



## **Comparative analysis and practices in e-government infrastructure at ICT in developing countries**

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### **Abstract**

The selection of E-Government and viable use of Information and Communication Technologies (ICT) can possibly yield noteworthy advantages in the developing nations. This study researches procedures to propel the utilization of ICT in public Sector area in developing nations, with the point of enhancing administrations services and results for government and its people. A multi-tier framework for investigation was developed. A meta-analysis of this data was collected in India and Afghanistan, Estonia, South Africa and investigation of E-Government availability was performed, focusing on basically on the nations which are developing that have significantly enhanced through their relative positions. As a rule, the new findings and discoveries bolster the multi-level approach. At the national level, a low level of economical and improvement, infrastructures which are poor and political distress are inhibitors of open area ICT progress. At a root degree, access by people and associations to ICT instruments and IT-connected system of education is the most fundamental for E-Government to be attainable. A few methodologies were seen to be connected to advance with E-Government over various countries which are in the developing stage, including administration vision and ability to start change inside the administration division, an incremental, regulated way to deal with improvement, and affectability to nearby and social needs.

**Keywords:** administration, developing nations, e-government, information and communication technologies (ICT)

### **Introduction**

E-democracy builds on e-government and focuses on the actions and innovations enabled by ICTs combined with higher levels of democratic motivation and intent” Clift (2003) [4]. The concept of electronic governance chosen by the Council of Europe covers the use of electronic technologies in three areas of public action; relations between the public authorities and civil society; functioning of the public authorities at all stages of the democratic process (electronic democracy); the provision of public services (electronic public services). E-governance is defined as the, “application of electronic means in (1) the interaction between government and citizens and government and businesses, as well as (2) in internal government operations to simplify and improve democratic, government and business aspects of Governance.” Backus (2001) [1]. The application of electronic links means the interaction between government and citizens and government and businesses, as well as in internal government operations to simplify and improve democratic, government and business aspects of Governance. The study is divided into two parts, theoretical and practical implementations of E-Governance. The chapter is an analysis and introduction to the E-Governance, good governance before e-governance, the framework of e-governance, global and regional trends of e-governance development, ICT tools for good governance, ICT’s can also be applied to existing forms of citizen participation, Implementation and its problem, methods to solve ICT and e-government Girish *et al.*, (2010) [6]. The second section is a Literature review of the implementation of e-governance and there related studies description and advantages and disadvantages of those studies are discussed Gichoya, (2005) [5]. The Third section is a study on ICT and e-government practices in Afghanistan & India, ICT and e-

government practices in Estonia & South Africa, ICT and e-government practices in Afghanistan.

### **Materials and Methods**

#### **Sample**

The members of our examination were volunteers and passed on their educated assent. Information was dealt with secretly. Notwithstanding around eighty subjects who were requested that remark on the principal draft of the things for this exploration. The members are people to test united legitimacy with another self-reported measure of enthusiastic skill.

#### **Tools**

Survey and examination of Correlation of Hope, Subjective satisfaction, which means of life.

#### **Description of Tool**

The underlying poll was then finished by members physically. Withdrawing after the study, subjects initially got to a presentation page advising them of the exploration targets, the intentional and unknown nature of their cooperation and their entitlement to terminate it whenever. They gave their agree to partake by clicking to access to the survey in essence. For every query, the respondents needed to position themselves on a 5-point like scale extending from emphatically differs to unequivocally concur. If they didn’t comprehend the question, they could also tick a container. The matters were initially let out down along the premise of their ease of understand ability. We had opted to bear anything misjudged by more than 5% of the members. Nothing was excluded on the assumption of this measure. Things were consequently avoided on the assumption of their poor psychometric quality; this was prescribed by an exploratory investigation of the things and the interior

consists of the subscales. Things with low segregation files and strikingly irregular dispersions or things inadequately corresponded with those accepting a situation with the same gathering was prohibited. The survey completed a decision among the remaining things so as to make the most reliable scales and dispense with exceedingly excess things. Taking into account our investigation, we spotted an issue at the managing of feeling subscale level as the things did not forge an intelligent entirety. A few things were in this way re-composed and resubmitted to 80 persons from our model. The method sketched out above was related to these things with a specific end goal to get a rational subscale.

