Chapter 9

The Context of Introducing IT/IS-Based Innovation into Local Government in Colombia

Mahmoud M. Watad
Fairleigh Dickinson University, USA

This paper examines the dynamics of introducing IT/IS into local municipalities in Colombia. It addresses the factors that drive the introduction of geographical information systems into public organizations. The analysis is based on data generated from documents and direct interviews in two local municipalities. The findings indicate that technological innovations are introduced by middle managers. These managers find ways to take advantage of existing information technologies and thereby transform their organizational processes. External catalysts such as new political environments combined with internal factors, such as local champions and technological awareness, were necessary for mobilizing resources and breaking organizational barriers that hinder innovations.

Information technologies (IT) and information systems (IS) provide opportunities for organizations to improve their productivity and effectiveness. Considerable research has been conducted to study the factors and determinants of the adoption and diffusion of IT/IS into organizations’ operations (a sampling: Kwon & Zmud, 1987; Markus & Robey, 1988; Borton & Branchau, 1994; Nidumolu et al., 1996). Most studies support the notion that managerial decisions of IT/IS adoption, and the outcomes of IT/IS introduction in an organization are moderated by the context in which these technologies are introduced (Zmud, 1982; Fichman and Kemere; 1993, previously Published in the Journal of Global Information Management, vol.7, no.1, Copyright © 1999, Idea Group Publishing. This chapter appears in the book, Information Technology Management in Developing Countries by Mohammad Dadashzadeh. Copyright © 2002, IRM Press, an imprint of Idea Group Inc.)
Watad and Ospina, 1996). This article adds to this line of research and draws upon theories from the technological innovation literature to explore the contextual factors that shape organizational decisions to adopt IT/IS into Latin American municipalities.

A review of the published literature shows that there has been very little research on the determinants of IT adoption in local government (municipalities), in Latin America. Most studies have tended to focus on the national level and have dealt with transfer and implementation of information technologies or with technology policies (Robey and Rodriguez-Diaz, 1996; Montealegre and Applegate 1994; Correa, 1995; Pers-Nunez, 1994). Another line of research has been growing which focuses on technical applications development, such as databases tools and software engineering (see proceedings, SCI 97).

Overall, this paper provides a model expounding the contextual factors that facilitate the process of adopting IT/IS-based innovation in local government. There are two main constructs in this study: the adoption decision of an innovation and the context of its adoption. This study analyzes adoption cases in which the decision to adopt was positive. While context itself is a difficult construct to operationalize, it is possible to study particular cases under which decisions are made and analyze the contextual factors that affected the dynamic of the adoption decision.

For the purpose of this study, the contextual factors were divided into two groups: external (or environmental such as public dissatisfaction with quality of service) and internal (or organizational such as technological awareness). Furthermore, the study focused only on the triggers rather than on the obstacles (such as innovation cost and complexity), or the challenges (organizational resistance) that hinder the introduction of IT/IS into organizations.

The analytical strategy to identify and explore the relevancy of these contextual factors consists of analyzing two cases of introducing IT/IS projects into two different cities. These projects have in common the introduction of the same type of technology (geographical information systems) and the same type of managerial judgment and justification (the rationale, objectives, and expected benefits were similar). For example, the rationale of introducing IT/IS in both cities was to improve organizational operations. Assuming then that rationale, expected benefits, and technology were relatively similar, the study analyzes the role of contextual factors in triggering the decision to adopt these technologies.

The importance of this study is twofold. First, by identifying the factors that trigger the introduction of IT/IS, the study will provide insights for policy
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