E-GOVERNANCE SERVICE DELIVERY- AN ASSESSMENT STUDY IN MAHARASHTRA STATE

Dr.(Mrs.) Prajakta Nilesh Warale   **Dr.(Mrs.)Hemalatha Diwakar**
Associate Professor,JSPM's   Ex-State bank of India Chair
JSIMR,Hadapsar,Pune,(Maharashtra)   Professor,National Institute of Bank
                                                                          Management,Kondhwa,Pune,(Maharashtra)

INTRODUCTION:

India is a country of villages where multiple e-Governance initiatives are planned and implemented at various levels but not all are successful. There are several challenges and reasons of failure of e-Governance implementation in India. At this backdrop, it becomes imperative to carry out an assessment of one of the oldest e-Governance initiative "SETU" implemented in all 36 Districts and sub districts in the state of Maharashtra. The service delivery, citizens' satisfaction, gaps in the system,accomplishment of the objectives set by the government etc. are evaluated.[Warale & Diwakar,2015]

The data was collected using the multistage sampling technique from three districts namely . Pune, Satara and Sangli and three sub districts within each of them (i.e.total 9 sub districts). Total sample size for study was derived to 977.Total two hypotheses were formulated and were tested using z test of proportion and kruskal Wallis test .

Researcher has also proposed an e-Governance maturity model suitable for Indian environment that assists in building e-Governance system for whole country using multi stage approach with functionality and technology being clearly specified for each stage. [Warale & Diwakar,2016]. Next section discusses objectives of study.

OBJECTIVES AND HYPOTHESES OF THE STUDY:

1. To study and analyses e-governance initiative SETU for service delivery mechanism
2. To identify gaps existing in the management of SETU & suggest solutions for improvement.
3. To propose e-governance maturity model that will help in developing an integrated citizen centric multistage intelligent system suitable for Indian environment.

This model will be in accordance with latest developments in e-governance at state and national level so as to assist in developing e-governance projects in a standardized way.

HYPOTHESES OF THE STUDY:

H1: e-Governance services are provided in a non-integrated manner.

H2: Disgruntlement among citizens is high due to absence of application tracking mechanism.

The next section discusses the literature at international ,national and local level.

LITERATURE SURVEY:

This section presents the literature survey of e-governance progress at international. National and state level.

International Level: In this section the current status of e-Governance in various countries of the world is presented [UN's e-government survey, 2014]. The Republic of South Korea, USA, UK, New Zealand, Spain, Norway, Estonia, Denmark and Israel are among the few that come close to a pure one-stop shop portal with information, services and user participation integrated into one site. Despite progress, there remains an imbalance due to presence of digital divide between developed and the developing countries, especially in Africa due to lack of e-infrastructure, Rwanda, Cambodia, Yemen and Kiribati can be grouped together as least developed countries.
 [WU Hong (2014),United Nations e-Government Survey 2014,Prepared by United Nations Department of Economic and Social Affairs(UNDESA) , and Retrieved from http://www.un.org/desa].

National Level:

As far as India is concerned the government of India has launched the Digital India project in July 2015 to ensure that government services are made available to citizens electronically by improving online infrastructure and by increasing internet connectivity. The project includes broadband in 2.5 lakh villages, Wi-Fi in 2.5 lakh schools and all universities, public Wi-Fi hotspots for citizens and job creation [DEIT's Digital India Policy Report, 2015]. e-Kranti: SWAN, NKN(National knowledge Network), NOFN (National Optical Fibre Network), e-Sangram, Meghraj cloud and national data center [DEIT's e-Kranti DPR,2015]. Digital Locker are some of the noteworthy initiatives implemented across Indian villages. [(2015, October), Retrieved from October, 2015 http://www.digilocker.gov.in]

Maharashtra State Level:

At Maharashtra state level many e-Governance initiatives have been implemented at district and block but not all initiatives were successful. Some initiatives were partially implemented, were not integrated and most importantly were never evaluated .The researchers have carried out in-depth study of one of the oldest and one of the wide spread initiatives "SETU" and reported findings in this paper.Next section explains background of SETU.

BACKGROUND STUDY OF SETU:

SETU was started by Department of IT, GoM in 2002 and was implemented in the entire Maharashtra state. It offers services such as Nationality certificate, Caste certificate, Non- Creamy Layer certificate, Income certificate, Adivasi dakhala to name a few. SETU is implemented and runs on BOT (Built operate and transfer) basis with standardized application and certificate formats, prescribed by GoM. This has resulted in decentralized, heterogeneous software installed at all SETU centers, known as "SETU Suvidha Kendra/centers".

