Assessment of E-Readiness and Effectiveness of E-Governance Projects

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Abstract: ***In this decade, a number of e-governance initiatives are implemented in the Satara district. It is essential to assess the e-readiness and effectiveness of the initiatives for smooth running of the projects and future enhancement plan. The researcher has made an attempt to assess the e-readiness and effectiveness of e-governance initiatives in Satara district. For this purpose, the researcher identified the seven key indicators for assessment of effectiveness of e-governance projects running in the Satara district, Maharashtra, India. The researcher collected primary data from the citizens of Satara district and secondary data is gathered from government gazettes, government publications, census of India. Finally, the researcher specified the conclusion.***

Keywords: E-Readiness, Assessment Indicators, CSC, Assessment Framework.

I. INTRODUCTION

The assessment of the e-readiness and e-governance is important to know the effectiveness of the initiatives which are implemented in the district. In this, researcher considered the cost and time are the two major factors for assessment. The e-governance system should be affordable to the citizens in terms of cost and it must reduce the time of availing the service. Here the researcher made comparative analysis of the manual as well as online system in the district. The purpose of this assessment is to know the sustainability of the initiatives throughout the district, impact on the citizens and to take the major high level decision for improvement in the existing initiatives.

II. LITERATURE REVIEW

Bhudeb Chakravarti, M. Venugopal published a white paper [1]. The study is focused on e-governance service delivery through the web portal. The bureaucratic approach cannot provide the expected outcomes from the computerizing the government offices or departments. Citizen Centric service delivery involves designing of services from the user's perspective rather than government perspective. This scenario will help the citizens to track the service request status and get updated information. It also, reduces their waiting time at the counter and helps them in using the services outside of their working hours. Another objective is to provide transparent, secured and efficient service delivery.

Revised Manuscript Received on December 05, 2019.

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The portal also helps the department employees to reduce the time for providing the e-service and it results into efficiency usage of the department resources. In this way, both central and state level e-governance portal achieve the quality of service provided by the government departments.

M. P. Gupta, Jaijit Bhattacharya, Ashok Agarwal [2], authors stated in this paper that the evaluation of e-governance projects is necessary but the approaches are not standard. The authors mentioned that the evaluation methods are depends on the what aspects of e-governance want to evaluate. The authors are identified the three evaluation scenarios i.e. e-readiness of context, specific e-governance project performance and overall impact of e-governance on various developmental factors.

Sushil Kumar Singla, Himanshu Aggarwal, in their research paper [3], the authors explore the e-governance projects implemented by the Punjab. This research reveals that e-Governance has the potential to reduce the corruption & providing quality service. However, lack of Internet knowledge among the citizens has made poor implementation of e-Governance; hence the digital literacy is required to create awareness regarding the e-Governance initiatives. The author concluded that proper implementation of e-governance is the only way to bridge the gap between rural & urban region.

Manisha A. Kumbhar, in her thesis [4] which is based on the ICT and e-governance initiatives in Pune Municipal Corporation, Pune. The PMC has taken an initiative for e-governance with their motto "e-governance-to serve citizens better". The researcher focused on birth and death certificate registration, Assessment and payment of property tax, Grievance Information System, e-Procurement (e-Tenders). Awareness of e-governance services depends on the citizens' age, education, gender and occupation. It is found that 83.74% young citizens are highly aware about e-governance services and out of them 60% citizens prefer to avail e-governance services through the Internet at home instead of cyber cafe or at the office. 94.75% citizens have preferred to use 'Assessment and Payment of property tax' e-governance service as compared to other services.

Subhash C. Bhatnagar, Nupur Singh [5], Citizens and businesses those used manual and online system indicating enormous preference for online service delivery in most e-governance projects. The clear preference for online systems by the clients of low rated e-governance projects seems to suggest that the even small gains for users can shows major positive changes in service delivery systems perception.

This shows strong message for the political peoples to support the implementation of e-governance. The results shows that there is no job losses associated with implementation of e-governance projects.

Laxman L. Kumarwad, Rajendra D. Kumbhar in their paper [6] stated that the prominent advantage of e-governance from an organizational point of view is to improve the effectiveness of the existing system so that it results into saving public money, efforts and time. While delivering the services to the various stakeholders of the society, it is the duty of government to design integrated services and the citizen centric system and deliver services at the doorstep of the citizens, seven days of a week and twenty-four hours.