The poll of 26-Items was then submitted to 80 persons. Notwithstanding the measure of participants view about ICT implementation in e-governance from Afghanistan. It proved to evaluate standard (simultaneous) legitimacy and included measures of sex, age and expert status keeping in mind the end goal to inspect relationships with demographic variables and set up criteria. As elucidated in the display, the last phase of the poll has additionally been incorporated into four different studies keeping in mind the end destination to look at simultaneous, prescient and unique legitimacy.

## Results and Discussion

### 1. Communicational developments in the government ICT sector help to implement E-government

With its accentuation on the use of data innovation in the conveyance of administrations, e-government gives an administrative organization the opportunity to reassess how it conveys administrations. In especial, e-government offers the organization the opportunity to: analyze its present operations and techniques, distinguish business procedures and patterns that can be streamlined, actualize those streamlined business processes, and execute new innovations that upgrade those enhancements. During the time spent streamlining business operations, an appropriately executed e-government arrangement furnishes the office with the chance to center its assets on administration conveyance endeavors that are most proficiently given through direct contact versus different means Gichoya (2005) <sup>[5]</sup>.

ICT makes it workable for government to reach minimized gathering/groups and enhance their personal satisfaction. This means engaging them through their livelihood in the political procedure, and additionally conveying greatly required open products and giving medications. At last, the objective of e-government is to upgrade the collaboration between three primary on-screen characters in the public eye—government, natives and business keeping in mind the end goal to empower political, societal and financial advancement in the country.

### 2. Infrastructural developments in government ICT sector facilitate to implement E-government

An appropriate administrative organization is needed to keep in mind the end goal to empower secure data trades within government and between government, issues and organizations. It is also expected to create the monetary conditions for open ICT foundations, administrations, and hardware:

- Security principles
- Privacy enactment
- Legal legitimacy of exchanges online

- Degree of liberalization of telecom business sector, including the web access suppliers market
- Positive monetary environment for obtaining of IT gear

Infrastructural viewpoints remain the main test for e-government. The base is an enormous test as it is seen by past examination as a noteworthy hindrance to the procurement of taxpayer driven organizations and exchanges on the web. The inconsistent IT base will facilitate impact to debase the e-government execution of the separate governments. Shockingly, the advanced partition in creating nations makes it hard to impact the sending of ICT bases which are suited for execution of e-government. This together with PC security, protection and categorization of individual information represent a trial to the usage of e-government activities as a great part of creating nations do not deliver the laws which ensure resident security.

### 3. The use of ICT infrastructure for successful E-government is: To obtain benefits from raw technology

The test "ICT foundation" especially overwhelms the exploration of the difficulties for the fruitful use of e-government activities in SSA. This is trained by HR, lawful structure, Internet access and network, dialect, absence of education, mindfulness and the computerized isolate amongst others. With ICT base being the most well-known subject, one could, in light of this disclosure, attest this is the principal test for e-government, an assertion which is bolstered by different analysts.

ICTs advance improvement crosswise over numerous measurements. At their most essential level, ICTs empower associations to be more beneficial, consequently impelling financial development and helping firms be more focused. ICTs can likewise extend the compass and adequacy of social advancement extends and has as of now yielded vital advantages in such regions as medicinal services, instruction, and ecological conservation. Open division uptake of ICTs is additionally making governments more effective and their basic leadership more straightforward. At long last, numerous creating nations have accomplished imperative monetary additions in sustaining the improvement of residential ICT commercial enterprises.

It is insufficient, be that as it may, to put ICTs onto the advancement motivation without likewise tending to other basic components of the improvement condition. A country's administrative surroundings specifically can profoundly affect ICT use and ICT industry development. Microsoft effectively draws in with policymakers on a scope of ICT approach issues that influence clients and the business, including such issues as property rights, global exchange and venture, rivalry, openly supported exploration, online security and protection, innovation measures, e-Government, training and computerized proficiency, ICT abilities advancement, moderate financing, motivations for private-part ICT speculation, and information transfers framework and access Bannister (2005) <sup>[2]</sup>.

