An Approach for e-Government Project Assessment

Piyush Gupta[1] and Pranav Kumar Vasishta[2]*

ABSTRACT

This paper describes a part of the on-going work by the team as part of the CSI-Nihilent eGov Awards 2006-07. Several meta-theoretic questions which concern the assessment frameworks are discussed as well as pointing out the challenges and issues that arise out of practical constraints in assessing e-Government projects. Finally, we give an outline of the approach being used for CSI-Nihilent e-Governance Awards 2006-07.

Keywords: e-Government, Assessment, Ranking, Best Practices

1. Introduction

Electronic Governance (e-Governance) has received a tremendous fillip in India since the Govt. of India announced National e-Governance Plan (NeGP). Significant amount of money is being pumped into making NeGP a reality, towards which each of the states of India has started making its own e-Gov Roadmaps. A number of e-Gov Projects are being taken up at various levels. It therefore becomes imperative to be able to make reasonable means of judging whether the projects taken up are on course to achieve (have achieved) the objective for which they have been taken up – and if so, what can be learnt from it – and if not – then what kind of changes that need to be done to make the necessary course correction if at all the project is underway, and if the project is shelved, what needs to be avoided in the process of conceiving, designing as well as implementing the e-Gov projects. It is with this interest that the Dept. of IT, Govt. of India has with the help of IIM-A and NISG worked out the E-governance Assessment Framework (EAF 2.0).

While one can say that the EAF 2.0 acts as a nice beginning to start moving towards having a structured manner of Assessment, it was well acknowledged by the authors who made EAF 2.0 that it needs improvement. Though this remains the broad concern for a thorough research, our interest currently has been to locate the ways and means to come up with a good assessment framework for the CSI-Nihilent e-Governance Awards 2006-07 which can, within the constraints under which the judgments related to the award take place, do a good job of making good assessment of e-Gov projects and also make decent progress from the learning that has been reported by Ashok Agarwal et al. (2007) in their "Evaluating e-Government" article, which covers the learning from the experience of the work done by them on CSI-Nihilent e-Gov awards 2005-06. One of the improvements that we have worked on is in terms of making one phase of evaluation through an online form. The design of the form was inspired by the models followed in CII-Exim Bank Award for Business Excellence which works using a Results-Enablers based classification of the criterion for the evaluating businesses and from the internationally well-known

[1] National Institute of Smart Governance, IIIT-Hyderabad, Hyderabad, India
[2] International Institute of Informational Technology, Hyderabad, India,
* *Corresponding Author:* (Email: pranav.vasishta@gmail.com, Telephone: +91-9908209173)

Stockholm Challenge. In this paper, we explain our on-going approach to arrive at an Assessment Framework whose results we shall be glad to share as we move along the assessment exercise this year. We discuss the need for assessment framework, comment on the types of assessment, the challenges and issues involved in it, the assessment frameworks which influenced us, and finally outline our approach which is being revised as we learn from our experience.

2. The Need for Assessment Frameworks

As mentioned in the previous section, the increased focus on realizing the NeGP, where there is a huge outlay of over Rs. 35000 crores over the next span of years, emphasizes the need for having frameworks that provide accurate appraisals about the e-Government projects, to avoid diversion of scarce resources to unfruitful directions. Further, since replication of similar kinds of projects has to be undertaken across the country, it calls for a greater need for the assessment frameworks that help one to learn the factors resulting in the success or a failure of a project. This also provides for a feedback to the stakeholders involved in the project regarding the health of the project.

Assessment exercise involves a tedious process if the intention is to assess an e-Government project thoroughly, meeting the desired objectives, like: the success as defined by the extent to which it achieved the purpose it was designed, whether the project is replicable or not, among others. This is because each of the e-Government projects involves a number of stakeholders from whose perspectives the project needs to be looked at, and further it involves a number of parameters and attributes which adds to the amount of effort required in order to make for a reasonably comprehensive assessment. With this in mind, a detailed assessment (DA) framework was envisaged by the EAF 2.0. In the EAF 2.0, the e-Gov projects with large outlay are characterized into categories - G2C (U/R), G2B, and G2G – in order to make way for separate and customized assessment frameworks for the apparently different motivations that the projects in each of these categories have. So, for a comprehensive assessment as per the EAF 2.0, there were frameworks given for the each of the categories, like the DA for G2C (U/R) among others.