III. RESEARCH METHODOLOGY

Present empirical research is inferential descriptive in its nature and based on systematic collection, analysis and interpretation of the data related to the e-governance implemented in various government offices under the district Collectorate. The study has used both primary and secondary data for research purpose. The total sample size is 385 on the basis of the proportionate stratified random sampling method [7]. Out of these 261 citizens are aware the e-governance initiatives in the Satara district. For collecting the data, survey method was used to gather the relevant information pertaining to fulfilling the objectives of the study.

IV. ASSESSMENT OF E-READINESS

Assessment of E-Readiness Index Framework of the Indian States-2005 is based upon three important stakeholders to consider in the use and development of ICT in the country, i.e. individual's readiness, business readiness and government's readiness. The degree of usage of the ICT by 3 stakeholders are linked with their degrees of the readiness to use and to have benefits from the ICT. There is a general macro-economic and administrative environment for the ICT where the stakeholders plays their respective roles. National Council for Applied Economic Research (NCAER) collaboration with the DEITY has six times assessed the e-readiness of the states and the union territories since 2003. This apex body defines e-readiness as the ability to pursue value creation opportunities for inclusive economic development facilitated by the ICT. The e-Readiness Index is composed of the variables which are fall under 3 broad categories and that are the Environment, Readiness and Usage as shown in following figure.

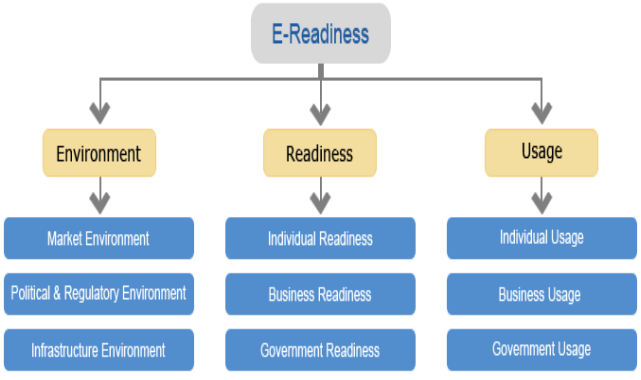

Fig. 1. E-Readiness Index variables

E-Readiness is the broad concept in the ICT. E-Readiness means not only the installing the computer along with its software or Internet connection in the government offices but ready to utilization of e-services of e-governance services. In this, researcher is limiting the scope of the e-readiness along with its indicators in the Satara district. The researcher is concentrated on the readiness major category from the indicators for e-readiness. In the readiness major category, this study has taken consideration into two minor categories i.e. Individual Readiness and Government Readiness. Table I depicts individual readiness findings in Satara district and table II shows government readiness findings in Satara district.

Table- I: Individual Readiness findings

Indicators of Significance	Findings
Households with Personal Computer/Laptops	25.00 %
Households with Internet access	12.21 %
Fixed broadband Internet subscriptions	08.57 %
Individuals with Mobile phone subscription	91.95 %
Mobile broadband subscription	37.92 %
Individuals using Internet	66.75 %
Use of virtual social networks (Facebook, Whatsapp etc.)	54.55 %

In the district, there are 25.00% households having the personal computer or laptop whereas 12.21% households having Internet access which is very less internet access in the district. Fixed broadband Internet subscriptions are 08.57%, it means that the high speed Internet connection is very less in the district. Most of the citizens (91.95%) are having the mobile phones subscriptions who are having the 37.92% mobile broadband subscription. There are 66.75% individuals using the internet and 54.55% individuals are connected with social networks sites.

Table- II: Government Readiness findings

Indicators of Significance	Findings
Officials trained in ICT	
• Percentage of top government officials trained in ICT	65.00 %
• Percentage of total government officials trained in ICT	85.00 %
Website	
• Whether website available in local language	Yes
• Compliant with GIGW guidelines	No
• Website content	
○ Information about the government, its mandate, its structure	No
○ Information about government activities, schemes, projects etc.	Yes
○ Information about all government initiatives	Yes
○ A site meter	Yes
• Website portal	
○ Citizen portal	No
○ Private firm portal	No
○ Government official portals	No
○ Non-profit organization portal	No

Researcher find out the government readiness in the district. There are 65.00% top government officers trained in the ICT whereas 85.00% total government officers trained in the ICT. Official website of Satara district is available in Marathi as well as in English language but this website is not compliant with GIGW guidelines. Information about government, its mandate and its structure is not available on website. Information about government initiatives, activities, schemes, projects and site meter is available on website. Satara district website does not have the citizen, government official, private firm portals and non-profit organization portal.

