

Chapter 64

Digitalization and Information Management in Smart City Government: Requirements for Organizational and Managerial Project Policy

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ABSTRACT

The widespread use of information and communication technology (ICT) in public management and public sector reforms is widely recognized. Here digital or electronic government is studied on the basis of information management in smart city government. Digital governance and information management have changed the ways city governments are organized and public services delivered. Unlike the research that has concentrated on private sector developments from digital or business perspective, studies taking place in the public sector context must also take the dynamics of e-government into consideration. In this research, the empirical material was produced by interviewing high-position managers in city governments. Both individual thematic interviews and focus group interviews were done to scrutinize the organizational and management implications of ICT and data mining in information management. The authors' findings indicate that the managers view how information management quite often falls short in providing and presenting relevant information for all parties in city governance. Currently digital information management practices are fragmented and scattered over projects. It is concluded that issues related to the practices of organizing ICTs and projects in smart city government, and additionally the human dimension related to information management, should be addressed more thoroughly to increase understanding about the smart city governance. Furthermore, activities are needed on behalf of a more mature information management.

DOI: 10.4018/978-1-5225-7030-1.ch064

INTRODUCTION

The desire and possibilities of the public sector to generate, collect and utilize data is increasing in an era of virtualization. Information and communication technology (ICT), information management and the related processes of digital information transfer influence the ways cities are organized and how local services are developed. It is the virtualization itself that not only accelerates old processes, but also creates new time and space, new ways of organizing (Lévy, 1998). In this paper, we explore information management in terms of digital technology, data mining and ICT in smart cities. In research literature, smart cities have often viewed as urban innovations systems, where innovative cities enable a socially embedded and spatially structured learning process in the knowledge networks that depend on social and human capital, suitable institutional settings, and ICT (Komninos, 2002 & 2008; cf. also Lundvall & Johnson, 1994). Therefore, the definitions of smart cities now acknowledge the role of human and social capital to support a high quality of life, sustainable development, and participatory governance (Caragliu, Del Bo & Nijkamp, 2012; current trends in smart city initiatives, see Neirotti et al., 2014). In short, in smart city parlance it is acknowledged that smart cities include the so-called soft factors that have to be holistically accounted for (Giffinger et al., 2007), so we wanted to investigate the organizational implications of smart city initiatives more thoroughly.

We have concentrated on how the elements of smart city governance related to information management and ICT are organized, and explored the reactions these organizational arrangements produce. Like stated, this research takes place in smart cities, which can be considered as the primary investors, developers and adopters of digital technology, data mining and ICT practices. The cities that desire to be innovative and smart try to combine innovation, policy development and digital government in their operations (rf. Tolbert, Mossberger & McNeal, 2008). The ICT is associated to information management in smart cities (Washburn et al., 2010), where the electronic public governance is transforming the practices of government (Henman 2010), and linking information management and data mining to integrated service delivery (Brown, 2007; Scholl, 2012). Various public sector actors are increasingly acting like the consumers of information: they process with digital technology and utilize ICT-based solutions (see Bauer et al., 2006; Burke, 2008; Chowdhury, 2009). It has been argued that by developing a more rigorous digital base of information to guide decisions supports evidence-based policy and performance management that are said to improve government effectiveness in various domains (Heinrich, 2007). Like Moon (2002) has argued, information technology has given possibilities to handle information among public sector organizations, to enhance internal managerial efficiency and the quality of public service delivery. The related data mining activities are also said to contribute to increased organizational performance and better overall policy delivery (Hamlin, 2007; Heinrich, 2007).

Managing and communicating information, including electronic and ICT-based activities, have not only changed public sector organizations, but the roles of citizens (Taylor, 2012), while also expanding the role of management in organizing information resources (McNurlin & Sprague, 2006). In city government, the term smart city is often used to describe the use of information and communication technologies in order to develop and maintain infrastructure and services of a city (see Lombardi et al., 2012; rf. Washburn et al., 2010; Caragliu et al., 2011). It is concluded that city governments are facing a wide range of challenges as they try to produce welfare, innovation and sustainability. In these settings, the public sector information management has to accommodate the complex aspects of the government (Lips, 2012). Additionally smart data and information management procedures and information and

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