

## Chapter 86

# Steering E–Government Projects from Failure to Success: Using Design–Reality Gap Analysis as a Mid–Implementation Assessment Tool

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### ABSTRACT

*There are many e-government failures in developing countries. Most studies look at these after the event (post hoc), but this chapter takes an original approach to look mid-implementation (durante hoc) in order to provide recommendations for improvement. The authors chose a partial failure/partial success land management information system being implemented in one Ethiopian city. The project has made retrieval of land information quicker and simpler but is only partly implemented, and is still—on occasion—circumvented by public servants for personal gain. They used design-reality gap framework to understand why the project had partly failed. The authors used the design-reality gap analysis to propose an action plan that would help institutionalise the system, steering it from partial failure to success. They demonstrate the value of this framework as a tool for mid-implementation analysis of e-government projects. The authors recommend its usage on other ongoing e-government projects in developing countries.*

### INTRODUCTION

E-Government has received interest all over the world because it can help make governments more efficient and more effective, hence transforming

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relations with citizens, businesses, and other arms of government (Walsham and Sahay, 2005). But studies indicate that most e-government initiatives in developing countries fail in some way (Ndou, 2004; Dada, 2006). According to

a study carried out by Heeks (2008), 35% of e-government implementations in developing/transitional countries can be classified as total failures (project never started or started but immediately abandoned) and 50% are partial failures (major goals are not attained and/or there are undesirable outcomes). Heeks and Stanforth (2007) estimate expenditure of US\$3 trillion on information technology (IT) projects by governments during the ten years between 2000 and 2010; with an overall failure rate around 60%, thus wasting huge amounts of money.

Various explanations for this failure have been offered. Some identify the cause as a specific issue, such as lack of commitment on the part of political leadership and public managers (Bhatnagar, 2000). Others identify slightly broader causes, such as poor management of long-term sustainability risks (Aichholzer, 2004). Others still try to provide a comprehensive and contingent model, such as the “design-reality gap” framework (Heeks, 2002; Heeks, 2006).

These causal explanations have been applied to cases of e-government in developing countries (e.g., for the design-reality gap framework – Dada, 2006; Ramaswamy, 2009; Syamsuddin, 2011). However, almost all of this analysis has been post hoc; i.e. it has been undertaken after the project has been completed (sometimes after it has ended in some kind of failure, or has been superseded), and it has often been an academic exercise that does not particularly seek to interact with the project, merely extract data from it. Lessons may be learned but there is little value for the specific project studied.

We wanted to take a different – hence original – approach, looking at an e-government project in mid-implementation (*durante hoc*), with the specific aim of providing some future guidance for improvements to managers of that project. This approach will be relevant for any e-government project that falls into the partial success / partial failure categorisation. Total failures and com-

plete successes can still be analysed but are by definition not really amenable to improvement.

We therefore selected a partial success / partial failure project – as described next, a land management information system in Ethiopia – and applied the design-reality gap framework to analyse the reasons for its particular success / failure status. From that analysis, we were able to identify both factors underlying what had already been achieved, but also underlying continuing problems. The latter – indicated by large gaps between design and reality – were then converted into specific recommendations for project improvement.

Alongside our specific contribution of action priorities for this particular project, more generally our contribution is to identify a methodology by which e-government project managers can turn their projects from failure to success. We also highlight reasons for failure and reasons for success that may have a more general applicability to other e-government projects in developing countries.

The paper is organised as follows. First a brief description of the case under consideration is offered, explaining its success / failure categorisation. This is followed by a presentation of the research methods. Then, design-reality gap measurement is undertaken on seven “ITPOSMO” dimensions. These findings are discussed and conclusions from the overall analysis are drawn.

## **E-GOVERNMENT CASE STUDY**

The system selected to act as a case study to test the mid-implementation use of design-reality gap analysis was a land management information system (LMIS) launched in early 2009 by the city administration of Bahir Dar. Bahir Dar is located in the north-western part of Ethiopia and is the capital of Amhara region.

The LMIS was built around the voluntary efforts of a single individual – Alazar Tilahun

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