V. RESULTS AND DISCUSSIONS

Here, the research find out following key indicators to assessment of effectiveness of the e-governance initiatives of Satara district.

Key Indicators to assessment of effectiveness of e-governance

- Distance of Office/CSC from citizen's residence
- Usual mode of travel from residence to Office/CSC
- Number of trips to avail the service
- Average travel cost of each trip
- Average travel time of the trip
- Average waiting time to avail the service
- Proportion of paying bribes to the functionaries

A. Distance of CSC/Office from Citizens residence

The distance of the service centre is one of the important indicators in assessment of effectiveness of the e-governance services. The citizens should get the desired service within the short distance from his or her residence. Here the researcher has compared the average distance between the citizen's residence and CSC or Tahasil Office. Following table shows average distance of CSC and Office from the residence of citizen.

Table- III: Average distance of CSC and Office

Parameters	CSC	Office
Average Distance [In Meters]	3183	12216

The average distance from the citizen's residence to the CSC is 3.2 kilometer whereas the Tahasil Office is approximately 12.2 kilometer. This is clear that the CSC is nearer as compared to the Tahasil Office to avail the service in the Satara district.

B. Mode of Travel

Mode of the travel indicators is useful to determine the cost of the travel expenses and such expenses directly increase the cost of the availing the service. Generally, Tahasil Office is far away from the villages. CSCs are nearer to the residence of the citizens and these are more in the number in each Taluka of the Satara district.

Table- IV: Mode of Travel

Travel Mode	CSC	Office
Two Wheeler	129 (49.43%)	105 (40.23%)
Walk	68 (26.05%)	04 (01.53%)
Bus	29 (11.11%)	102 (39.08%)
Auto	17 (06.51%)	35 (13.41%)
Cycle	13 (04.98%)	06 (02.30%)
Four Wheeler	05 (01.92%)	09 (03.45%)
Total	261 (100%)	261 (100%)

In the survey it is found that, usually, the citizens' approaches to the CSC by the two wheeler vehicle (49.43%), by walk (26.05%), by bus (11.11%), by cycle (04.98%) and by four wheeler (01.92%). 40.23% citizen's uses two wheeler vehicle and 39.08% use state transport bus to reach at Tahasil Office.

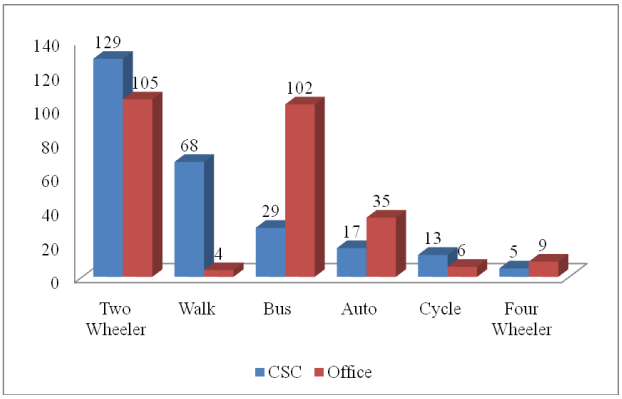

Fig. 2. Mode of Travel

Above graph depicts that the two wheelers are generally used for availing the government services from the service centres. 26.02% citizens approach to the CSCs by walk because CSCs are nearer to the residence of citizens than the Tahasil Office. Use of four wheelers is negligible for availing the services by the citizens.

C. Number of trips to avail the service

Number of trips is the important indicator to assess the cost of the service which availed at the Tahasil Office or CSC. Following table shows number of trips to avail the service by the citizen.

Table- V: Number of Trips to avail the service

No. of Trips	CSC	Office
1 Trip	74 (28.35%)	22 (8.43%)
2 Trips	139 (53.26%)	56 (21.46%)
3 Trips	34 (13.02%)	102 (39.08%)
4 Trips	09 (3.45%)	49 (18.77%)
5 Trips	05 (1.92%)	18 (6.90%)
Above 5 Trips	00 (0.00%)	14 (5.36%)
Total	261 (100%)	261 (100%)

This study reveals that, for availing the service at CSC, 28.35% citizens require 1 trip, 53.26% citizens require 2 trips, 13.02% citizens require 3 trips, 03.45% citizens require 4 trips, 1.92% citizens require maximum 5 trips. 39.08% citizens require 3 trips to avail the service at the Tahasil Office.

