# Chapter 3
# Ecologies of Information and Communication Technology Platform Design for e-Government Service Provision:
## Actors, Influences, and Fields of Play

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## ABSTRACT

*This research chapter, through the presentation of an empirical case study surrounding the implementation and use of an electronic property tax collection system in Bangalore (India), developed between 1998 and 2008, critically examines both the role of Information and Communication Technologies (ICTs) in governmental reform processes and the contribution of such technologies to the deeper understanding of the social dynamics shaping e-government projects used to reform public sector institutions. Drawing on the theoretical perspectives of the 'Ecology of Games' and 'Design-Actuality Gaps', both of which recognise the importance of a multitude of diverse motives and individualistic behaviour as key factors influencing organisational reform and institutional change, the chapter contributes not just to an understanding of the role of ICTs in public administration reform, but also towards that emerging body of research which is critical of managerial rationalism for an organization as a whole, and is sensitive to an ecology of actors and their various motivations operating within the symbiotic organisation.*

## INTRODUCTION

Over the course of the last two decades, globalisation and information technology have been rapidly dismantling traditional barriers to trade, travel and communication, fuelling great promise for progress

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towards greater global equity and prosperity. Attracted by the 'hype and hope' of Information and Communication Technologies (ICTs), development actors across the world have adopted computer-based systems and related ICTs for use in government as a means reforming the inefficiencies in public service provision. Whilst a number of these electronic government or 'e-government' projects have achieved significant results, evidence from the field indicates that despite the reported success stories, the rate of project failure remains particularly high.

Much has been written about e-government within a growing stream of literature on ICT for development, generating countervailing perspectives where optimistic, technocratic approaches are countered by far more sceptical standpoints on technological innovation. However, in trying to analyse both their potential and real value, there has been a tendency for scholars to see e-government applications as isolated technical artefacts, analysed solely as a collection of hardware and software. Far less work is based on empirical field research, and models put forward by scholars and practitioners alike often neglect the actual attitudes, choices and behaviour of the wide array of actors involved in the implementation and use of new technology in real organisations as well as the way in which the application shapes and is shaped by existing social, organisational and environmental contexts.

This chapter seeks to unravel the social dynamics shaping e-government projects used to reform public sector institutions. The value of such an approach is based on a review of existing development literature, which tends to be overly systems-rational in its approach. As a consequence, the literature does not recognise the degree to which project failure (*viz.* the general inability of the project design to meet stated goals and resolve both predicted and emerging problems) is symptomatic of a broader, much more complex set of interrelated inequalities, unresolved problems and lopsided power-relationships both within the adopting organisation and in the surrounding environmental context.

The case study from which this paper is drawn, focused on a project aimed at digitising property tax records and administrative processes within the Revenue Department of the Greater Bangalore City Municipal Corporation. In recognising the need to turn property tax into a viable revenue instrument that delivers high tax yields without compromising on citizen acceptance, the Bangalore City Corporation has sought to improve its property tax administration system through the introduction of a computerised database and the use of digital mapping techniques to track compliance and check evasion.

## E-GOVERNMENT: DEFINITION, NATURE, AND SCOPE

Simultaneous with the shift towards a more inclusive process of participation in political decision-making and public sector reform has been an increased interest in the new digital Information and Communication Technologies (ICTs) and the ways in which they may be used to effectively complement and reform existing political processes. Developments in communication technologies have historically resulted in changes in the way in which governments function, often challenging them to find new ways in which to communicate and interact with their citizens, and ICTs today are seen to possess the potential to change institutions as well as the mechanisms of service delivery, bringing about a fundamental change in the way government operates and a transformation in the dynamic between government and its citizens (Misra, 2005). The work of the public sector has traditionally been highly information-intensive; government has been, and still remains, the single largest collector, user, holder and producer of information (Heeks, 2000), and is considered to be a central resource 'in pursuing democratic/political processes, in managing resources, executing functions, measuring performance, and in service delivery' (Isaac-Henry, 1997).