Later in 2008, the central government and GoM together introduced "Maha e-seva Kendras" to provide similar services (but less than 10 of them were offered) in entire Maharashtra. Actual implementation of the scheme started in 2010.The software used is a single homogenous web based system running at all centers. The operators

do online submission of service requests on behalf of the citizens, for which the citizens have to visit the nearest Kendra.

Next section explains research methodology used for the study.

RESEARCH METHODOLOGY:

The researcher has used survey based method to collect data. The multistage sampling technique was used for data collection.The data was collected from three districts viz. Pune, Satara and Sangli and nine sub districts. A questionnaire was prepared for data collection from citizens Tables given below, explain the same in more detail and the confidence level is 95% and margin of error is 5% for both the questionnaires.

Table No.1: Research Design

Districts	Pune	Satara	Sangli
Population	90,720	56,520	50,400
Sub districts with sample Size	Haveli (138) Baramati(100) Daund (100)	Satara(116) Karad (110) Patan (109)	Miraj (101) Vita (103) Tasgaon (100)
Sample Size	338	335	304
Total Sample size		977	
Method of sampling	Multistage Random Sampling Technique		

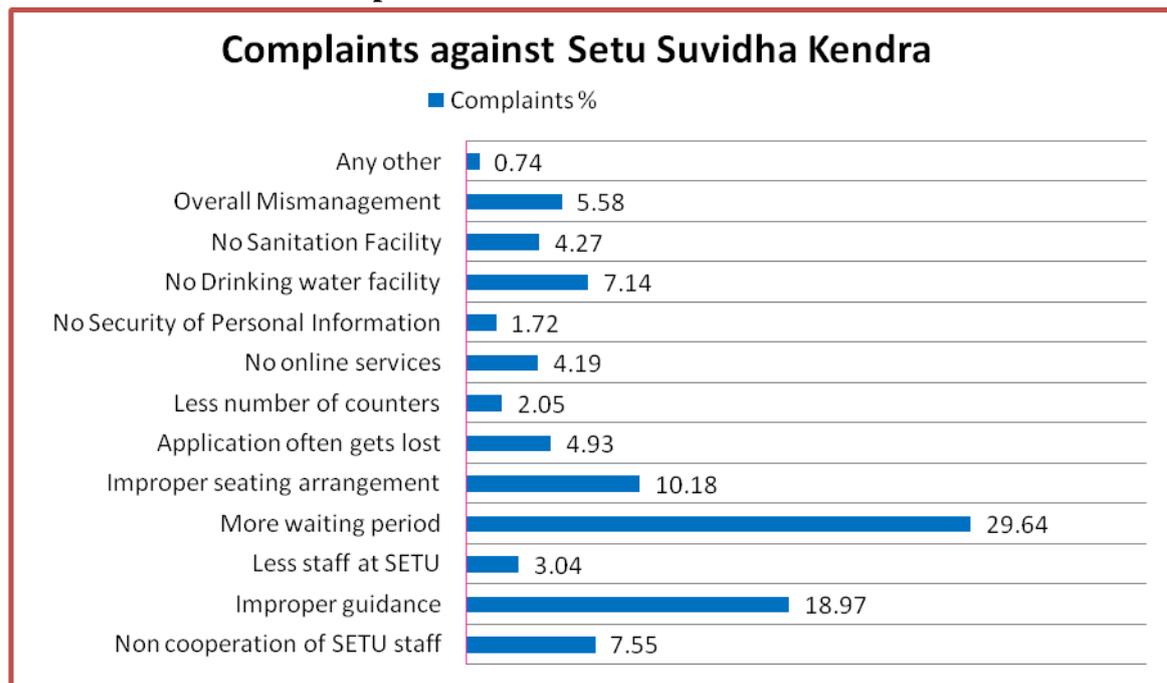Next section describe data analysis and hypotheses thesting.

DATA ANALYSIS AND HYPOTHESIS TESTING:

Researcher has collected the data regarding complaints to identify gaps in the service delivery .Following observations were recorded in this regards.