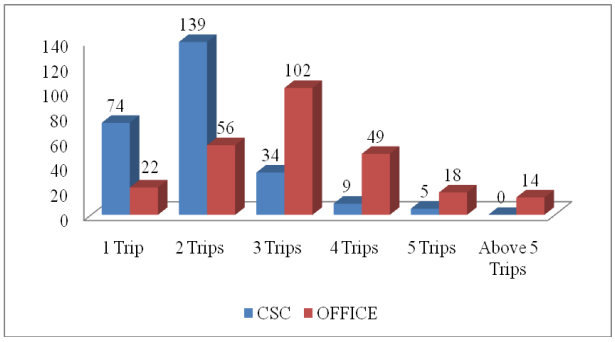

Fig. 3. Number of trips to avail the service

Above graph depicts that generally 2 trips are required to avail the service whereas 1 trip is sufficient for availing the service from the CSC. Majority of the citizens that is 94.63% require 1 to 3 trips to get their work done from the CSC in Satara district. It is clear that not more than 4 trips require availing the service from the CSC.

D. Average travel cost of each trip

Following table shows the average travel cost of each trip as well as average sum of product of trips and cost.

Table- VI: Average travel cost of each trip

Parameters	CSC	Office
Average Travel Cost [In Rs.]	15.35	43.77
Average Sum of Products of Trip & Cost [In Rs.]	34.95	145.95

Average travel cost of one trip is Rs. 15.35 for availing the services from CSC and Rs. 43.77 for availing the services from the Tahasil Office. Cost of the service of Tahasil Office is almost 3 times expensive than the CSC. Average sum of products of trip and cost is Rs. 34.94 for availing the services at the CSC whereas the average sum of products of trip and cost is Rs. 145.95 for availing the services at the Tahasil Office.

E. Average travel time of each trip

Following table shows average travel time of the trip.

Table- VII: Average travel time of trip

Parameters	CSC	Office
Average Travel Time [In Minutes]	14	37

Average travel time of the trip is 14 minutes are required to reach at the CSC for availing the service whereas 37 minutes are required to reach at Tahasil Office for availing the service. Average travel time of the trip to reach Tahasil Office is 2.5 times higher than the CSC.

F. Average waiting time to avail the service

After reaching at the CSC or Tahasil Office, citizens wait for his or her turn. This can be calculated and determined the average waiting time to avail the service. Following table depicts the average waiting time to avail the service.

Table- VIII: Average waiting time

Parameters	CSC	Office
Average Waiting Time [In Minutes]	13	75

Average waiting time after reaching at the CSC is 13 minutes whereas 75 minutes waiting time at the Tahasil Office.

G. Proportion of paying bribes to the funtionaries

In this study, the proportion of paying the bribes is one of the key parameters to assess the cost effectiveness of e-governance service. Following table represents proportion of paying bribes to the functionaries in CSC or Tahasil Office.

Table- IX: Average travel cost of each trip

Parameters	CSC	Office
Frequency	30	39
Average [In Rs.]	103.67	538.46

Out of 261 respondents, 30 respondents paid bribe in CSC while 39 respondents in Tahasil Office. Average Rs. 103.67 and Rs. 538.46 money paid as a bribe to functionaries/officers of CSC and Tahasil Office respectively. Corruption is at both places at CSC as well as Tahasil Office but comparatively in CSC less corruption than Tahasil Office.

VI. CONCLUSION

The main objective of citizen centric solution is to provide the services 24/7 and 365 days. If e-governance portals should be designed in such a way that it is integrated with different government department's applications and services made available through the portal at real time to the citizens and businesses. The central government should well prepare the common assessment framework and feedback system for assessing the e-readiness and effectiveness of e-government projects across the country. Assessment framework should be in terms of the cost and time for availing the service, quality of service, quality of governance and overall assessment. Feedback should taken from the actual users of the systems like common citizens, officers, real implementers, stakeholders, managers etc. The government should take the corrective actions based on the assessment and feedback. Periodically, i.e. 1-2 years after implementation of e-governance projects, government must undertake outcome based impact assessment of e-governance initiatives from the private agencies to transform governance into the "Good Governance".

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