E-Governance Assessment of States and UTs of India through EAF

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Abstract:
This paper outlines a technique to assess the e-governance initiatives of states and union territories (UTs) in India. An attempt has been made to assess all thirty five states and UTs in India based on e-governance assessment framework (EAF) version 2.0 using multiple regression equations and AHP technique. EAF version 2.0 subjective assessment criteria were used to formulate the KPIs and weightings of each KPI was obtained through the use of AHP technique. These KPIs were then mapped to critical success factors (CSFs) through multiple regression equations and inputs were obtained on these CSF and KPIs through questionnaire instrument. The questionnaire instrument was mailed to all district centers to obtain citizen, village level entrepreneur, representative of service centre agency (SCA), state designated agency (SDA) representative and NIC representative's perspective on the services extended via citizen service centers (CSC). A summation index, e-governance assessment index (eGAI) was derived based on CSFs, and KPI. The score so obtained was a realistic one and provided multiple stakeholders' assessment. Based on eGAI, inputs on CSFs and KPIs the states and union territories were clustered into four tiers using fuzzy c-means and K-means clustering

Keywords: e-Governance assessment, EAF, CSFs, fuzzy c-means clustering, k-means clustering

Introduction

It is generally believed that e-government dawned in India in mid- 1990s when the Internet was made available to public. This narrow view is correct only if the *Web-based e-government* is taken into account (Mishra et al., 2007). The implementation of e-governance can broadly be divided into three phases (i) Informatics based e-governance 1947-1984 (ii) PC based e-government 1984-1995 and (iii) Web based e-government 1995-2010. Adoption of e-governance in India started in mid 90s, and there were initiatives in all three categories i.e., Government to Citizen (G2C), Government to Business (G2B) and Government to Government (G2G). The G2C initiatives were in the form of projects viz., Computerization of Land records

launched by Union Ministry of Rural development in eight states and union territories, Bhoomi project launched in Karnataka for automation of land records, Gyandoot citizen service delivery launched in Dhar district, Madhya Pradesh, Lokvani handling of citizen grievances and provision of single window citizen services launched in Sitapur district of Uttar Pradesh, FRIENDS single window citizen services launched in Thiruvananthapuram, Kerala, e-Mitra project extending single window citizen services in Rajasthan, e-Seva launched for extending basic services to urban citizens in Hyderabad, Andhra Pradesh, RACE project for electricity tariff billing of urban citizens in Patna, Bihar and CET project for joint entrance examination launched in Karnataka. G2B initiatives were in the form of e-procurement project in Andhra Pradesh, e-procurement project in Gujarat, and MCA 21 launched by Ministry of Corporate Affairs to provide online services related to company registration to all stakeholders' of society. G2G initiatives were in the form of Khajane project for automation of all treasury related activities in Karnataka, and SmartGov project launched in Andhra Pradesh automating the work flow of government. These initiatives were piecemeal approaches thus could not address the end-user benefits as a whole and thus National e-governance Plan (NeGP) was launched in 2006. The plan seeks to lay the foundation and provide the impetus for long-term growth of e-governance within the country. The plan seeks to create the right e-governance and institutional mechanism, set up the core infrastructure and policies and implement a number of mission mode projects at the center, state levels to create a citizen centric and business centric environment for e-governance (Tripathi et al., 2007). The NeGP vision aims to "Make all Government Services accessible to the common man in his locality, through common service delivery outlets and ensure efficiency, transparency and reliability of such services at affordable costs to realize the basic needs of the common man".

The government has taken a *three pronged approach* for effective implementation of NeGP to enable anytime anywhere delivery of government services (i) CSC's are ICT-enabled Kiosks having a PC along with basic support equipment (ii) State Wide Area Network (SWAN) provides the necessary support for Connectivity (iii) State Data Centre (SDC) is useful for secure hosting of data and applications. CSC shall have 3-tier implementation viz., first tier one CSC in a cluster of 5 to 6 villages owned by Village level entrepreneur (VLE), second tier as Service Centre Agency (SCA) to control CSCs in one or two districts and third tier as State Designated Agency (SDA) responsible for implementation of this scheme within the state. CSC scheme thus is a front-end delivery point for government, private and social sector services to the citizens. Three important lessons emerge from the experience of e-governance in the states. First, states are not learning from each other's experience though discharging similar functions. Secondly, many of these projects are narrow in scope (generally covering one or two services like land records resulting in fragmentation of service delivery). A project has greater chance of success if it provides a number of citizen-centric useful services at one place. Thirdly, the Chief Information Officer (CIO) concept in e-government is required to be driven in the states by policy and institutional support [Mishra et al., 2007]. Our effort in this research work has been to analyze the e-governance adoption initiatives by each state and union territories so far vis-à-vis their impact on the end user's and based on these end-user inputs classify each state and union territories as regards end-user benefits. Our analysis of these piecemeal initiatives as regards the benefits to the end-user of each state and union territories have been based on scaled inputs of the lowest level strategy implementer's i.e., District Centers and analysis of associated web sites offerings by each state and union territories.