It may not necessarily be required to make a DA of projects in all cases, and it may not always be possible to have sufficient resources to do a DA – so there was another tier of assessment in the EAF 2.0 – a Summary Assessment (SA). SA is done using a subset of assessment parameters and attributes from the DA. The SA is to be conducted using data collected from secondary sources, which help form a base for evaluation. Further, it suggested that inputs from small representative sample involving all the stakeholders of the eGov project be taken, in order to arrive at the desired outcome, which is to provide "broad insights into the ground realities of the project and provide inputs to sharpen the understanding of the project objectives, identification of stakeholders, control groups, affected groups, etc., and help us refine the data collection instruments." The point of interest as far as SA as envisaged by the EAF 2.0 is that it could be completed within 2-5 days per project. A DA would require around 4-6 weeks per project.

Now, consider the case that there are around 100 e-Gov projects across the country to be evaluated and rated to arrive at – and the time allocated for assessment exercise is around 4 months and assuming that a team of 10 people are involved apart from some more people helping them – it is clear that the format to be used, given the EAF 2.0, would be some kind of a modified form of SA. The question of a DA does not even arise! Further, if there is another constraint that there is not a possibility of taking the views of the representative sample of all the stakeholders and one is to make an evaluation out of the information and inputs from only one of the stakeholders – and that too the project owners – this presents a tricky position. If the assessment has to be reasonably good enough, one would expect this assessment to fairly capture the absolutely necessary features and do a rigorous assessment of those features without missing the global picture.

Therefore there is a need for assessment frameworks which provide tractable means of assessing which gives an "acceptable" assessment specific to the features chosen to be assessed. This is to be such that it is in spite of the constraints imposed like the ones mentioned above. It is to be noted that while the original problem of assessment itself is not studied in detail and there is a lot that requires to be done – we would like to posit that it makes sense to look at this problem of assessment under constraints because that is a matter of reality faced by the teams which work on giving Annual Awards for e-Gov projects. Any progress in arriving at what is "acceptable" above would be desirable. This shall be obtained from the learning from the experience. CSI-Nihilent e-Gov Awards offer a nice platform to learn from the experience of assessing and evaluating. An earlier experience of handling CSI-Nihilent e-Gov Awards 2005-06 has been documented and it's lessons are presented in a to be published paper by Ashok Agarwal et al(2007). We will be explaining the ideas which we have been trying to look at as we work on a framework for the CSI-Nihilent eGov Awards 2006-07.

3. Types of Assessment

Assessment of e-Gov projects can be of various types. Each assessment begins with an outline as to the intent behind the assessment. It is this intent which results in the differences in the kinds of assessment. The type of assessments which could be visualized can be of a variety of forms – and most of which could be in terms of different descriptions to the same kind of assessment (in reality) – but the manner in which one puts it – makes the sense of assessment different – hence we have mentioned them separately.

One could think of different assessments depending on the extent of detail one would go in order to assess, as we see in the differentiation between DA and SA in the EAF 2.0. On the other hand, difference in assessment could be attributed to the manner of going about assessing – that is to say, assessment could be done by the use of questionnaires, through statistical methods, or use historical analyses or by identifying best practices or a combination of all these methods. Assessments could be, as shall be detailed in the next section, in terms of the manner in which various stakeholders look at the project, or consider a combination of all or a section of the stakeholders. Assessments could be different in terms of who is doing the assessment – one could have a self-assessment done by the project implementation team, or through an independent third-party assessment or a self-assessment done using the framework suggested by a third-party. Assessments could be different in terms of the aspect of the project that is being assessed – one may assess – say, the service component of the project, or from the overall impact that the project has resulted in, or solely from an economic perspective – which is more on the lines of return on investment or a multi-criteria approach which factors in each of these aspects.