Table No.2: Nature of Complaints

Complaint	Pune	%	Satara	%	Sangli	%
Non cooperation of SETU staff	47	8.70	8	2.37	37	10.85
Improper guidance	111	20.56	55	16.32	65	19.06
Less staff at SETU	18	3.33	4	1.19	15	4.40
More waiting period	147	27.22	114	33.83	100	29.33
Improper seating arrangement	15	2.78	69	20.47	40	11.73
Application often gets lost	39	7.22	9	2.67	12	3.52
Less number of counters	7	1.30	5	1.48	13	3.81
No online services	32	5.93	8	2.37	11	3.23
No Security of Personal Information	10	1.85	5	1.48	6	1.76
No Drinking water facility	34	6.30	31	9.20	22	6.45
No Sanitation Facility	26	4.81	17	5.04	9	2.64
Overall Mismanagement	52	9.63	5	1.48	11	3.23
Any other	2	0.37	7	2.08	0	0.00
Total	540	100	337	100	341	100

Chart No.1: Nature of Complaints

Complaints against Setu Suvidha Kendra
■ Complaints %

Category	Complaints %
Any other	0.74
Overall Mismanagement	5.58
No Sanitation Facility	4.27
No Drinking water facility	7.14
No Security of Personal Information	1.72
No online services	4.19
Less number of counters	2.05
Application often gets lost	4.93
Improper seating arrangement	10.18
More waiting period	29.64
Less staff at SETU	3.04
Improper guidance	18.97
Non cooperation of SETU staff	7.55

Interpretation:

➢ It has been observed that all respondents have a common complaint about the delays in service delivery and the long waiting periods at SETU Suvidha Kendra.

➢ Citizens have also complained about the improper seating arrangement at the centers. People come from various places with service requests. They must be given a proper place to sit, clean drinking water, sanitation facility etc. Respondents spend most of their time standing in a queue as there is no place to sit.

➢ Respondents also complained about the uncooperative attitude of SETU employees. Citizens have objected to the misinformation provided by SETU operators with respect to enclosures to be attached, which queue to stand, fees to be paid etc.

➢ Some other issues were the unavailability of staff, fewcounters made available at center, absence of online service etc.

➢ The complaints made by the citizens directly show that there is overall mismanagement at SETU Suvidha Kendras, which directly results in citizens unhappiness over the performance of SETU.

HYPOTHESES TESTING:

Hypothesis 1 is **"e-governance services are provided in a non integrated manner"**

Null Hypothesis: 85% or fewer citizens have stated that the services are provided in a non integrated manner. (H0= $p \le .85\%$)

Alternate Hypothesis: > 85% of the citizens have stated that the services are provided in a non-integrated manner. (H1= $p > .85\%$)

The objective behind starting SETU was to provide services to citizens in an integrated manner. The study has revealed that only12 % of the citizens claim that services are

offered in an integrated manner whereas, the remaining 88 % respondents haven't had a similar experience.

Z test is used to test the hypothesis. For a sample of the 977 respondents, 88% said that they are offered services in a non integrated manner.

Thus

$$(\hat{p}) = \frac{88}{100} = .88, P_0 = .85, n = 977$$

$$z = \frac{\hat{p} - p_0}{\sqrt{\dfrac{p_0(1 - p_0)}{n}}}$$

$$Z = 2.63$$

Interpretation:

Z statistics value is 2.63. The population proportion is .85 and a sample of n=977 translate z to score of 2.63. According to Z score table P(Z<2.63)=.9957. Therefore P (Z $\geq$ 2.63) =1-0.9957 =0.0043. This is a right tailed test, P value =0.0043.

P value $\leq$ 0.05,therefore the null hypothesis(H0) is rejected and H1 is accepted.

Inference:

Thus, it can be concluded that "e-governance services are provided in a non integrated manner."

Hypothesis 2 of the study is **"Disgruntlement among citizens is high due to absence of application tracking mechanism."**

Null Hypothesis: Absence of application tracking mechanism makes no difference in disgruntlement amongst citizens.

Alternate Hypothesis: The absence of application tracking mechanisms lead to disgruntlement amongst citizens.

This hypothesis has been tested by studying the satisfaction amongst citizens for communication in regards to the status of their application, for a service request. Primary data shows that around 80% of the respondents are not communicated the status of their application; whether it is accepted, pending or rejected. Citizens whose applications are accepted are sent for further processing, but citizens whose applications are pending or rejected, are informed about it only on their next appointment date. Primary data analysis shows that that 60% of the citizens are dissatisfied because of the non communication of the status of their applications.

To test the hypothesis **Kruskal –Wallis Test** is used. It is a non parametric test used to determine if there are statistically significant differences between two groups of ordinal data. This test will help identify the dissatisfaction among the citizens within two groups. The first group is a group of citizens who are communicated the status of application and group two is a group of citizens who are not communicated the status of their application. The following table shows descriptive statistics for Kruskal-Wallis Test.