The paper is aimed at classifying all thirty five states and union territories as regards extending citizen benefits through CSCs, section 2 deals with formulation of key performance indicators (KPIs) using a suitable assessment framework, section 3 deals with multiple regression equations for mapping KPIs with critical success factors (CSFs) in Indian context, section 4 identifies and formulates the problem of assessment in Indian context, section 5 deals with mode of data collection, section 6 deals with results

pertaining to importance of CSFs, survey results based on summation index, e-governance assessment index (eGAI) and clustering results, section 7 deals with conclusion and future scope of work.

E-governance Assessment:

Evaluating e-Government projects is an important issue (Lenk & Traunmüller, 2002). The lack of formal methods for monitoring and assessing e-Government initiatives has led to a significant slowdown of country-level e-government development (Kunstelj & Vintar, 2004). Furthermore, the current approaches to monitoring, evaluating, and benchmarking e-Government development do not support comprehensive e-government assessment and need to be further improved in order to give policymakers better evaluation criteria for their decisions (Kunstelj & Vintar, 2004). There are three kinds of situations that require evaluation in e-government. One is the environment; second is evaluating the performance of an e-government program or project; and third is the overall impact of e-government on general government functioning, economic development and citizen servicing. Accordingly, we need three kinds of approaches of evaluation such as (i) E-readiness assessment of states or region (ii) Hierarchy of measures taken by the e-government program or project (iii) Overall impact of e-government. Various stake holders are involved in e-Governance initiatives taken up by states and UTs in India as part of NeGP viz., end user's or citizens, government agency, public-private partners and funding agency. Challenges in assessment of e-governance initiatives by states and UTs have been (i) appointment of a self-assessment agency to study impact of the project (ii) Lack of comprehensive framework (iii) non-availability of base line data (iv) lack of visibility of assessment reports and (v) lack of funds for holistic assessment (Gupta et al., 2007). Keeping all these limitations and challenges we aim to design an easily implementable self assessment framework for states and union territories and create a baseline of data. For design of an assessment framework we analyzed the following available frameworks (i) E-governance assessment framework (EAF), India (ii) e governance Economics Project (eGEP), EU (iii) Impact Assessment framework, IIM Ahmedabad, India (iv) VAN-DAM model, Australia and (v) A Public value Framework, UK. EAF framework is a multi-criteria framework, designed by joint team efforts of IIM Ahmedabad and NISG, Hyderabad with primary focus to access the integrated benefits to the users. All key stake holders' were incorporated to get valuable inputs to guide the lifecycle management of the initiatives. The framework was designed prior to launch of NeGP to be used to assess the initiatives in an integrated manner.