Assessment of e-Gov projects might have to consider some of the aspects which are external to the projects but which are extremely important for the success of the projects – such as the e-Readiness component. In a sense, assessment of an e-Gov project should give sufficient weight to the e-Readiness factor as well, without which it may not make much sense to assess the project. This becomes necessary in order to identify the exact causes of successes or failures of a particular project. This brings another aspect which differentiates an assessment – the reason as to why an assessment is being done – one could do an assessment for the sake of identifying how the project could be replicated in a different environment, or one could do an assessment in terms of identifying whether the project is worth pursuing or not.

Since e-Gov projects come in various flavors, assessment cannot be in one-size-fits-all mode. A uniform assessment framework cannot be applied to a new project, say 6 months old and a 2 year old project. Both would have different dimensions, even if it has to be assessed from the same stake holder's perspective. At the same time a uniform framework will not be able to assess G2C, G2B, G2G and G2E projects along with the Urban and Rural implementation dimensions. As such assessment needs to done differently, keeping the domain specific indicators and attributes into consideration. In the next section, we outline some of the

challenges and issues involved in project assessment that we noted as we studied the problem. This is in the interest of taking a glimpse at the meta-theoretic aspects of assessment.

4. Challenges and Issues in Project Assessment

While looking at the challenges and issues, we need to be clear as to what is being assessed and towards what end one is assessing. Since one of the prime objectives of assessment is to identify the success question of the project – that is whether or not the project would be a success or to fix the reasons as to why a project was a success or failure, it is important to note the views of the various stakeholders involved in the project. To elaborate on the point here is a list of what you might expect:

The different dimensions and perspectives of eGov project assessment:

- Service users point of view, in terms of
    - Cost of availing the Govt. service
    - Time for delivery of service
    - Convenience of availing the service
    - Compliance of RTI Act
    - Transparency in Govt. functioning
- Government point of view, in terms of
    - ROI
    - Immediate impact on service users
    - Internal efficiency – process reforms
    - Impact on internal employees
    - Sustainability
    - Long term overall impact
- Funding Agency point of view, in terms of
    - ROI
    - Business model
    - Immediate impact on service users
- Public Private Partner (if it is a PPP model), in terms of
    - Business model - ROI
    - Compliance to Service Levels
    - Enhancement of service and reach
- Others
    - At National level from replication perspective
    - Academics - in terms of understanding the patterns and see the intricate details of assessment

Further, a report presented at IIM-Ahmedabad (IIMA 1) has identified the following dimensions of outcome for the impact assessment:

a. Client Stakeholder :
    i. Economic (Direct & Indirect)
    ii. Governance (Corruption, Accountability, Transparency, Participation)
    iii. Quality of Service (Decency, Fairness, Convenience, etc)
b. Agency (including Partners in implementation) Stakeholder:
    i. Economic (Direct & Indirect)
    ii. Governance (Corruption, Accountability, Transparency, Participation)
    iii. Performance on key non-economic objectives
    iv. Process Improvements

c. Society (Government as a whole and Civil Society) Stakeholder:
    i. Economic (Direct & Indirect)
    ii. Governance (Corruption, Accountability, Transparency, Participation, Responsiveness)
    iii. Development Goals
    iv. Attitude to computerization of Government agencies for service delivery

This kind of classification of the various views of assessment increases the challenge in targeting a holistic and comprehensive assessment while an interesting issue to look at would be to selectively choose some of the views/dimensions and focus exclusively on that while assessing projects, and achieve the desired objectives of assessment. As we indicated in the previous section, projects belong to different categories – each demanding a different manner of assessment – hence, identifying a common set of indicators and then identify eGov project category specific indicators that cover a desired set of assessment criterion is an interesting question. It turns out that more often than not, the attempt must be to ensure that there is logical consistency and coherence in the specification of the indicators (or factors) and the respective attributes that make up the evaluation of each of the indicators. Logical consistency becomes meaningless if the scope of assessment were not closed and is kept open, hence the attempt should be in identifying definite boundaries for assessment. Ashok Agarwal et al (2007) show improvements made to the EAF 2.0 framework by re-modeling it to bring in coherence, and consistency. Continuing the sequence of meta-theoretic questions and answers, we ask the questions related to: the periodicity of assessments, the agency or body which is going to assess the e-Gov projects, assessment for whose sake, the intent behind the assessment, and finally give the constraints that are faced by assessment exercises.

