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E-Governance: A Journey of Challenges, Failures and Success in India

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ABSTRACT: E-Governance is accepted worldwide and is very common in some of the countries, as it reduces government operational cost and also ensures citizen-centric transparent government. But in developing country like India where level of literacy is very low and most of the population is below poverty line, it is pointless to expect the entire population to be frequent with latest E-Governance project. Although India has achieved impressive progress in the field of science and technology but still participation of citizen's is very low which results in failure of the E-Governance projects. This research paper brings light to those challenges that hinder the successful implementation of E-governance in India. Work identified fifteen challenges through massive literature survey and presents feasibility study done to check acceptance level of E-Governance in Lucknow, Uttar Pradesh. Authors also suggested some corrective measures that can be considered to face the challenges of E-Governance specific to Lucknow, Uttar Pradesh.

KEYWORDS: E-Governance, Digital Divide, E-Readiness, GDP, Per Capita Income, E-Commerce, Multimodal Interactions.

I. INTRODUCTION

Information Communication and Technology (ICT) has made all most everything Electronic like E-Commerce, E-Services, E-Voting, E-Villages, E-Learning, E- Governance, etc.[1].Now Indian Government is in the bandwagon of institution attempting to harness ICT in their activities [2].“E”, in the E-Government basically denotes digital or digitalization. E-Government is dependent on ICT Services in order to achieve objective Anytime and Anywhere and it eliminates the necessity of physical travel by citizens to government agents, sitting behind desks and windows to get their job done[1].Major objective of E-Governance is to support and simplify governance for all government parties, citizens and businesses. E-Governance implies E-democracy where in all forms of interactions between the electorate (general public) and the elected government is performed electronically. The ultimate aim of E-Governance is to increase the citizen's participation through mail and improve governance working [2].E-Governance allows common man to participate in the government's policy making by directly communicating with government without any middleman [2][3]. Citizens views, feedback and ideas are very essential in making E-Governance a great success and it also helps in decision making, this continuous feedback and suggestions is required from beneficiaries of E-Governance services.

II. LITERATURE SURVEY

Evolution of E-Governance in India:-

In recent years, on world map India has been evolved as one of the strongest economies. This impressive growth is due to remarkable progressive changes in the field of science and technology [1] in changing Indian scenarios through knowledge diffusion Information and Communication Technologies played a big role. In late 1990s Government of India (GoI) initiated government websites, but the process has been started in 1970 with the establishment of department of Electronics (DoE). E-governance has been started in 1977, by establishment of National Informatics Centre (NIC). Initially government offices were using computers for word processing jobs but entire picture of E-Government has been changed with launch of National satellite based Network NICNET in 1987 along with District Information System of the National Informatics Centre (DISNIC) .NICNET was equipped with all latest technologies of the time like TELNET, FTP, internet along with database services. In year 2006 the GoI came up with National E-Governance Plan (NeGP) and various Mission Mode Projects (MMPs) to look after the smooth running [4]. Initially the government websites were there to provide users with information only, but with



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time more citizen interaction and participation were incorporated through on line transactions and decision-making [2].

E- Governance in Other Part of World:-

E-government has been accepted by many countries worldwide as it reduces government operational cost and also ensures a citizen-centric transparent government. Countries that adapted E-Governance early are Singapore and Australia (particularly the state of Victoria) [5], But if we talk about successful implementation of E-Governance for the first time then it was in "Chile" [2]. To ensure better government processes, many government keep provisions for having investments in ICT. Use of E-Governance online is high in Singapore, Sweden, and Norway where people feel comfortable dealing with government this way but comparatively in Britain, New Zealand and South Korea where population are not even using general Internet service therefore major steps must be taken to address the issue in above countries. More than 60 percent of Internet users in U.S.A interact with government websites [3].

Challenges in India:-

In developing countries like India failure of the E-Government projects raises many questions on huge financial and human investment over such projects [6]. Its implementation may cause many problems as it deals with redefining of entire government processes and as we know our government system is fixed, static and hierarchical regulated, on the other side we have web which is dynamic, flat and unregulated [5]. E government promises citizen satisfaction, speed, efficiency and effectiveness but this will be possible only if the services provided to them are fool proof, cheap and reliable [2]. The "e" word in E-Governance does not symbolize an instant change from an old system to entirely new Hi-Tech world. It is basically an ongoing exercise where new architectures are to be designed, systems need to be evaluated, and also staff should be trained accordingly [3]. Many Challenges faced by E-governance in India are listed below.

1) Populations

Population of our country is considered to be an asset but it also offers various other challenges like generating unique identity of every individual measuring the entire population, keeping the records and databases also updating it time to time [7]. According to the 2011 census reports of India, population of India is 1,210,854,977 with 623,724,248 males and 586,469,174 females.