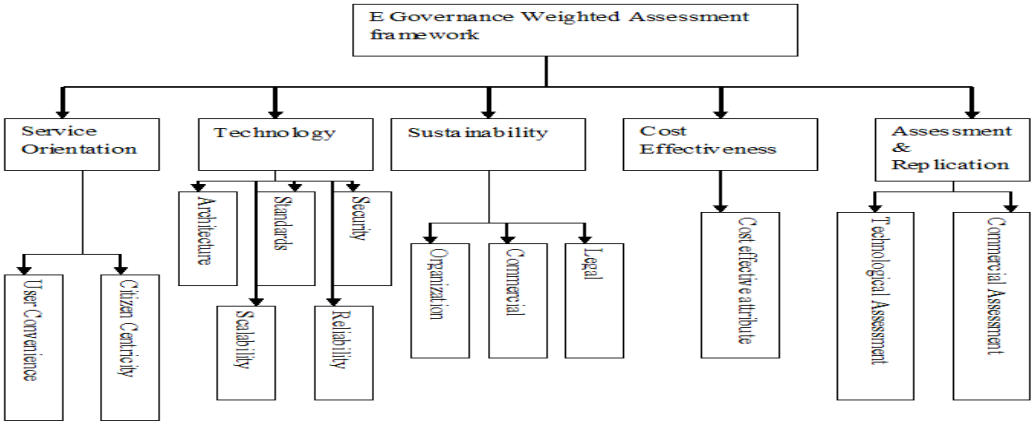

Figure1: EAF version 2.0 framework for extracting KPIs

The assessment is in five dimensions: (i) service orientation (user convenience and citizen centricity) (ii) Technology (architecture, standards, security, scalability, reliability) (iii) Sustainability (internal/organizational, legal and commercial) (iv) Cost effectiveness (cost effectiveness attribute) (v) Replicability (functional and technical). The basic framework was used to extract key performance indicators (KPIs) for evaluation as depicted in fig 1. The KPIs for all five dimensions have been depicted in fig 2

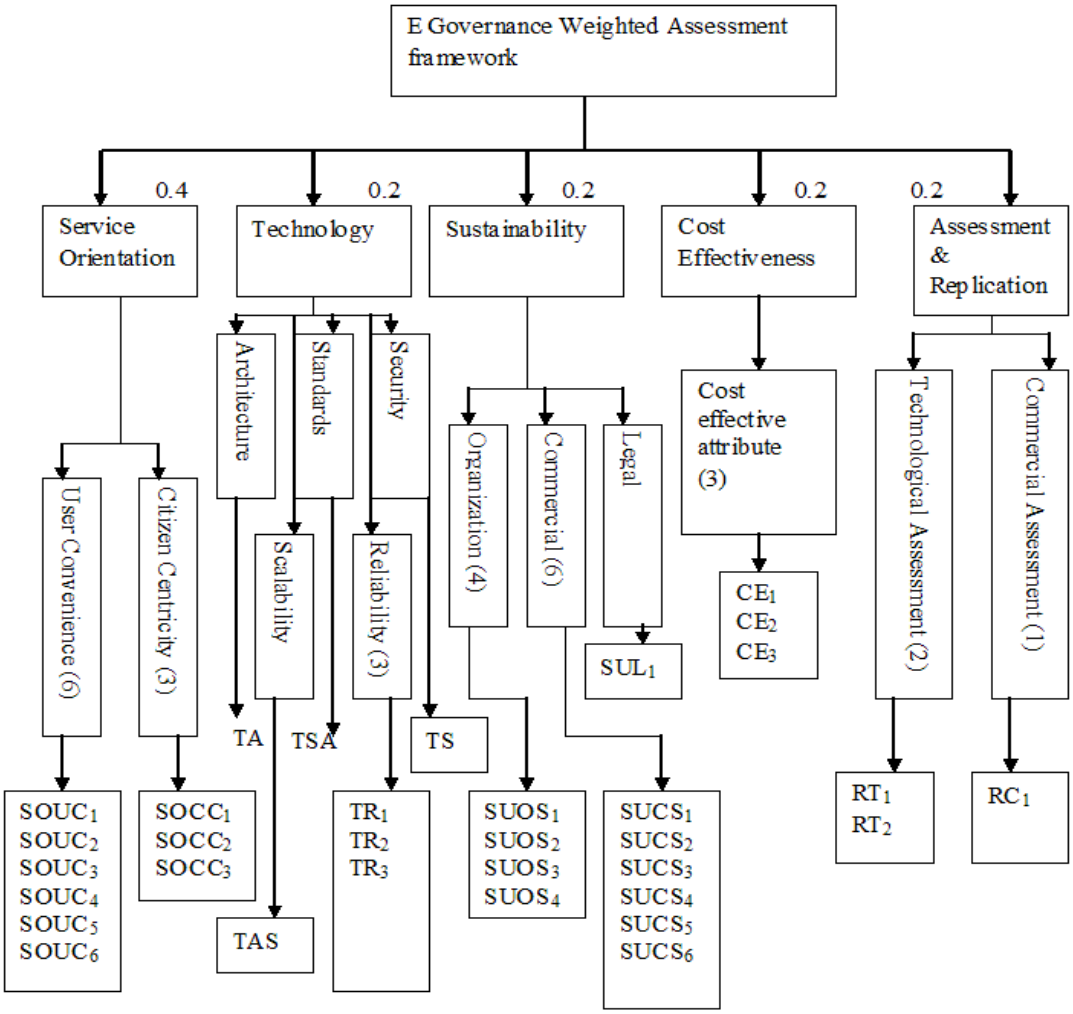

Figure 2: EAF multi-criteria KPI diagram

The broad criteria weightages have been outlined in the framework. Each criterion had sub-criteria and the relative weightages of sub-criteria was obtained using AHP technique. AHP is an advanced method for supporting decision makers in structuring decisions, quantifying intangible factors, and evaluating choices in a comprehensive and rational vof the hierarchy using relative comparisons, a process of comparing each pair of decision factors at a given level of the model for their relative importance with respect to their parent (Saaty, 1999). The entry a_{ij} in the m × n matrix represents the relative value of alternative A_i in terms of criteria C_j and $\sum_{j=1}^{n} a_{ij} = 1$. In the maximization case the best alternative is indicted by following relationship (Jha et al., 2008)

