

# Analysing E-Government Project Success and Failure Using the Design-Actuality Gap Model



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## INTRODUCTION

Any examination of the relationship between ICTs, organisational reform and institutional change may commence with the words of Nye (2002): “Technology affects society and government, but the causal arrows work in both directions. Technological change creates new challenges and opportunities for social and political organizations, but the response to those challenges depends on history, culture, institutions, and paths already taken or forgone.” The outcome of an e-government project, therefore, does not rely on a single project entity alone, and instead depends on the interaction between different actors in the process and the nature of the relationships between them. Gaps in project design and implementation can in reality be seen as expressions of differences arising from the interaction between different (often conflicting) actor moves and strategies, determined to a large extent by actor perceptions, and played out within the context of set, often inflexible circumstances.

In order to assess the extent to which success or failure impacts e-government project implementation, this article will examine the analytical framework first proposed by Richard Heeks’ – *The Design-Actuality Gap Model* and its three seminal archetypes; which contends that the major factor determining project outcome is the degree of mismatch between the current ground realities of a situation (‘where are we now’), and the models, conceptions, and assumptions built into a project’s design (the ‘where the project wants to get us’). In doing so, the article endeavours to pay due cognisance to the degree to which project failure (or the general inability of the project design to meet stated goals and resolve both predicted and emerging problems) is symptomatic of a broad, complex set of interrelated inequalities, unresolved problems, and

lopsided power relations; both within the adopting organisation and in the surrounding environmental context.

## BACKGROUND

Traditionally, political institutions have been seen as preconditions for civilised society, with students of politics being interested in how they work and how their organisation within a social system impacts the everyday lives of citizens (March & Olsen, 1989). Institutions may be thought of as: “...the structure that humans impose on human interaction and therefore define the incentives that together with the other constraints (budget, technology, etc.) determine the choices that individuals make that shape the performance of societies and economies over time” (North, 1994, p. 1). Institutional change, therefore, according to Prats (2000), refers to the intentional or voluntary insertion of innovation into a current system through a sufficiently assumed transformation of its rules and internal games.

Alterations of relative prices, such as information costs or technology changes, become the most important sources of institutional change, however, changes in relative prices are motivated both by the transformation of actor perceptions regarding those changes as well as the behaviour alterations which those perceptions give rise to; that is, through the construction of new mental models that result from the acquisition of learning and skills which help interpret the new context. More precisely, such institutional change generally occurs when an alteration in a relative cost is perceived by one or more group of actors to be a win-win situation for either that group alone or for all the participants involved. Whilst such change thus depends chiefly

DOI: 10.4018/978-1-4666-5888-2.ch316

on actors' perceptions with respect to the gains (the payoffs) to be obtained, it must be remembered that it is the existing structure and form of an institution itself that determines the nature and direction of the payoffs (North, 1994).

If, like Thomas and Bennis (1972), one understands organisational change within institutions to be the deliberate design and implementation of a structural innovation, a policy, a new goal, or an operational transformation; it may be accepted that ICT applications could result in organisational changes (such as the efficient and speedy delivery of public services, the increased proximity of services to the citizen, or the simplification of formalities and requirements) that impact core public management values. What is less clear, though, is how public sector ICT applications result in either formal or informal institutional alterations, which include, to paraphrase North (1990), the reform of the rules of interactions within those structures, or, more strictly speaking, the alteration of the constraints that humans impose on their political, economic, and social interactions. This is largely due to the fact that the relationship between technology and institutional transformations has not yet been clearly defined.

In assuming that the manner in which ICT applications are being used depends on the type of institution they are adopted by, Fountain (2002) believes that the potential benefits of implementing an e-government strategy will be strongly influenced by current institutions of government, as the actors involved determine the choices they make depending on the incentive systems within those structural arrangements. ICTs in the public sector are thus designed, developed, and used according to the preferences of government stakeholders which, in turn, have been shaped taking into consideration the formal and informal rules and constraints (or institutions) as well as the enforcement characteristics of both (Fountain, 2002).

The stated design of an information system on paper, however, does not automatically translate into a successful project on the ground, nor does it lead one to necessarily conclude that technology transformations alter significantly the *status quo* of the adopting public organisation. According to Gascó (2003), Information and Communication Technologies will give way to institutional change only if the new skills and learning that governmental actors acquire mesh with current ground realities in such a way that they conclusively alter employee perceptions regarding the potential gains

that result from the new situation. In turn, the degree to which those perceptions may be altered depends on how much the workplace and other ground realities of an actor is affected by the new structures that result from ICTs applications.

The question is, then, what will motivate that change? Fountain and Osorio-Urzu (2001) identified three groups of institutional variables that would collectively influence not only whether a project would be undertaken at all, but also whether a new technology would be adopted by all the actors concerned; thereby giving rise to alterations in their perceptions of the given technology. The first group consists of Technological Variables, which include the ability of a user-population to access ICTs, the quality of the user population's Internet use, the availability of an internal technological infrastructure, and the provision of technical skills to the government workforce. Fountain and Osorio-Urzu argue that "...the quality of an agency's Information and Communication Technology infrastructure and overall skill level are critical inputs to make-or-buy decisions."

The second group is that of Managerial Variables, in which are included the efficiency and effectiveness of the supply chain, the characteristics of the agency's culture, and the capacity of the adopting agency to adapt to and to manage change. Again, Fountain and Osorio-Urzu argue that "...an agency that is well managed is likely to have a higher probability of success implementing either internal or outsourced e-government solutions." The final group, Political Variables, consists of the perceptions public servants have regarding potential labour cuts, administrative turnover, and changes in executive direction generated by the development of e-government, together with the impression they have of the desire of other political actors to be associated with e-government projects, the budgetary resources available, and the direction or orientation of the project to long-term results.

Only when all these variables are present and sum total of their interrelationships taken into account will both organisational and institutional change occur in permanence. In sum, because Information Technology projects within the public sector result in new organisational forms that exploit new knowledge and give rise to work alterations, there is obviously a chance for institutional change to take place (Gascó, 2003). Like all political interactions, the behaviour of actors related to the design and uptake of e-government projects is

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