2) Language Differences

India is a country with multicultural and multilingual population. The information provided by internet is mostly in English, which is again a barrier for those whose primary language is not English like us as per (Census: 2011) More than 80% percent of the population in India does not speak English. In India the reason why E-Governance projects do not got much success is because most of the applications were written in English language and the acceptance of language English is low in India [7] but this is not the only problem, there exist no single language that is spoken across the length and breadth of India. As we know that major portion of North Indian speaks in Hindi where in southern part of India it is not popular means for the communication contrarily their languages such as Tamil, Telugu and Malayalam are not understood by North Indians. Therefore before making an E-Governance website, native language of the targeted audience has to be kept in mind so that they can easily access and use these applications in their daily life. Constitution of India has recognized 22 official languages as for the convenience of citizens though according to Census 2011 there exist 29 different languages in India. E-governance website like vikaspedia.in (NeGP) is available in 21 different languages.

3) Low Literacy Rate

An ability to read and write along with proper understanding in any language is defined as literacy and an individual who are able to read and write with appropriate understanding is termed as literate person [7]. Another major reason for the failure of any E-Governance project is lack of education among people. As discussed above most of the applications are written in English language, so if they can't understand the language then accessing and taking advantage of E-Governance is out of the question. Literate people on the other hand will find it easier to learn and access the IT environment easily in comparison with an illiterate people [1]. According to 2011 census literacy rate of India was found to be 74.04%. Which clearly states 25.96% of population would not be able to access E-



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Governance websites at all, even if all the infrastructure would be provided to them then also they will rely on some IT people so purpose of E-Governance would not be fulfilled completely. Literacy is very important but what if a literate person is IT illiterate or fear to try new thing because of age factor or the other, therefore in order to access the E-Governance to the core therefore the citizens should be IT Literate [1]. Different state of our country have different literacy rate like Kerala is the only state to have 100% literacy and literacy has direct impact on the E-Governance acceptance as we can see many successful project running in Kerala like e-Srinkhala, RDNet, FRIENDS etc. [6].

4) Internet Reach

E-Governance is completely infrastructure depend. Improper infrastructure and unavailability of computers to the common man is also one of the reasons for the failure of several E-Governance projects. One who are frequently accessing internet is observed that they are more likely to be aware and can easily access any E-Governance services [8].

According to ITU (2011) there are about 120 million internet users in a country of 1.2 billion inhabitants — this is merely 10% of the population. This shows internet diffusion is still very low in India. Although internet population is growing exponentially day by day but still a very large portion of the population are not able to access E-Governance due to various other reasons [9].

Therefore in order to reach the grass root level, the beginning should be from rural areas and for this, computer centers must be provided at rural areas like E-District in Madhya Pradesh, Akshaya in Kerala etc. [1].

5) Awareness

“The first step toward change is awareness. The second step is acceptance.” By Nathaniel Branden.

Success of E-Government program is highly dependent on the awareness about it [10]. The first and foremost step in making a good application is defining its scope well else comes later because for the accurate implementation of E-Governance projects awareness about its offered services is very important therefore project scope must be known to the people in advance. To make people aware in rural areas there must be computer centres like E-District (M.P) and Akshaya (Kerala) and centres should not only bring computer facilities, but also help in providing E-Education and training to the rural citizens, until people are able to use these facilities by themselves [1].

6) Security

Since our government deals with the most sensitive information which is of national interest, therefore their security must be of utmost importance. Nowadays Security has become a major issue that needs to be resolved as soon as it is encountered. Security doesn't limit itself to infrastructure only but also deals with the sensitive data and information that are shared over various systems. Whenever any transaction occurs from citizen's end with the Government agency, they share their personal information, which can be easily misused by the private sector or anti-social elements [11]. Many People feels that transferring their personal information like pictures, ID number, Account number, credit card details etc with public agencies either online or electronically is not safe. They fear that their private information might be misused or distorted by hackers [9]. Trust along with financial security, are the two critical factors that limit the adoption of e-government services.

7) Digital Divide

Use of digital technologies in the world has improved our day-to-day life undoubtedly but it has also divided the world differently like among one that have access to information technology to the one who do not have such access.

Economic poverty is not only the cause for separation, lack of awareness among people is also one of the reasons for this separation [7]. The division among rich countries with high-income economies and developing countries is very large such that high income economies having 416 personal computers per 1,000 people whereas low-income economies only 6 per 1,000 [12].

