mobile connectivity are tools to accomplish true success of democracy as both are above economic status and social conditions. Adopting a centralized approach for the management of knowledge, documentation, grievances and human resources, and a decentralized approach for core applications such as property transfer-cum-registration, vehicle registration, and building approval is suggested to form a unified digital framework for effective e-governance operation [Rao, 2013]. Public sector managers are challenged to perform a balancing act between maintaining openness as demanded by e-governance and also achieving private-sector efficiency. There is thus a need to develop theoretical frameworks, models, and training to help managers accomplish the dual goal [Halachmi and Greiling, 2013].

### Table 4 Contribution to e-governance by ICT-enabled governance

| Internal Benefits | External Benefits |
|---|---|
| Avoidance of duplication | Faster service delivery |
| Reduction in transaction costs | Greater efficacy |
| Simplified bureaucratic procedures | Increased flexibility of service use |
| Greater efficiency | Innovation in service delivery |
| Better coordination and communication | Greater participation |
| Enhanced transparency | Greater citizen empowerment |
| Information sharing by agencies | Citizen participation |
| Security of information management | |

*Source: "Promoting e-governance: The Smart Way Forward", Chapter 3, Government of India,*
*Second Administrative Reforms Commission, 11th Report, December 2008*

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[3] Benchmarking E-government: A Global Perspective – Assessing the Progress of the UN Member States, May 2002, Page 43

The success of any e-government relies upon its sound principles of e-governance. The initial success of the industrialized societies is presently being emulated by developing nations as well. E-governance has a wide appeal among all classes of the country and widespread use of the technology applications would lead to success in the modern era. Implementation of e-governance initiatives are subject to obstacles from human factors such as computer literacy, technological factors such as infrastructure deficiencies, and other factors that would include cost, systems, and legal infrastructure [Sharma, Mishra, and Mishara, 2011]. The benefits of e-filing income tax returns in India are exclusive to select salary earning stakeholders and so do not appeal to all sections of the society [Singh and Singh, 2013]. The evaluation results of e-governance projects in select regions highlight the need for addressing policy gaps. They also suggest improvements required in capacity building, development of common standards, instituting security guidelines, ensuring quality, completeness, depth and spread of services, coordination and change of mindset [Kalsi and Singh, 2013]. A similar conclusion is drawn in the context of countries in the United Arab Emirates where the low score in e-participation reflects a gap in the mindset of policy makers in government and stakeholders, and the absence of effective application of the principles of good governance [Al Athmay, 2013].

The Government of India has identified that the success of some of the pilot projects were not properly replicated and the need for projects to be context-oriented. Some of the policy recommendations under consideration include building a congenial environment, creating the institutional framework for coordination and sharing of resources and information, identification, prioritization, implementation, monitoring and evaluation of e-governance projects, business process re-engineering, capacity building and creating awareness, and developing technological solutions.

# References

- Al Athmay, Alaa-Aldin Abdul Rahim, "E-Governance in Arab Countries: Status and Challenges", Global Journal of Business Research (GJBR). 2013, Volume 7, Issue 5, pp. 79-98.

- Backus, Michael, "E-Governance and Developing Countries: Introduction and Examples", April 2001, Research Report, The International Institute for Communication and Development.

- Bannister, Frank; Connolly, Regina, "Defining E-Governance", E-Service Journal, Winter 2012, Volume 8, Issue 2, pp. 3-25.

- Brewer, E., "The Case for Technology in Developing Regions", Computer, Volume 38, Issue 6, May 2005, pp. 25-38.

- Chadwick, Andrew; May, Christopher, "Interaction between States and Citizens in the Age of the Internet: E-Government in the United States, Britain, and the European Union", Governance, April 2003, Volume 16, Issue 2, pp. 271-300.

- Dada, Danish, "The Failure of E-Government in Developing Countries: A Literature Review", The Electronic Journal on Information Systems in Developing Countries, 2006, Volume 26, Issue 1, pp. 1-10.