$$A^{*}_{AHP-Score} = \max_{i} \sum_{j=1}^{n} a_{ij} w_j = 1 \text{ for } i = 1,2.....\text{m}$$

The list of KPIs and their weightings are given in table below:

Table 1: Relative weightings of KPIs with codes used

Ser No	Criteria	Sub-criteria	KPI	Relative weights	Remarks
1.	Service Orientation	User Convenience	SOUC1	0.033	
			SOUC2	0.033	
			SOUC3	0.033	
			SOUC4	0.033	
			SOUC5	0.033	
			SOUC6	0.033	
		Citizen Centric	SOCC1	0.050	
			SOCC2	0.050	
			SOCC3	0.050	
			SOCC4	0.050	
2.	Technology	Architecture	TA	0.040	
		Standard	TSA	0.040	
		Security	TS	0.040	
		Scalability	TAS	0.040	
		Reliability	TR1	0.013	
			TR2	0.013	
			TR3	0.013	
3.	Sustainability	Organizational	SUOS1	0.017	
			SUOS 2	0.017	
			SUOS 3	0.017	
			SUOS 4	0.017	
		Commercial	SUCS1	0.011	
			SUCS2	0.011	
			SUCS3	0.011	
			SUCS4	0.011	
			SUCS5	0.011	
			SUCS6	0.011	
		Legal	SUL	0.067	
4.	Cost Effectiveness	CE attributes	CE1	0.067	
			CE2	0.067	
			CE3	0.067	
5.	Replicability & Assessment	Technical	RT1	0.025	
			RT2	0.025	
		Commercial	RC1	0.050	

Critical success Factors:

Critical Success Factors (CSFs) are "key result areas" if achieved shall guarantee the success of any e-governance initiatives. The inputs on these key result areas are easy to obtain and can be easily monitored. The concept of CSFs was coined by Rockart. CSFs can be arrayed hierarchically and used as an important vehicle of communication for management, either as an informal planning aid or as a part of the formal planning process (Rockart, 1979). A detailed list of important CSFs have been compiled by many researchers but the most comprehensive list with its detailed scope and definition relevant in Indian context of e-governance implementation are: *Clear cut vision and goals, E-content, Info Infrastructure, Human Capacity Building, Awareness and Communication strategy, Technology Architecture, Privacy and Security, Change Management, Formulation of e-Gov roadmap, e-Gov program management, Integrated e-governance, re-engineering process, Universal accessibility, Continuous feedback, Service Delivery Paradigm, Understanding e-Gov prospects, Cost benefit analysis, Evaluation and performance assessment, sustainable business model* (Sachdeva, 2006). Based on the basic definitions of the CSFs and KPIs the relationships were drawn between CSFs and KPIs. The relationships drawn have been mathematically expressed in form of equations in fig3.

Design of Questionnaire:

Based on these relationships, questionnaire instrument was developed to solicit inputs of multiple stakeholders' at each district centre of each state and UTs. The inputs were sought from citizen representatives, village level entrepreneurs, representatives of SCA responsible for maintenance and provision of CSCs under a district centre, representative of SDA and representative of NIC.