4.1 Who is interested to learn from assessment?

One of the major objectives of assessment is to learn and develop on the weak areas. However, in reality the assessment results are taken merely to showcase if the project is found to be a good one. It is observed that if the project has not been assessed as a good project, no one looks into the report for improvements in the project. If we have a self-assessment framework, which will be done out of self interest, the project owners' will always strive to understand and strengthen the weak areas of the project.

4.2 What is the learning from assessment studies?

Assessments should identify Best Practices. This must be a key objective of assessment and focus should be on identifying the best practices w.r.t. different aspects of eGov project e.g. Business model, PPP model, Change Management strategy, technology architecture, Service levels, etc. Presently, the assessments study the models and practices being adopted in the specific projects and do not have an objective to bring out the best practices from them.

4.3 What should be the periodicity of assessments?

Different components of assessment can be assessed only after a certain period of deployment of the e-Gov project. A complete assessment on all components cannot be carried out altogether at the same time. Actually, one set of assessment as checklist would be recommended just before the project is being implemented. Subsequently, assessment could be done on yearly basis. This could be considered an extension to the yearly audit process, and include it as a regular feature of work at office. Since assessment provides critical inputs to the project owners for improvement, it can also act as a stakeholder need assessment tool.

4.4 Who should do the assessment?

There is a general consensus on a third-party assessment in order to get an unbiased view. However, the basic problem is that the outside agency is not able to devote the required time in order to really get the

assessment viewpoint. At present, the external agency in most cases is dependent on the project owners for details about the project. The project owner is required to provide the necessary data and information on the project. Secondly there is a survey, which is surely conducted by the third party. An issue requiring attention is to develop a self assessment framework, which can be used by the project owners. In addition to this, there may be a third party to conduct the stakeholder survey part, since the owner department might not have the necessary skills and capacity to conduct the survey. To rely on self-appraisal calls for building a strong self assessment framework, that provides accountability and control mechanism. Such a self-assessment tool helps the project owners to be in a better position to assess their projects on an on-going basis. Moreover they have the assessment indicators and attributes as yardstick for benchmarking their projects right from the project conceptualization phase. Thereby, help develop more efficient and holistic e-Government projects.

4.5 Constraints driving assessment and assessment exercises

4.5.1Time:

In order to get a really good and useful assessment of the project, sufficient time not being devoted for the assessment exercise is a major challenge to be addressed. Most of the time, it appears that the assessment is done either for competing for an award or a mandatory exercise. It is important to understand that lot of data and information needs to be collected or provided for any assessment, in order to understand various dimensions of the project. However, in reality, it is observed that sufficient seriousness is not given to this exercise by the top policy level officials. Generally, it is the junior officials who are given the responsibility to coordinate the assessment exercise. In absence of quality data and information about the project, the assessment does not provide the correct view of project and thereby the whole assessment exercise merely becomes another regular chore.

4.5.2 Lack of comprehensive assessment framework:

A look at various assessment models being adopted for the eGov projects, which are developed based on the objectives set for that specific assessment. As such different institutions identify indicators on different dimensions of the project and stakeholders. At the same time, if the assessment report indicates the project successful or useful, the view points are taken by the projects for showcasing the project. This not only gives a wrong conclusion, especially when eGov community members study the projects. There is a need to develop an assessment maturity model, maybe based on the Gartner eGov maturity model, and identify a set of basic level assessment indicators.

4.5.3 Non-availability of base-line data

It is extremely important to have the data on the functioning of the services prior to implementing the new e-government project, in order to see the improvements over previous system. The base line data is basically the as-is processes studied at the project conceptualization phase. In most of the projects, it has been seen that the base-line data was not captured; hence it is taken as a perception of the stakeholder, thereby giving an incorrect assessment of the difference made by the project.