Table No.3 Descriptive statistics for Kruskal –Wallis Test

Variable	N	Mean	Std. Deviation	Minimum	Maximum
Comm_Satisfaction	977	1.93	1.102	1	3
Comm_Status	977	1.79	.404	1	2

Table No. 4: Ranks for Kruskal-Wallis Test[1]

Ranks			
	Comm_Status	N	Mean Rank
Comm_Satisfaction	Yes	201	431.98
	No	776	503.77
	Total	977	

Table No. 5: Test Statistics[a, b]

	Comm_Satisfaction
Chi-Square	11.549
Df	1
Asymp. Sig.	.001
a. Kruskal Wallis Test	
b. Grouping Variable: Comm_Status	

Table No.5 shows p value =0.001 which is less than 0.05. Hence the null hypothesis has been rejected.

Inference:

It can be concluded that the Absence of an application tracking mechanism leads to disgruntlement amongst the citizens.

FINDINGS :

- Service delivery :- Study revealed that the services are not offered in integrated manner to the citizens.Study also reported that citizens are moderately satisfied with the services, its delivery mechanism. The overall satisfaction is 57 % .
- Gaps in the service delivery:
  Gaps identified in the service delivery were longer waiting periods, presence of agents, charging of higher fees than the government prescribed fees, non-cooperation of SETU employees, improper guidance of staff, and no waiting place for the citizens in the center and many more. Apart from this IT audit& inspection and business continuity plan were found to be totally neglected grey areas.
- Adhering to service deadline: From the data collected, it was clear that the services that were in more demand viz., Income, caste, Non creamy layer, Nationality and Rahivasi Dakhala certificates were found to be not delivered on time.
- Communication between government and citizens: On an average 80 % of the

citizens have agreed that status of their application is not communicated to them.

- Number of visits and days required to get the service: - Primary data shows that 49 % of the citizens got the service within two visits followed by 33 % who got the same in three to five visits.[Warale & Diwakar,2016]

SUGGESTIONS:

To improve the performance of SETU, reduction of delays and to bring in transparency into the system, the following suggestions are proposed

- Services can be categorized into 'H','M','L' categories based on demand and urgency. H type of services are services which are high in demand, M category of services have a moderate demand, whereas L means services in low demand.Such classifications will help the SETU center offer services in a prioritized way like, having more dedicated counters for H type or more time slots for processing and so on.

- A tracking system is mandatory either on mobile phones by way of sending SMS or displaying on a board in SETU centers or publish on the web page of SETU will avoid rush and confusion of citizens regarding their application status.

- Systems audit must be conducted regularly. Conducting regular system audits will ensure the faultless working of all hardware, software, security of the system .

- Middle men/agents should be removed from the system to provide more corruption free services.
  Above mentioned process level changes will help in improving the working of SETU system with incurring very minimal additional cost.

- Latest updates reveal that Government is making rapid progress in rolling out services through Maha e-Seva Kendra.

- Recently, the monitoring and control of Maha e-Seva Kendra was transferred to Mahaonline. These centers are becoming highly prominent delivery points for various government services.
  At this juncture, it has become crucial for the researcher to analyze the role of SETU and the course it hopes to follow in the long run. Few important considerations are as given below:-

- Centers like SETU cannot be abolished all of a sudden, since a significant percentage of the rural population still visit SETU centers to avail services. However introducing online services in SETU would require rewriting the software which makes no sense as www.aapalesarkar.mahaonline.gov.in.,is already operational, though with limited services as of now.

- Till date not all the services are being offered by The Maha e-seva Kendras, hence SETU has to continue to exist.

- Once the Maha e-Seva Kendra becomes more robust and operational, SETU Suvidha Kendra need to be phased out slowly.

The ultimate aim of any government is to offer services to citizens at Any given time, Anywhere through a single window in an Integrated way (abbreviated as AAI). At present, the government of India has multiple initiatives at every stage which are

functioning independently, alongside the various e-governance initiatives of the central government. To accomplish AAI , it is mandatory to bring in or merge or integrate the currently existing systems (heterogeneous systems) under one single umbrella. To achieve this it is important to have a model that will smoothly and systematically assist in the integration process multiple heterogeneous e-governance systems.

Keeping this in mind an e-governance maturity model, which is 5 stage integrated citizen centric e-governance system suitable for Indian scenario, is presented,. The said model is unique from the existing models, as it is being developed with the idea of an integrated e-governance system , that will have a repository of the entire country's citizens' information for the government to store, analyze, predict, plan and implement welfare systems for the citizens. Ultimately, a matured e-Governance initiative will result in the achievement of good governance.[Hala Al-Khatib,2009]
Next section discusses the e-governance maturity model in greater detail.