Microsoft trusts that this paper will help peruses get a more noteworthy gratefulness for the potential that ICTs hold for social and financial improvement, and of the imperative advantages that can gather to creating countries that completely misuse these advantages. We likewise anticipate taking part in a more extensive exchange with policymakers

and thought pioneers on how governments, industry, and clients can work most successfully to open the maximum capacity of ICTs for the creating scene Krull (2003) [8].

#### **4. The use of ICT infrastructure for successful E-government is**

##### **To provide services to all members/citizens**

E-Government alludes to endeavors by open powers to use information and correspondence advances (ICTs) to enhance open government activities and expansion fair interest. The government looks to enhance government productivity through the lessened expense of electronic data administration and correspondences, the rearrangement of government organizations and the diminishment of managerial storehouses of information. Considerably all the more critically, it can decrease managerial weights on subjects and organizations by getting to their associations with open powers speedier, more helpful and less immoderate, in this way impelling intensifies and monetary growth. All the more as of late, open information and cooperation with outsiders has offered governments new bits of knowledge into issues and conceivable new administrations.

#### **5. The Challenge of Sharing Intelligence in Complex Systems**

People in general and private parts share the objective of basic foundation insurance and flexibility, which is actualized through a variety of danger administration forms—some private, some open, and some common. It is essential to outline the role of insight partaking in danger administration, which contains data on danger, defenselessness, and outcome to assess danger—to the Nation in general, to a segment, or to a particular resource. The image shows the three elements of danger administration, alongside the two substantive components of risk data: insight data on purposeful man-made dangers and data on dangers from normal movements. As risk is computed through the combination of risk, defenselessness, and outcome data, every component alone is just one piece of an inadequate riddle.

Sharing data between the legislature and the private division is an equalization of interests. As mentioned, both people in general segment and the private division has a personal interest in the successful danger administration. The administration needs to secure national interests, and hazard administration is a crucial piece of business survival. From a business point of view, surviving a terrorist risk is no less essential than surviving a business sector shift. The private and open commissions and running societies, however, are in a general sense diverse. The Federal Intelligence Community (IC) is accused of gathering and breaking down greatly touchy data on home security and shares on a "need-to-know" premise—imparting just to the people who must be prepared to meet IC missions and saving data inside ensured circles. The private part, by difference, works more on a "need-to-offer" premise by and large withholding just that the information needed to ensure security and business volume. Neither model, be that as it may, energizes a free stream of data to an extensive variety of collaborators.

#### **6. Does the ICT increase the technological standards?**

Technology standards are increasingly relevant to development. Broad adoption of standards can promote

interoperability by making it easier for ICT products and services to share and mutually use data. Interoperability, in turn, can drive down costs and expand ICT access for developing-world users by allowing them to select competing products and services from multiple vendors and combine them in a single network. Interoperability also facilitates the transfer of information among governments, development organizations, and the populations they serve. Although ICT firms have strong commercial incentives to make their products interoperate with others, voluntary industry adoption of technology standards can reinforce these incentives by providing a common set of guidelines for data exchange. Particularly where they are developed by consensus, are publicly available, and can be implemented by anyone on reasonable and non-discriminatory terms, technology standards can promote interoperability in a way that also encourages innovation, enhances competition, and expands consumer choice.

Although the ICT industry should always remain the principal driving force in developing technology standards, governments may also play a role. To ensure that laws involving technology standards do not inadvertently impede innovation or competition, regulatory policies in this area should be consistent with the following principles:

- Allow industry to lead in promoting technical interoperability, including by developing voluntary, consensus-based standards. IT vendors have strong incentives to promote interoperability, both through the voluntary disclosure of technical information and through the development of standards, and industry standards bodies are already successfully developing standards and facilitating their broad adoption within the IT community. Governments should support these efforts.
- Support interoperability mechanisms that can be implemented using multiple technologies and platforms. Standards that specify objective performance requirements rather than use of particular technologies, or allow for implementation using alternative, equally suitable technologies, can be implemented across a wide range of platforms and products. Such standards will encourage IT firms to build innovative products that incorporate such standards while preserving interoperability and competition.
- Avoid policies that would mandate or extend preferences to specific technologies or development models. Regulatory mandates risk creating product uniformity, which in turn will restrict competition and prevent users from taking advantage of alternative technologies from multiple sources. Policymakers should also recognize that software developed under an open-source development model is no more or less conducive to interoperability or standards compliance than software developed under other models.