8) E-Readiness

It is defined as the ability to use Information and Communication Technologies (ICT) for the development of one's economy and to foster one's welfare. According to Economist Intelligence Unit the E-Readiness index of India is



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low as compared to other countries. India ranks on 54 position whereas United States is holding the first rank in the readiness.

9) Gross Domestic Product

The generated total market value in a particular period of time for the final goods and services produced within the country is calculated as GDP. Financial strength of the country is measured by GDP [10]. Government of every nation spends a good portion of their GDP in E-Governance Projects. The United Kingdom and Singapore has spent 1% and 0.8% respectively of their gross domestic product (GDP) on E-government in the year 2004. Whereas our country is spending 3% of GDP and holds a 12 rank with 1,098,945 \$ as per Census 2011[5]. Nearly 68.8% people in India live on merely \$2 a day according to World Bank (2010). The cost of subscribing to a telephone line, PC etc is on the neck of an average citizen. Therefore ordinary citizens find it difficult to access the internet in an environment where broadband development is very low and the facilities for its installation very expensive [9].

10) Low per Capita Income

If the total income generated yearly in any country is distributed equally among every individual than how much amount every individual receives, in the terms of money, is defined as Per Capita Income of the country. It is denoted in units of currency per year. In India Per Capita Income is low as compared to the other country, which clearly states individual's low affordability of infrastructure for accessing online services provided by our government [7].

11) Government Rigidness

A change is never easy to implement and especially if it involves government. As the name suggests E-Government is all about government therefore if anything new ever comes up then it has to pass certain channels for the approval which is time taking. In some cases approval time for projects is more as compared to its implementation time, because files keeps moving through various channels for the its approval as a result project loses its own value. In Software Industry everything is time bound with a certain objective and after the time limit project loses its worth. But we cannot expect the same from government as it has its own limitation and also let's not forgot the fact that laws and constitution governed the government not the vice versa. Lot of redefining and restructuring of administrative procedures and formats is required in almost all the departments at all the levels for the successful implementation of E-Governance Project or Program leader assigned by the government sometimes totally misunderstands the institution of the government. They consider it the same way as they are working for any private sector where requirements is very well defined in early stage and time is considered to be a major constraint but they do not realize the complexity and rigidness of government which has existed over the years and any sudden changes will be difficult to adopt [13].

ICT based Management Methodology such as:-

- ✓ Business Process Reengineering
- ✓ Supply Chain management
- ✓ Just In Time

These methodologies had a greater impact in industry and business but it is practically untouched in government system due to government rigidness [2]. Also sometime quality of E-Governance projects comes at risk because assigned time limits is unachievable therefore project loses its quality which again hinders in successful implementation of E-Governance Project [13].

12) Gender/Age Differences

It is well known that not every age group accesses the internet in the same way. Like old people find it difficult to adopt changes in their working lifestyle and also they resist learning because they feel they might be replaced by the machines which is a myth for sure. Here literacy doesn't comes in between, in fact many educated old people are not interested in digital literacy because they feel that they are too old to learn any new things that act as a barrier in the implementation of E-Government fully. Whereas the young generation shows interest in the use of a computer and internet and accepting the change with the open arms as compared with other age group [1].

Not only this Gender also act as a barrier to acceptance of E-Governance like in many rural areas people who are accessing the internet are most of the men, not because every women over there are illiterate but because of gender



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inequality, which still exist as it is clearly shown by the census literacy rate 2011 where male literacy rate is higher (above 80%) comparatively to the female literacy rate (65.46%).

And if we talk about worldwide then also the online use of E-Government services are more among men (33%) as compared with women (26%) and that too whose age is below 35 [2].

13) Unique Identity Issue in India

The Population of India is considered to be an asset but it also offers major challenges like establishing individual's unique identities. Citizens of India have no authentic unique identity although our government is trying and making real efforts in order to provide unique identity to entire population. Smart Card is gradually becoming functional in several parts of the Asian countries. But an integration of E-Government service with a smart card is yet to become operational in India. Smart Card simply means one card for all which stores all information of an individual like driving license, health, education, taxation, elections etc. In Andhra Pradesh the e- Seva project offers a single roof services on about 40 different areas such as property registration, taxation, utility bills payment etc. though not presently with a smart card and not on a single portal, though attempts are in progress in these direction [2].