RELATIONSHIP BETWEEN KPIs AND CSFs

1. Clear Cut vision & Goals = $SOUC_2 + TA_1$
2. E-content = $SOCC_1 + SOCC_2 + SUL_1$
3. Info Infrastructure = $SOUC_3 + SOUC_4 + SOUC_5 + TR_3 + SUCS_5$
4. Human Capacity Building = $SUOS_1 + SUOS_2$
5. Awareness and Communication = $CE_1 + CE_2 + CE_3$
6. Technology Architecture = $SOUC_1 + SOUC_2 + TA_1 + TSA_1$
7. Privacy and Security = TS_1
8. Change Management = $SUOS_1 + SUOS_2$
9. Formulation of e-gov roadmap = TR_1
10. E-Gov program management = $SUOS_2 + SUOS_3 + SUCS_1 + SUCS_2 + RT_1 + RT_2 + RC_1$
11. Integrated e-governance = $TAS + TR_2 + SUCS_1 + SUCS_2 + SUCS_4$
12. Re-engineering process = $TSA + TR_1 + SUL_1$
13. Universal Accessability = $SUOC_3 + SUOC_4 + SOUC_6 + SUCS_6$
14. Service Delivery Paradigm = $SOUC_1 + SOUC_5 + SOUC_6 + SUCS_4 + CE_1$
15. Understanding e-gov Prospects = $SOCC_1 + RT_1 + RT_2$
16. Continuous Feedback = $SOUC_4 + SOCC_3 + SUOS_4$
17. Cost benefit Analysis = $CE_1 + CE_2$
18. Evaluation and Performance Assessment = $SUOS_4$
19. Sustainable Business Model = $SUCS_2 + SUCS_3 + CE_2$

Fig 3: Relationship for design of questionnaire

The questionnaire instrument was mailed to them after having explained to them the aim of such survey, the relevance of their inputs and meaning of each input. The questionnaire had 18 multiple choice questions and one Yes/No question. The responses received by them were again verified and inputs were then tabulated for each district centre. The survey was conducted in the months of July-December 2009 for each state and UTs.

Importance of CSFs:

The importance of CSFs were also calculated using the relative importance of the KPIs derived from the basic EAF framework and AHP analysis based on expert opinion survey for importance of each sub-criteria. The importance of each KPI has been tabulated in table1. Substituting the values obtained in table and equations in fig 3 the importance of CSFs are tabulated in table2.

Table 2: Relative Importance of CSFs

Ser No	CSFs	KPIs	Importance	Relative Importance
1	Clear Cut vision & Goals	$SOUC_2$, TA_1	0.2118	**0.1011**
2.	E-content	$SOCC_1$, $SOCC_2$, SUL_1	0.2082	**0.994**
3.	E-Gov program management	$SUOS_2$,$SUOS_3$,$SUCS_1$,$SUCS_2$,RT_1 ,RT_2, RC_1	0.1967	**0.939**
4.	Service Delivery Paradigm	$SOUC_1$, $SOUC_5$, $SOUC_6$, $SUCS_4$, CE_1	0.1888	**0.09**
5.	Universal Accessability	$SUOC_3$, $SUOC_4$, $SOUC_6$, $SUCS_6$	0.1815	**0.086**
6.	Technology Architecture	$SOUC_1$,$SOUC_2$,TA_1,TSA_1	0.1653	**0.0789**
7.	Re-engineering process	TSA , TR_1 , SUL_1	0.1253	**0.05984**
8.	Understanding e-gov Prospects	$SOCC_1$, RT_1 , RT_2	0.1219	**0.05823**
9.	Continuous Feedback	$SOUC_4$, $SOCC_3$, $SUOS_4$	0.1204	**0.57482**
10	Info Infrastructure	$SOUC_3$, $SOUC_4$, $SOUC_5$, TR_3, $SUCS_5$	0.1120	**0.539**
11	Awareness and Communication	CE_1 , CE_2 ,CE_3	0.1041	**0.0497**
12.	Integrated e-governance	TAS , TR_2 , $SUCS_1$, $SUCS_2$, $SUCS_4$	0.0892	**0.0426**
13.	Cost benefit Analysis	CE_1 , CE_2	0.0694	**0.033134**
14.	Sustainable Business Model	$SUCS_2$, $SUCS_3$, CE_2	0.0569	**0.02717**
15.	Privacy and Security	TS_1	0.04206	**0.02008**

16.	Change Management	$SUOS_1$, $SUOS_2$	0.0347	**0.016567**
17.	Human Capacity Building	$SUOS_1$, $SUOS_2$	0.0347	**0.016567**
18.	Evaluation and Performance Assessment	$SUOS_4$	0.01735	**0.0082833**
19.	Formulation of e-gov roadmap	TR_1	0.01388	**0.00662684**
		Total	2.0946	0.9995

Problem formulation:

NeGP envisages development of uniform e-Governance facilities for all states and union territories of India. The initiatives of e-Governance started in form of pilot projects and thus in course of development a few states and union territories were ahead of others. This research paper through an extensive survey analyses the status of each state and union territory as regards Jan 2010, post NeGP. Based on the inputs on each CSF and summation index eGAI the states and union territories are clustered and thus a baseline data is created for future e-governance implementation reference and concentration of efforts and resources. The summation index eGAI can be mathematically illustrated as

$$eGAI = \sum_{i=1}^{19} \alpha_i CSF_i$$

Subject to constraint $\sum_{i=1}^{19} \alpha_i \leq 1$ where α_i is the weightage of each CSF. $eGAI = \{CSF_1, CSF_2, \ldots\ldots\ldots\ldots CSF_{19}\}$ where CSF_i is feature or attribute for classification. The pattern set is denoted $\Re = \{CSF_1, CSF_2, \ldots\ldots\ldots\ldots CSF_{19}\}$, the i^{th} pattern in $\Re$ is denoted by $x_i = \{CSF_{i,1} \ldots\ldots\ldots CSF_{i,19}\}$ the pattern matrix is 35×19

Hard clustering technique assigns a label l_i to pattern x_i, identifying its class. The set of labels for pattern set $\Re$ is given by $\Im = \{l_1, l_2 \ldots\ldots\ldots l_{19}\}$ where $l_i \in \{1 \ldots\ldots\ldots k\}$ where k is the number of clusters.

Fuzzy clustering procedure assigns to each input pattern x_i a fractional degree of membership f_{ij} in each output cluster j (Jain et al., 1999)

Data Clustering

Cluster analysis is the organization of a collection of patterns (usually represented as a vector of measurements, or a point in a multidimensional space) into clusters based on similarity. Intuitively, patterns within a valid cluster are more similar to each other than they are to a pattern belonging to a different cluster (Jain et al., 1999). Clustering was tried by hierarchical, k-means and fuzzy clustering methods to get clearly demarcated clusters of the 35×19 dataset.

K-means Clustering

The *k*-means is the simplest and most commonly used algorithm employing a squared error criterion. The squared error for a clustering $\Im$ of pattern set $\Re$ (containing K clusters) is:

$$e^2(\Im, \Re) = \sum_{j=1}^{k} \sum_{i=1}^{n_j} \left\| x_i^{(j)} - c_j \right\|^2$$

where $x_i^{(j)}$ is the i^{th} pattern belonging to j^{th} cluster and c_j is the centroid of the j^{th} cluster. It starts with a random initial partition and keeps reassigning the patterns to clusters based on the similarity between the pattern and the cluster centers until a convergence criterion is met (e.g., there is no reassignment of any pattern from one cluster to another, or the squared error ceases to decrease significantly after some number of iterations). The *k*-means algorithm is popular because it is easy to implement, and its time complexity is $O(n)$, where *n* is the number of patterns (Jain et al., 1999). K-means clustering of data set 35×19 was carried out for k = 2, 3, 4, 5 and 6. The cluster results were found to be best for k = 4.

Fuzzy C-means Clustering:

Traditional clustering approaches generate partitions; in a partition, each pattern belongs to one and only one cluster. Hence, the clusters in a hard clustering are disjoint. Fuzzy clustering extends this notion to associate each pattern with every cluster using a membership function [Zadeh 1965].The output of such algorithms is a clustering, but not a partition [Jain et al., 1999]. The fuzzy clustering algorithm is described below:

Fuzzy Clustering Algorithm

(1) Select an initial fuzzy partition of the *N* objects into *K* clusters by selecting the *N*× *K* membership matrix U. An element u_{ij} of this matrix represents the grade of membership of object x_i in cluster c_j. Typically, $u_{ij} \in [0,1]$

(2) Using U, find the value of a fuzzy criterion function, e.g., a weighted squared error criterion function, associated with the corresponding partition. One possible fuzzy criteria is $E^2(\Re, \mathrm{U}) = \sum_{i=1}^{N} \sum_{j=1}^{K} u_{ij} \left\| x_i - \mathrm{c_k} \right\|^2$,

where $c_k = \sum_{i=1}^{N} u_{ik} x_i$ is the k^{th} fuzzy cluster

Reassign patterns to clusters to reduce this criterion function value and re-compute U.

(3) Repeat step 2 until entries in U does not change significantly.

The cluster technique was adopted for our data set till U values did not significantly change and thus cluster limits for all four clusters were identified

Results:

The results were worked out based on EAF version 2.0 framework, the weightings of each KPI based on the inputs of experts was analyzed by AHP technique. The definitions of CSF and KPIs were used to map the relationship between them and the questionnaire instrument was designed. Based on these relationships weightages of CSFs were calculated. CSFs were then used to gather inputs of various stakeholders' involved in implementation of e-governance initiatives and extended through CSCs. The summation index, eGAI was calculated based on inputs of stakeholders', the weightages of the CSFs. Clustering of the data so compiled was attempted using K-means and fuzzy c-means clustering technique. The upper and lower bound partition

values were found to be same by both clustering technique verifying the fact that clusters are accurate. The details of results achieved are illustrated through figs 3 to 5.