- Dahiya, Rekha, "Indian Youth and Internet: An Empirical Study", Journal of Marketing & Communication, Sep-Dec 2013, Vol. 9 Issue 2, pp. 19-28.

- Das, Diganta Kumar; Narayanan, K., "Information and Communication Technology (ICT) and India's Development: Achievements and Challenges Ahead" Journal of Services Research, Special Issue, 2005, pp. 93-108.

- Fung, Archon, and Wright, Erik Olin, "Deepening Democracy: Innovations in Empowered Participatory Governance", Politics & Society, Vol. 29, No. 1, March 2001, pp.5-41.

- Gajendra, Sharma, Xi, Bao, and Wang, Qiang, "E-Government: Public Participation and Ethical Issues", Journal of E-Governance 2012, Volume 35, Issue 4, pp. 195-204.

- Haiyan, Qian, "Citizen-Centric E-Strategies toward More Successful E-Governance", Journal of E-Governance, 2011, Volume 34, Issue 3, pp. 119-129.

- Halachmi, Arie, and Greiling, Dorothea, "Transparency, E-Government, and Accountability", Public Performance & Management Review, June 2013, Volume 36, Issue 4, pp. 572-584.

- Haque, Shamsul, M., "E-governance in India: Its Impacts on Relations among Citizens, Politicians and Public Servants", International Review of Administrative Sciences, Vol. 68, 2002, pp. 231–250.

- Haque, Sirajul; Pathrannarakul, Pairote, "E-Government Towards Good Governance: A Global Appraisal, Journal of E-Governance. 2013, Volume 36, Issue 1, pp. 25-34.

- Hariharan, Venkatesh, "Is India on the Brink of a Digital Abyss?" Issue Seven: Religion Online & Techno-Spiritualism, Cyber Sociology.

- Heeks, Richard, "Most eGovernment-for-Development Projects Fail: How Can Risks be Reduced?" Institute for Development Policy and Management, Working Paper Series, Paper 14, 2003, University of Manchester.

- Ionescu, Luminiţa, "The Impact that E-Government Can Have on Reducing Corruption And Enhancing Transparency", Economics, Management & Financial Markets, June 2013, Volume 8, Issue 2, pp. 210-215.

- Kalsi, Nirmaljeet Singh; Kiran, Ravi, "E-governance Success Factors", International Journal of Public Sector Management, 2013, Volume 26, Issue 4, pp. 320-336.

- Mishra, Unnati and Sharma, Manisha, "Human Factors Affecting the Adaptability of E-Governance: The Indian Public Sector", "Journal of E-Governance", 2013, Volume 36, Issue 3, pp. 136-142.

- Navarra, Diego D.; Cornford, Tony, "The State and Democracy after New Public Management: Exploring Alternative Models of E-Governance", Information Society, Jan/Feb2012, Volume 28, Issue 1, pp. 37-45.

- Rao, Velamal Ranga, "A Framework for Unified Digital Government: A Case of India", Journal of E-Governance, 2013, Volume 36, Issue 1, pp. 35-55.

- Saxena, K.B.C. , "Towards Excellence in E-governance", International Journal of Public Sector Management, Vol. 18 Issue 6, pp.498 – 513.

- Sharma, Dinesh C., "Traditionalists Caught in the Net", Silicon India, July 2000, Vol. 4 Issue 7, pp. 42-43.

- Sharma, Payal; Mishra, Anshumaan; Mishara, Pavan, "E-Governance in India is the Effectual and Challenging Approach to Governance", International Journal of Business Management & Economic Research, 2011, Volume 3, Issue 5, pp. 297-304.

- Singh, Harjit; Singh, Hardeep, "E-filing system for tax returns and forms: Landmark e-governance initiative by the Government of India", Journal of E-Governance, 2013, Volume 36, Issue 3, pp. 125-135.

- Srinivasan, N. S.; Balasubramanian, G. "Strategic Thinking: A Neuronal Architectural View", Vikalpa: The Journal for Decision Makers, Oct-Dec 2003, Vol. 28, Issue 4, pp. 1-7.

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