14) Expectation Similar to E-commerce

All government officers, authors in every seminar must convey that E-Governance is not all about "E" they should emphasize more about governance than 'e' [14] because "E" in any terms increase the expectation because now a day's 'e' has been added as a prefix in many words that symbolize better services in less time with ease of the access. Taking an Example of E-commerce which is a big boom in India [2] and people are accepting it with an open heart which is good in terms of development of our country but problem arises when expectation is made similar for the e governance like comparison made for the look and feel of the website(attractive GUI of the website) , responsiveness or immediate action on the feedback and delivery of product and services on time which usually end up with hopelessness of an individual's accessing any E-Governance website [3]. If we see globally then the number of internet user who is making online transactions through government services is equivalent to the number of users who are doing transactions while shopping via E-Commerce website [2]. This implies it has direct connection in order to build trust while sharing sensitive data.

15) Multimodal Interactions

E-Governance is for convenience of citizen and as we are aware of the illiteracy of our country therefore E-Governance websites needs more interaction rather than just simple one-way or two-way which commonly uses visual/pictorial channels. With the advent of multimedia technology, communication with users has become easier and faster. Multiple modes for interfacing or interacting with system are provided to users by means of multimodal interaction. It improves the usability of E-Government websites. Multimodal interfaces are expected to add value when dealing with complex designs and get involved in the extraction of information from such interactive interface platforms including E-Government [14].

III. SUMMARY OF EXPERIENCES AND OBSERVATIONS

The study lists various issues faced by E-Governance in India as we know problem faced by one region on a map is entirely different from the one that is faced by other region on the same map similarly in a country like India with multicultural and multilingual population it is quite expected that different states will have different issues to tackle. Uttar Pradesh which is the largest state in India in population is facing challenges different from other states of India, for the acceptance of E-Governance. Uttar Pradesh has got the IT infrastructure but literacy level and awareness among people is low therefore these are the key areas to work upon likewise other states has got the other issues therefore a proper survey has to be conducted geographically and conclusion should be drawn accordingly that what are the major challenges of a particular state or cities. With the survey study performed authors find out all issues being faced by E-Governance in Lucknow, the working capital of Uttar Pradesh. For the survey we have formalised four survey objectives, to check the level of acceptance level for E-Governance in Lucknow, Uttar Pradesh.



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- Availability of infrastructure in Lucknow ,Uttar Pradesh, like electronic gadgets, internet connection, internet speed available and electricity status to support successful implementation and working of E-Governance.
- Accessibility of E-Governance websites, like how much ease in accessing website, GUI and language of websites.
- Acceptance of E-Governance in terms of trust factor while giving personal details online, awareness of the keywords used in website, also how easily individual adopt themselves with the latest upcoming technology.
- Awareness program about E -Government projects in Lucknow, Uttar Pradesh , how frequently it is organised and attended by citizens also what should be the suitable mode of awareness program to be conducted for people in Lucknow,Uttar Pradesh.

Result of the descriptive survey performed, presents all weak areas to work upon in terms of acceptance level of E-Governance in Lucknow, Uttar Pradesh. The survey was carried out using structured questionnaire, comprising nineteen questions in five different sections. Questions in each section are so designed that it can capture the information needed to answer the survey objective. The survey was conduct reaching two hundred citizen of Lucknow personally. The initial analysis of data so collected is done using MS- excel, in Windows Office tool box. Survey result presents that infrastructure for E-Governance in Lucknow is appropriate as 87% of the total respondent of the survey were using either smart phones or laptops. The survey work concludes that out of chosen population only 36% of people access E-Governance websites or application rest 64% of population is using internet for other purpose like chatting, hotel booking, extraction of information downloading, and social media. Despite of Government programmes already running to aware people about E-Governance projects, 31% of the respondents were not even aware about such E-Governance facilities available. Only 20% of respondent were even aware about such awareness campaigns running by government.

Considering the problems faced by citizen as discussed during the survey, authors suggests some corrective measures to ensure better user experience. To improve user friendliness of the E Governance sites Graphical User Interface (GUI) and language used should be considered. To present the content information, general instructions on E-Governance sites should be at least in one of the mostly used language apart from business language or official language used. Keeping problem faced by IT illiterate and some elderly people, in mind we can use the concept of AVATAR in websites to promote E Governance. AVATAR is an example of multimodal interactions. In which an Artificial Intelligent agent could guide user at every step while accessing and using E-Governance sites.

IV. CONCLUSION AND FUTURE WORK

Indian government are spending huge amount on the projects of E-Governance but still many of them are unsuccessful in many parts of the country. Language barrier, lack of awareness among people, low literacy rate, security issue etc. are the major issues that hinders the successful implementation of E-Governance in India. Therefore it is required that government take some strict actions in order to make every citizens aware about their latest activities so that they can take full advantages that are provided by E-Governance projects although many awareness programs is conducted by the government but it is not reachable to every corner of Country. Not only Government, citizen participation also plays vital role in successful implementation of E-Governance by accepting and adapting themselves with new technology.

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