Importance of CSFs:

The importances of CSFs were based on the mappings of KPI and CSF through multiple regression equations. Each CSF with its dependent KPI has been depicted in table2 and. weights of each KPI have been derived based on EAF framework and AHP inputs. The relative importance is plotted on 0-1 scale. All 19 CSFs are plotted

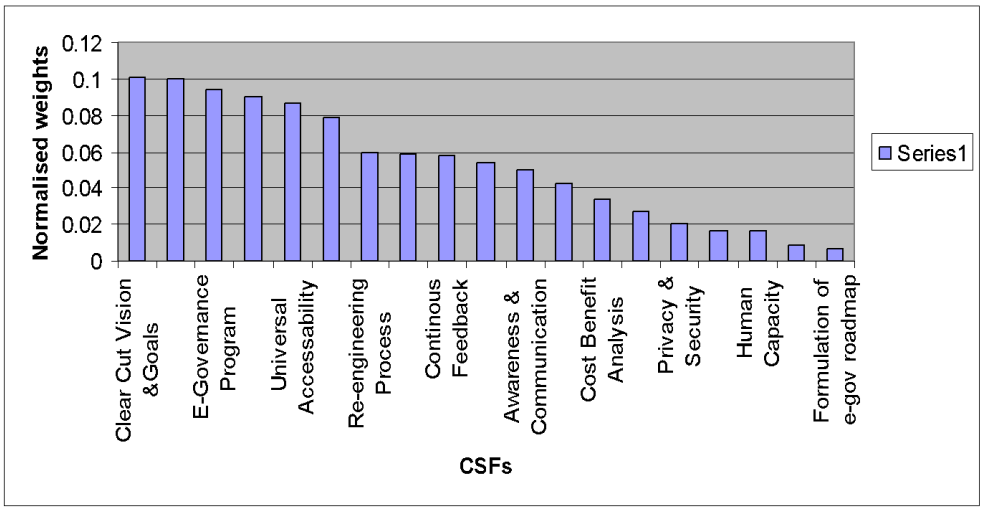

Fig 4: Relative importance of CSFs

Survey Results:

The survey results obtained through questionnaire survey and summation index eGAI has been depicted in fig 5 below

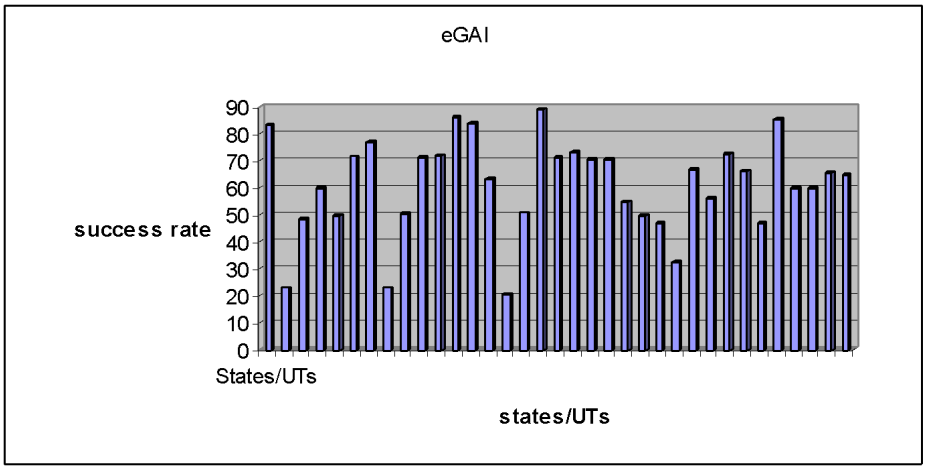

Fig 5: eGAI plot for each state and UT

K-means Clustering results:

K-means Clustering results obtained for silhouette value K=4 is depicted in the fig below. The silhouette plot displays a measure of how close each point in one cluster is to points in the neighboring clusters. This measure ranges from +1, through 0, to -1. Silhouette value = +1 ⇒ indicating points that are very distant

from neighboring clusters. Silhouette value = 0 ⇒ indicating points that are not distinctly in one cluster or another. Silhouette value = -1 ⇒ indicating points that are probably assigned to the wrong cluster**.** All points in the clusters have a large silhouette value, greater than 0.6, indicating that the cluster is somewhat separated from neighboring clusters. The plot does not contain many points with low silhouette values, and points with negative values, indicating implying the clusters are well separated. We get such plots for value K = 4 ⇒ indicating points that are very distant from neighboring clusters. For value K = 3 we get values which are negative ⇒ indicating points that are probably assigned to the wrong cluster. For value K = 5 we get values which are negative ⇒ indicating points that are probably assigned to the wrong cluster.