#### **7. Does the data in ICT is secured and privacy?**

The blast in Internet utilization over the previous decade has brought about an expanding measure of information traded online or put away on Internet-associated systems. Lamentably, this wonder has been joined by an emotional increment in the number, complexity, and seriousness of criminal cyber-attacks that try to bargain this information. Infections, worms, Trojan Horses, spyware, "phishing" and other security dangers differ in their technique for assault,

yet by and large they undermine client trust in the Internet and e-business by adulterating or taking online information. Reinforcing online security requires a reciprocal, composed reaction by industry, government, and clients.

Keeping up client trust in the online environment is no less crucial in creating nations. As governments look to react to the double worries of online protection and security, they ought to hold fast to the accompanying standards:

- Bolster private-part endeavors to improve online protection and security. The private area has been to a great degree dynamic in creating items and different assets to help clients turn out to be more secure and increase more prominent control over their online individual data. Shockingly, an excessive number of clients neglect to exploit these devices. Governments can best advance online security and protection by teaching buyers about the significance of utilizing security-and security improving innovations and the need to frequently upgrade their working frameworks and other key projects.
- Enact and implement solid laws against vindictive online behavior. While there is wide judgment of the individuals who assault online clients or take their private information, a few nations don't have the lawful structure set up to punish such conduct or the assets expected to indict violators. Governments ought to pass laws criminalizing malignant online direct and designate the assets important for law requirement to authorize these laws. Governments ought to likewise cultivate endeavors to advance global joint effort between law implementation and fast data sharing on developing online security dangers.
- Ensure that laws don't smother advancement or restrict real direct. Albeit new laws might be important to battle security and protection dangers, policymakers ought to guarantee that these laws don't unintentionally smother advancement or prohibit honest to goodness conduct. This danger is especially intense in the range of online security direction. Where governments establish online security laws, they ought to stay away from innovation orders, supplement industry endeavors to advance protection, and make each endeavor not to repress honest to goodness e-business or online movement Mutula *et al.* (2006) <sup>[10]</sup>.

## **8. The role of ICT infrastructure for successful E-government is: To increase interaction between citizens/govt**

By ideals of the uneven accessibility of breakthrough innovation, the individuals who vote in consultative discussions, and who contact the legislature with their perspectives, might act naturally chose, ICT-educated gatherings whose perspectives and preferences may not be illustrative of the citizenry all in all. Surely, the capacity to utilize innovation in the way proposed might be unevenly spread through government itself and in addition common society. There are likewise the normal issues of direct vote based system – remarkably the trouble of encircling strategy choices in ways which will request comprehensively practically identical (and educated) reactions.

Plan administration displays a noteworthy issue: both government and sorted out gatherings might have the capacity to assemble electronic battles to encourage their own points, or may just look for conference in certain

arrangement ranges or with specific gatherings. Undoubtedly, it gets to be workable for government to survey moderately little segments of the electorate and, thus, "narrowcast" data back. Government might have the capacity to characterize the interests of a specific gathering especially, and keep that system escaped other conceivably influenced interests.

Likewise with the administrative model, data is viewed as a latent asset. In fact, as often as possible the consultative model may just permit inputs which fit inside the parameters effectively set by arrangement creators. Suppositions which address the premise of strategy making itself might be viewed as 'poorly educated' or 'ideologically-determined'. Correspondence by direct question-asking movement depends on the need to produce quantifiable and similar reactions to specific strategy developments.

Microsoft spearheaded client driven configuration to make its product simple to utilize. Its items' unparalleled convenience empowers non-specialized laborers and different clients to tackle the advantages of innovation, turn out to be more beneficial and understand their potential without broad, specific preparing. In 1998, Microsoft made its Usability Group to join broad client input into the outline of its items. Microsoft's Usability Group comprises of more than 120 ease of use specialists with ability in a wide assortment of orders including human-variables brain research, social brain science, mechanical building, specialized correspondences, formative brain research and data science, and software engineering.

### **Familiar**

The human interface and elements of Microsoft's Windows working framework and surely understood profitability applications are well known to numerous a huge number of non-specialized laborers and other PC clients around the world, who can utilize them at work and in their ordinary lives without particular preparing or broad backing.