E-GOVERNANCE MATURITY MODEL:
The proposed model consists of five stages catalogue, interaction, transaction, integration and Intelligent e-Governance system. This Model will clearly depict how an e-governance project should be implemented from its birth i.e. introduction stage/level, bringing complete transformation where any e-government service can be made available to citizen as AAI in most convenient manner. The unique feature of this model is that it is linked to the UID of citizen and digital locker.

Stage 1: Catalogue: In the first stage, government establishes the computerized setup with LAN to offer basic services to citizens visiting centre. This approach is called as centre-based approach. .[Hala Al-Khatib,2009]

Stage 2: Interaction: This is achieved by hosting of e-Governance project website and introducing kiosk based tracking mechanism. Users will be provided with various utilities such as download application form, search facility etc. This stage acts as a first point of online interaction of citizens with the government. .[Hala Al-Khatib,2009]

Stage 3: Transaction: This stage will change the way citizens interact with government. This means that the citizen can make complete transactions over the web .Users may track the progress of their application online. Next stage will be development of integrated system.

Diagram 1: E-Governance Maturity Model
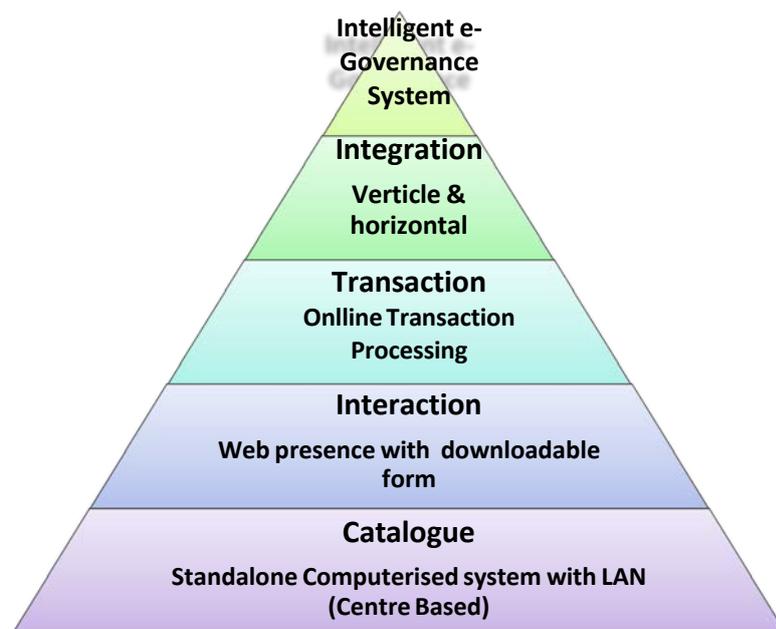
Stage 4: Integration: This stage is featured with vertical integration and horizontal integration.Vertical integration is integration of services at taluka level, district level and state level for each department.

Stage 5: Intelligent e-Governance system: This stage is the final stage of the model and represents the smart use of the e-governance system at the national level. Introduction of "Intelligent e-Gov System" is the unique contribution made by the researcher to the body of knowledge. The maturity models proposed in theory so far has been limited to only the discussion of the integration stage and transformation stage meant for integrating services.

This fifth stage will help in finding

➢ which service is becoming obsolete, which is in more demand.
➢ Preparation of the development plan for rural and urban areas,
➢ Sector wise planning
➢ Formulation of new plans and policies
➢ Intelligent e-Governance system will help identify the number of people in India that are retiring this year and identify employment opportunities that are generated.[Warale &Diwakar,2016]

It will ultimately help in making projections on various fronts such as agriculture growth, income growth of citizens, technology growth, population growth, future and extent of the use of mobile governance, migration, fertility, mortality etc.

CONCLUSION:

SETU one of the oldest e-Governance initiatives of the government of Maharashtra has been studied in depth using a descriptive study approach. The findings clearly indicated that though the system performs better than the earlier manual systems, citizens are only marginally satisfied with the service delivery mechanism and thus system has not scaled up to the expectations of citizens. It is yet to achieve the

aims and objectives with which it has been set. The study also revealed the gaps in the systems. The findings and hence the suggestions are also presented .It is recommended that with the process level changes in the application work flow, gaps in the service delivery can be removed to reap the full benefits. As these systems have to mature into a full-fledged integrated on line transaction systems in the future to assist the government to run the country in an efficient and intelligent way, an e-governance maturity model with five stages/levels is introduced. The functionalities defined in these stages ultimately help in transforming "the e-governance system into an intelligent e-governance system".[Warale & Diwakar,2016]

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