

# Chapter 4.13

## IT Implementation in a Developing Country Municipality: A Sociocognitive Analysis

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### **ABSTRACT**

This article presents an interpretive analysis of the key problems and challenges to technology implementation in developing countries, based on a three-year case analysis of an IT project in a city government in Ukraine. We employ the concept of technological frames of reference as an analytical tool for articulating the group-level structures related to the implementation context from the perspectives of key stakeholders and examine the degree of conflict between these frames using a Fishbone diagram. We report that conflict between technological frames held by key stakeholders in large-scale system implementation projects often create an unexpected, dysfunctional, and politically charged implementation environment, ultimately leading to project

failures, even if the project enjoys a high level of financial and management support. This, in turn, creates unique challenges for technology implementation projects in developing countries that are often overlooked in the traditional academic and practitioner literatures based on experiences from developed countries.

### **INTRODUCTION**

Information technology (IT) has long been viewed by central planners in the developing world as an important tool for achieving rapid economic and wage growth, improving operational efficiency and effectiveness, and enhancing political participation and transparency. However, achievement of these objectives is often thwarted due

to incentive structures that are based on existing rules and organizational structures. Improvements in administrative capacity can only be expected when there is a sound institutional base that is supported by operational, technical, and infrastructural facilities. Therefore, planning for the diffusion of IT into a developing country's administrative strategies presents a challenge that is significantly different from that encountered by developed countries.

The UN Secretary-General has stated, "information technologies can give developing countries the chance to leapfrog some of the long and painful stages of development that other countries had to go through" (Annan, 2002). In other words, IT has the potential to support the development strategy of bypassing some of the processes of the accumulation of human capabilities and fixed investment in order to narrow the gaps in productivity and output that separate industrialized and developing countries (Steinmueller, 2001). Recently, there is also the indication that the creation of an information society and, in particular, e-government implementation would lead to better (or good) governance (Ciborra & Navarra, 2005). However, the public and businesses in developing countries often have a mistrust of governments that are entrenched in hierarchical structures that are often politicized and corrupt, and are rife with cumbersome processes that stunt economic growth and discourage investment in productive business activities. Efforts to restructure government are either in direct conflict with institutional archetypes or have proven difficult for countries with unstable governments to adopt. In addition, government agencies in developing and transitional countries often try to install IT infrastructures that have been designed for private sector firms and/or for governments in other countries.

Globalization, democratization, and economic liberalization have prompted initiatives with IT as the primary lever to stimulate dramatic changes in the role of the state. New freedoms and opportuni-

ties, especially prevalent in developing countries, have raised the expectations of individual citizens, and emerging and increasingly vocal and proactive civil societies now do not hesitate to call governments to account. This is somewhat mitigated by the fact that IT in many public sectors has not delivered the value expected (Bellamy & Taylor, 1994; Lenk, 1990; Margetts, 1999; Margetts & Willcocks, 1993; Willcocks, 1994). The literature on IT in developing countries generally reports on planned systems, pilot studies, and failures, and seldom discusses the outcome of projects that are even partially functional (Cecchini & Raina, 2005). Further, even when systems are operational, sustaining operations in an ongoing manner is difficult (Fraseri, 2003).

This article presents a longitudinal case analysis of an IT initiative in the city government of Lviv, a municipality in western Ukraine, to improve governance and service quality for its citizens. The specific system under investigation is a Lotus Notes based document management system (DMS), intended to automate and streamline citizen services such as building construction permits, business license applications, and zoning clarifications. A similar project was rolled out in the Malaysian government Generic Office Environment (GOE) (Karim, 2003). Grant and Chau (2005) used the Malaysian GOE as a case example of service delivery in their strategic focus areas of their e-government framework. While a governmental DMS has an objective that is congruent with e-government to "enable effective constituent relationship management" (Grant & Chau, 2005, p. 9), and in general may qualify as a specific example of e-government, we prefer to orient the discussion of a DMS as an effort to improve e-administration. E-administrative initiatives deal particularly with projects that involve the re-engineering of internal structures and organizational activities. These initiatives include cutting process costs, managing process performance, making strategic connections in government, and "creating empowerment by transferring power,

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