### **Interoperable**

Microsoft is focused on guaranteeing that its product functions admirably with numerous different stages and frameworks, without obliging clients to burn through broad assets on frameworks combination. For neighborhood organizations, this dedication to interoperability enhances data sharing, diminishes registering costs and expands the advantages from past innovation ventures.

### **Manageable**

Microsoft is focused on decreasing the multifaceted nature and expense of overseeing PC frameworks with the goal that clients can put a greater amount of their assets into being more profitable, developing their organizations and contending universally. In association with other innovation pioneers, Microsoft has attempted called the Dynamic Systems Initiative (DSI). The objective is to fabricate a complete arrangement of arrangements that computerize the outline and administration of progressively intricate and appropriated registering frameworks. This activity will free significant assets and make figuring more straightforward and more financially savvy for associations huge and little.

### **Accessible**

Microsoft endeavours to assemble items that are open to everybody, incorporating individuals with inabilities, so that

nobody is prevented the advantages from securing innovation and everybody can add to the financial and social advance that innovation can bring. For over 10 years, Microsoft has intentionally coordinated availability into its items. The openness of its product stretches out more prominent financial chance to individuals with handicaps and to more seasoned labourers. The organization's dedication to availability empowers its clients to hold esteemed workers, improve their efficiency and lessen costs.

### Localized

Microsoft's Local Language Program extends the advantages of innovation to minority semantic and social gatherings and helps governments support solid nearby IT commercial ventures. The Local Language Program supplies instruments to assemble nearby dialect interface packs for Windows XP and Office 2003. With confined innovation, multicultural and multi-semantic countries can widen financial advancement, construct solidarity among their people groups, and contend universally.

### Innovative

Microsoft's dedication to programming development keeps on bringing item upgrades and headways that help clients' profits on their IT ventures and make upper hands for clients.

## 9. Infrastructure and access in developing ICT

The capacity of the Internet and other online systems to serve as successful interchanges and dispersion instruments – to put it plainly, the capacity of ICT to satisfy its potential as an "empowering agent" of monetary development and improvement – depends in significant part on the quality and span of the hidden information transfers framework. Clients can't accomplish the full advantages of ICT unless the information transfers framework is both broad and reasonable. Governments and industry should likewise cooperate to advance reasonable processing activities that don't undermine market impetuses for development and item improvement.

To advance ICT-empowered improvement in the information transfers segment, policymakers ought to consider the accompanying:

- Advance pervasive information transfers access. Changing information transfers markets – whether altered line, portable, or link or satellite-based – is an essential initial phase in improving rivalry, which for the most part results in more extensive get to and bring down expenses.
- Put resources into focused broadband system improvement. Albeit general broadband system access is liable to be restrictively costly in the short term, focusing on particular commercial ventures or areas for broadband advancement may in specific cases be financially plausible and give imperative advantages.
- Bolster master development range administration approaches. In many countries, governments hold extreme control over electromagnetic range, then rent or generally make accessible parts of the range for private-division use.

Give an innovation unbiased administrative environment. Laws and controls that support certain advancements or systems over others may block rivalry and expansion expenses to shoppers. Contending suppliers ought to be

allow to offer an extensive variety of administrations on their preferred system or stage.

## 10. Does ICT as Enablers of Social Development?

Maybe the most noteworthy case of ICT's capability to advance improvement have happened with regards to improvement ventures focusing on social incorporation and attachment – ventures that give barred groups more prominent chances to take an interest in group life. Since a number of the difficulties confronting generally underserved groups result in any event to a limited extent from deficient access to learning and data, ICTs can surmount these difficulties by making it simpler and less costly to gather, examine, and disperse data to the general population who need it. The Internet specifically is making about unlimited open doors for people and groups in creating nations to acquire learning and speak with others Kannabiran *et al.*, (2009) [7].