4.5.4 Lack of high visibility for assessment reports:

It has been seen that most of the time the assessments are done as part of some other requirement of the project and once the said task requirement is completed, the report is not available to public. It is not surprising, that the assessment reports are not even seen or read by most of the senior policy level or other stakeholders in the project. In case there is high visibility given to the assessment report, it will serve its purpose and provide sufficient learning for the project owners.

4.5.5. Funds required for holistic assessment

A holistic and comprehensive assessment should require varied degree of expertise. This would also involve quite a lot of time resources for the surveys, interviewing, study of secondary data, analysis and such tasks. In case the project impacts wider geographical areas, in that case travel resources also become necessary. Normally, such level of coverage would require quite a lot of funding, which is scarce.

4.6 Other Challenges

There are some more similar issues and challenges pointed out in a study done by IIM Ahmedabad (IIMA 2) on impact assessment for e-Governance projects:

a. Often evaluation studies had been done by agencies that may be seen as having an interest in showing a positive outcome.
b. Different studies of the same project showed very different outcomes, thus indicating a lack of credibility of the results.
c. Part of the reason for different outcomes was the use of a very small samples and a lack of rigor in sampling in collecting data from clients of the systems. The results could therefore not be easily generated over the entire population of clients.
d. The studies evaluated the functioning of the computerized system but were not able to assess the difference made by ICT use, as the need for counterfactuals was ignored.
e. Finally, since different studies did not use a standard methodology, it was difficult to compare the outcome for a project with other projects.

Having commented on a number of meta-theoretic aspects, we now present you with some of the notes that we have made on some of the existing assessment frameworks from various domains.

5. Study of Existing Frameworks

The team as part of another research work, studied various assessment models, however for purpose of this paper three are discussed here, viz. CSI-Nihilent eGov Awards 2005-06, Stockholm Challenge and CII-Exim Bank Award for Business Excellence. The approach used for the CSI award for previous year has been detailed in Ashok Agarwal et al(2007), in which the evaluation process used a framework of AHP (Analytic Hierarchy Process) of Thomas Saaty. AHP is a powerful and flexible decision making process to help in setting up priorities and arrive at best decision where both qualitative and quantitative aspects are needed to be considered. Specific parameters have been finalized using EAF 2.0 as a base and suitably modified based on the feedback received and learning achieved during the assessments done earlier. The following observations were found with respect to the existing model are listed here:

- Goal oriented approach not followed while factors for assessment are chosen.
- Few of the factors are not measurable and are based on perception of the assessor.
- Few of the sub-factors require the end beneficiary consultation; otherwise it only gives project owner perspective.
- The assessment is constrained by time & resources to capture all aspects of eGov project and carry out detailed assessment. Therefore the manner of assessment does not justify ranking.
- Scope for objective self assessment was not there.
- Most of the data collected was only in form of supporting documents, which made it difficult to extract relevant information.
- There needs to be structured format for collecting data from the project applicants, so that maximum data is captured from original sources.

Stockholm Challenge (Stockholm Challenge 2008) is an internationally reputed ICT awards for best ICT applications for people and society. They follow a nomination procedure for the Awards that make use of online forms with questionnaires which are to be filled. The nominations are then evaluated by a

distinguished set of experts from various domains from across the globe with dedicated set of evaluators for each project category. One of the significant aspects here at Stockholm Challenge is that they assess only those projects that "show measurable outcomes and impact". The jurors look at criteria such as the empowerment of people by their increased role in democratic governance, creation of equal opportunity, sustainability of the project, impact on the project target groups, promotion of entrepreneurship by the project, and the no. of features that inspire replication. An added criterion for the latest awards is the presence of multi-stakeholder partnerships and their successful running. The nomination form asks for basic information about the project by requesting for targeted information which shall be processed to shortlist a set of projects for further scrutiny.

