Chapter 23
Managing Knowledge with Technology: Current Trends in Local Government

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ABSTRACT

This chapter reports on types and roles of information and communication technologies (ICT) implemented in knowledge management (KM) solutions in local governments. A sample of nine local councils were rated on usage of various generic and KM specific ICT in supporting knowledge exploitation or exploration, and codification or personalization strategies. The results indicate a marked preference for generic types of ICT, and support for knowledge exploitation and codification approaches. These findings and their implications are further interpreted in terms of three stages of KM development in organizations.

INTRODUCTION

Increased interaction, interdependency and volatility on a global scale are rapidly changing local governments’ external environment, their community characteristics, as well as their organizational orientation. In circumstances of high uncertainty and ambiguity, the success of local governments depends to a greater extent on how well they utilize knowledge resources in adjusting to contextual changes. This requires special attention to knowledge management (KM). The
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The spectrum of views on the role of ICT in KM ranges from those that see knowledge as a uniquely human concept and consider that KM has little to do with technology, to those that see knowledge as an object and therefore KM as being mostly about technology (Snowden, 2003; Swan, 2003). The integrated approach advocated by Handzic (2004) bridges the artificial divide between two extreme perspectives by considering KM as a socio-technical phenomenon with both technology and people playing an important role.

Within the integrated framework, technology is placed among major influencing factors on knowledge processes. The functionalities of ICT are perceived as significant in shaping organizational efforts for knowledge creation, transfer and utilization, and thus for organizational learning, improvement and innovation. In order to better understand and appreciate the importance of technology in KM, this section surveys some ICT-based KM initiatives deployed in firms and their roles in supporting knowledge processes.

The KM literature offers a number of useful classifications of ICT tools for KM. Initially, Binney (2001) proposed a KM spectrum that consisted of six categories: transactional, analytical, asset management, process based, developmental and innovation/creation. Based on their functions and techniques, Tsui (2003) suggested a framework of commercial KM software tools including nine categories: search, meta/Web crawler, process modeling and mind mapping, case-based reasoning, data and text mining, taxonomy/ontological tools, groupware, measurement and reporting, and e-learning. More recently, Balmisse et al. (2007) grouped KM tools by functionalities into: explicit knowledge management, collaboration, knowledge discovery, expertise mapping tools and KM suites.

A typology of KM technologies developed by Handzic and Zhou (2005) is used to frame the discussion about the applications of ICT in KM in this chapter. This typology includes seven categories based on the distinction of basic KM processes they support. They include: knowledge storage, access, search/retrieval, sharing/delivery, discovery/visualization, utilization and platform technologies.

- Knowledge storage technologies cover databases, textbases, data warehouse, data marts and various multimedia systems used to capture and store organizational knowledge
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