In light of that preventative note, ICTs by and by have huge potential as empowering agents of social advancement. Despite the fact that the multifunctional, adaptable nature of ICTs implies that they can be connected to for all intents and purposes any advancement objective, zones in which ICT has officially demonstrated successful incorporate the accompanying:

### Healthcare

ICTs are progressively being utilized to convey social insurance administrations in the creating scene, particularly to patients in remote regions where medicinal services administrations are rare. Illustrations incorporate utilizing ICTs for remote interviews amongst patients and doctors and in addition remote finding and even treatment; information accumulation for both exploration and analytic purposes; "constant" coordinated effort amongst doctors and wellbeing specialists in various parts of the world; enhancing the pace and adequacy with which countries and associations react to plagues; and streamlining and enhancing social insurance benefits for the most part. ICTs are likewise being utilized to convey medicinal services administrations to in remote provincial territories where more customary human services administrations are rare. ICTs are assuming a focal part in projects to battle HIV/AIDS, tuberculosis, intestinal sickness and different illnesses.

### Education

In spite of the fact that ICTs can't supplant the fundamental instructor understudy relationship or supplant in-individual direction, ICTs are progressively being utilized as an apparatus to supplement conventional educational program and showing strategies and to open new open doors for abilities preparing. Case in point, ICTs are being utilized to give ease access to online educational module and different assets; empower separation instruction for understudies in remote ranges or who for different reasons can't physically go to class; bolster research systems; give specialized and professional preparing, including "deep rooted" preparing opportunities; and enhance and streamline training organization Chen *et al.* (2006) [3].

### Environment / sustainable development

Numerous ecological difficulties in the creating scene are the consequence of disappointments to ready policymakers

of dangers and the powerlessness to measure the earnestness of natural risks until it is past the point of no return. ICTs permit scientists and natural organizations in forming nations to take advantage of worldwide information systems and data assets, which empowers policymakers in these nations to settle on better and more educated decisions. ICTs are being utilized to screen natural conditions and gather and examine information; coordinate reactions to biological dangers; recognize polluters who may somehow go undetected; and help policymakers comprehend dangers and figure less meddlesome rural and mechanical procedures.

### Discussions

Hence, what is e-Government for developing countries? A new slogan of the developed world for development of third world or is it a new opportunity of re-organizing the instruments and the logic of governing? Probably all of them. However, e-government is an unlikely key for bridging the digital divide. The solution would be to persuade citizens in developing countries to use the Internet by providing them with convincing content and services that meet their essential needs. Free availability of compelling content may be the single most important action to boost Internet use and reduce the digital divide, but this could clash with protection of intellectual property rights Mphidi, (2009) <sup>[9]</sup>. The best way forward would be to help developing countries in providing the necessary technology. It is going to be the technology that would play a significant role in accelerating developments in area that lags behind on traditional industries. Investments in communication infrastructure and in training and learning would enable developing countries to increase their competitiveness as external service providers. E-marketplaces or national and regional portals could provide new routes for local products, knowledge and skills to be made available on a global basis. Technology can transform governments, making them more transparent and accountable, which would make it impossible to sustain levels of obscurity and corruption that are typical in many of these countries. Last but not least, technology investments in developing countries would boost revenue for vendors that struggle in more mature economies particularly at times when cost-cutting is having a negative impact on new, ambitious 'e-initiatives'. Therefore, what is next for developing countries? First, they would require implementing in terms of formulation of national e-strategies according to standards set by internationally agreed principles for information society, and then implementation of the very strategies themselves with modifications according to their own requirements. With only a few exceptions, most of the developing countries are still at varying stages of the formulation/approval process. The delays appear to be a consequence of lack of international cooperation to this end. The implementation phase would require translating commitment into action at both levels: national and regional. The big challenge would be to bring national e-strategies into overall development and governance practices.

### Conclusion

The account of ICT advancement in the course of recent decades has been an account of strengthening and development. ICTs have conveyed new chances to individuals of all ages and in all nations, empowering them to accomplish more in less time and to find better

approaches for imparting and unwinding. The utilization of ICTs has powered dumbfounding efficiency and monetary development and has really changed the way individuals work, learn, and mingle. To date, in any case, the advantages of ICTs have not been spread as similarly as one would have trusted. This has driven some to address whether ICTs have an important part to play in connecting the separation amongst created and creating nations. While it is impossible to trust that ICTs alone can give the "silver shot" that will explain the difficulties confronting the global advancement group, the solidly trusts that ICTs hold enormous undiscovered potential as an empowering agent of improvement.

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