CII-Exim Bank Award for Business Excellence () has a Business Excellence Model which is based on universally accepted standards and practices that are found in the European Quality Award, US Malcom Baldrige National Quality Award, Japan Quality Award and Australian Quality Award. The model conveys that excellent Results with respect to Performance, customers, people and society are achieved through Enablers - leadership, policy & strategy, people, partnerships & resources, and processes. The notion of a division on the lines of Results and Enablers, in terms of what has been achieved and what has been done to achieve, gives a meta-theoretic justification of the kind of indicators chosen, e.g. in the EAF 2.0, for evaluating e-Gov projects which otherwise may not be easily justified, other than by empirical means. Though it might be difficult in the beginning to get used to seeing things in terms of Results and Enablers, we feel that it inculcates a structured way of looking at indicators and their attributes, so as to move towards a better assessment framework. This method may not be sufficient to answer all the concerns and issues pointed out in the process, but could act as a reasonable beginning for a model that builds on earlier framework provided by Ashok Agarwal et al (2007).

6. Approach being used for CSI-Nihilent eGov Awards 2006-07

Assessment Framework for the CSI-Nihilent e-Gov Awards 2006-07 is primarily inspired from few of the major existing models for awards and assessment, such as CII-Exim Bank Awards for Business Excellence, Stockholm Challenge Awards, UK e-Government National Awards, e-Governance Assessment Framework (EAF Version 2.0). The Assessment Framework builds on the framework worked out for the previous year's CSI-Nihilent Awards which is detailed in Ashok Agarwal et al (2007). The assessment is done in three phases.

The first phase is more akin to an elimination phase, where a website is created to provide for online submission of data for nominations. All projects are to be submitted through an online form provided with a questionnaire that is inspired by Stockholm Challenge, which tries to incorporate some of the values that we have stressed on – in terms of providing a platform for self-assessment for the project owners who nominate their project. The online form limits the answers provided for each of the question by setting an upper limit on the no. of characters within which the answer is to be provided. This results in condensed input on the project as a part of nomination and it puts the onus on the nominee to provide with the relevant data so as to go through the phase I one of evaluation. It also gives a way of considering the completeness of information provided by the nominee, thereby eliminating entries of all those projects which have not taken sufficient interest in filling the online form. This way of extracting just the relevant information for evaluation has been a recommendation provided from the experience of work on the previous awards by Ashok Agarwal et al. The Online form for the nomination for Best Project Award can be downloaded (CSI-Nihilent E-Governance Awards 2006-07 website).

In the second phase of assessment, the factors for assessment have been divided as Results and Enablers. Here, the enabler may or may not yield direct results, and therefore the model used by us assesses Results and Enablers separately. An AHP framework with separate hierarchies for Results and Enablers has been

identified and the scores are weighed separately and added up to get final scores. The hierarchical frameworks for Results and Enablers are then summed up in the end to arrive at the final scores to arrive at the standings of the various projects. The process of implementing the AHP on Results and Enablers is similar to what has been explained in Ashok Agarwal et al (2007). The work is in progress and we find interesting learning in the process of applying the Results and Enablers model.

7. Concluding Remarks

Coming up with effective assessment methods for e-Government projects in the presence of practical constraints is of great importance and is also a need of the hour. We explain various meta-theoretic considerations that one must keep in mind while thinking of the assessment methodologies in this paper. Given the challenges and issues for assessment as explained in this paper, identification of the broad parameters of evaluation must be done with a definite goal in mind. Our effort is towards locating that definiteness with the idea of "what is achieved" or Results and "what is done to achieve" or Enablers. We feel that this is a reasonable approach to form a base for comprehensive assessments frameworks in the future.

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About Authors

Piyush Gupta is leading the capacity building and knowledge management initiatives at NISG (National Institute for Smart Government), based in Hyderabad, India. He has been working on capacity building at the political and policy level as part of the National e-Governance Plan (NeGP) in the country. Piyush is also steering institutional capacity building and change management strategy related work for e-Government projects. His area of interest as part of the research work includes e-Gov project assessment frameworks. He has to hid credit 25 years of experience in IT and e-Government domain.

Pranav Kumar Vasishta is a Masters student in IIIT-Hyderabad. He has been working as a Research Assistant with Mr. Piyush Gupta under a project on e-Government project assessment.