Factors Impacting Sustainability of E-Government Projects in India

Abstract

E-Government projects are an attempt by a nation's government to deliver services to different stakeholders using information technology platforms. Given the scale (population of 1.2 billion and counting), geographical spread, cultural diversity and digital divide, Indian e-Government projects present significant challenges to the implementers. Despite these challenges, there have been quite a few successful e-Government projects which have sustained the test of time.

This study develops a measure to assess sustainability of government to citizen e-Government projects in India and delineates factors impacting sustainability of e-Government projects. It further outlines management mechanisms that act as levers in influencing these factors.

This research is situated in the domain of qualitative tradition and follows the 'systematic approach'. Extant academic literature and published cases have been used to develop a performance sustainability framework for e-Government projects. The framework so developed is further substantiated through two pairs of demonstrative cases built using primary data. Analysis of qualitative data through pattern matching, explanation building, time-series analysis and cross-case synthesis help build the framework and demonstrate it.

The three exploratory cases used include Bhoomi - the land records digitization project in the state of Karnataka, Jhansi Jan Suvidha Kendra – a district level grievance redressal platform in Jhansi district of Uttar Pradesh and the Income Tax Computerization project – a national level income tax system of the Government of India. Past project performance, five years of project operation and access to the project data were important considerations in the choice of these cases. Qualitative analysis of the exploratory cases helped in building a theory of e-Government project performance sustainability.

E-Government project performance sustainability measured through change in scale and scope and the factors impacting such change complete the theoretical framework presented in this dissertation. Extant literature dominantly uses existence of a project over time as a criterion to measure the sustainability of an e-Government project. This study proposes a combination of the change in 'scale' and 'scope' over time, as the measure to capture sustainability of an e-Government project. This is a considerable enhancement over existing measures since it is multi-dimensional; captures the perspective of both providers and end-users; and depicts the direction of change.

Mandatory factors capture the availability and adequacy of different resources such as financial resources, technology resources and manpower along with ownership and support from people in power. The absence of these factors is highly likely to result in unsustainable projects. These factors are therefore considered 'mandatory'. On the other hand, technology related factors such as need for the system, accessibility, relative advantage and trust; based on both users and providers perspectives act as influencing factors. The extent of standardization and the degree of legitimization of the project and associated activities also play a role in impacting these technology factors.

The theoretical framework presented in this study describes these factors and the nature of their impact on the change in scale and scope of an e-Government project over time. The significance of the factors in different phases of the project varies. The impact on scale and scope determines the performance sustainability of e-Government projects. The framework is substantiated using four demonstrative cases. These cases also help further contextualizing the framework and anchor the theory in extant literature on e-Government project performance.

The demonstrative cases used to further substantiate the theoretical framework include Land Records Digitization in West Bengal and Gujarat, and computerization efforts in Kolkata and Ahmedabad Municipal Corporations. One of the key challenges of the Land Records Digitization project is to increase its use among a large target population. The increase in scale has largely resulted from the project being implemented across remote locations (often villages) spread across wide geographical locations. The municipal corporation project is relatively smaller in terms of

geographical reach as well as the size of target population. However, there are a large number of citizen services offered by a municipality which can be digitized. The introduction and integration of digital services results in increase in scope of the project. The demonstrative cases thus help establish possible increase in both scale and scope.

This study contributes to the existing e-Government literature in the following ways. A definition of project performance sustainability along with specific dimensions is proposed. This measure is a considerable improvement over existing definitions. It captures the level of engagement of two key stakeholders – the end-users and providers. The study identifies factors impacting sustainability and presents a theoretical framework describing the nature of their impact on project performance sustainability. This adds to the current understanding of causes for failure of e-Government projects by structuring and integrating the different factors. The influencing factors are classified as mandatory, technology and implementation factors. Further, the distinction between technology factors related to the users and those attributed to providers is established. Such a classification of factors impacting sustainability would facilitate identification of possible impediments in achieving project performance sustainability. The framework developed is a multi-level model which captures independent factors across the organization, project, process, people and technology levels. The study also presents a set of handles in the form of certain management mechanisms which can be used by practitioners to control and effect changes in the performance of e-Government projects.

Anchoring the theoretical framework in the backdrop of extant literature, the thesis identifies scope for future work.