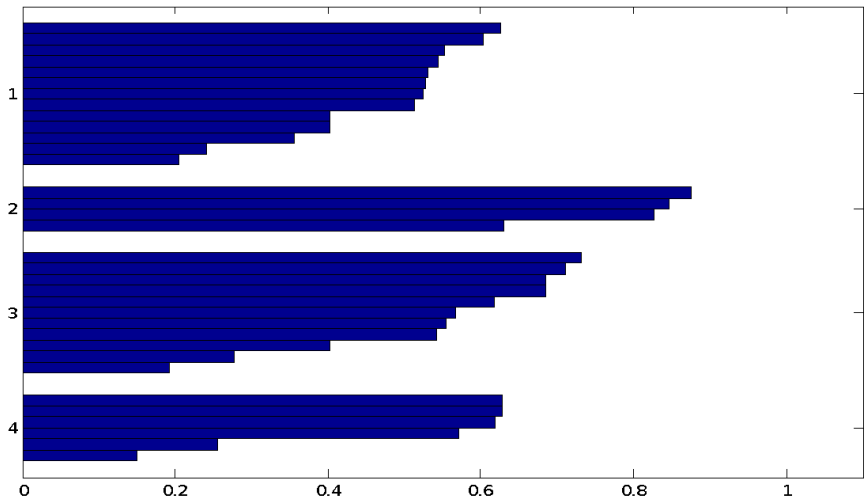

Fig 5: Silhoutte plot for K=4

A more quantitative way to compare the two solutions is to look at the average silhouette values. We get average silhouette values for value K = 4 as 0.5302, for value K = 5 as 0.3566 and for value K = 3 as 0.4505. Thus we deduce that K=4 is the most appropriate value. Based on these plots we can safely infer that our pattern set of 35 states and union territories can be classified into four clusters

FCM and K-means Cluster results:

The clusters obtained by division of states and UTs based on fuzzy C means and k-means has been tabulated in table 3. The upper bound and lower bound values for the clusters obtained through both these methods are the same indicating the fact that the clusters are correct and can be used as baseline data for future research. The values of eGAI for cluster partitions are indicated in the table below:

Table 3: Upper bound and Lower bound values for eGAI using FCM and K-means clustering

Ser No	eGAI values with K-means	eGAI values with FCM	Members	Remarks
I	13 (64.27 to 72.80)	12(46.86 to 59.69)	Interchange with II of k-means	
II	12(46.86 to 59.69)	13 (64.27 to 72.80)	Interchange with I of FCM	
III	4 (20.51 to 32.45)	4 (20.51 to 32.45)	Same values	
IV	6 (76.51 to 88.80)	6 (76.51 to 88.80)	Same values	

Conclusions:

The paper has endeavored to conduct an analysis of all states and UTs of India post NeGP implementation. All stakeholders' in NeGP implementation at district centre level viz., VLE, representative of SDA, representative of NIC, and users have been incorporated to assess the success of the initiatives and facilities being provisioned by CSCs. The survey has classified the states and UTs into four categories based on cluster analysis viz., average achievers, expectants, aspiring leaders and leaders. The average achievers need to have a re-look at their strategy by carrying out course correction/gap filling. The expectants also need to marginally re-align their strategy for maximizing benefits to citizens. The aspiring leaders need to invest more resources and replicate successful projects. The leaders need to follow the same strategy and focus all stakeholders'.

The paper has also created a baseline data post NeGP with effect January 2010. The goals and mission defined in NeGP is same for all states and UTs and thus initiatives need to be progressed in such a manner that each of the states and UTs move up the cluster by enhancing benefits to the users through CSC offerings. A detailed assessment can be taken up in each state and UTs based on EAF version 2.0 detailed assessment frame work to identify gaps/corrections to be initiated. More stakeholders' could be incorporated and analysis of each CSC can also be taken up by SDA and NIC.

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