Chapter 39
The Project Management Perspective for a Digital City

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ABSTRACT

Digital cities have been evolved during the last decade and they have installed various information systems and information and communication technology (ICT) based infrastructures across various cities in the world. Most digital cities are ongoing investments, while their outcomes are differentiated from their primary objectives, and many of them are declined although their deliverables have been achieved. The aim of this paper is to approach the digital city as a unique project instead of a program of projects. In this context, a digital city can be considered a complex and large scale project, while the project management perspective will be applied on two representative forms of digital cities in order to conclude on a common management model, to underline the difficulties of such a project, and to provide with useful instructions that can be used by current and by future project managers who approach a similar initiative.

1. INTRODUCTION

The term digital city was initially grounded by the early 90s from the *America-On-Line cities* (Wang & Wu, 2001; Anthopoulos & Fitsilis, 2009), where web environments offered digital transactions and chatting options. Since then, various terms -such as "smart cities", "ubiquitous cities", "broadband cities", "knowledge spaces", "smart communities" etc.- are used to describe geographic spaces (cities, states, neighbors, clusters) where information and communication technology (ICT) infrastructures and software applications are combined and offer various e-services. For the purposes of this paper the term "digital

city" will describe all the above notions. The scope and the objectives of the deployed e-services are extensive and many of them are based on Web 2.0 technologies in order to achieve social participation and crowd sourcing. The components of a digital city usually concern "smart people", "smart environment", "smart economy", "smart governance", and "smart mobility" which generally constitute the notion of "smart living" (Giffinger et al., 2007). On the other hand, according to (Caragliu & Nijkamp, 2009), a "smart" city is established "*when investments in human and social capital in combination with traditional and modern ICT infrastructure support the sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance*".

Various digital cities faced different challenges and defined alternative priorities such as the improvement of local everyday life; the development of knowledge-based societies; the "close" of the "digital divide"; and the simplification of the public services (Anthopoulos & Fitsilis, 2009). Moreover, some digital cities prioritized e-commerce and public services, others focused on the local quality of life, while current trends concern the environmental protection. The social implications and the diversity of the ICT solutions and of the offered e-services increase the complexity of a digital city, while the transformation of the local community requires a continuous review and reconsideration of a digital city.

The implementation of a digital city is based on the deployment of various projects, which address the predefined priorities and objectives. The aim of this paper is the determination of a proper management method that can support the success of current and of future digital cities, and that can establish their viability. In this context, the digital city is considered as a unique project instead of a set of projects, and the project management perspective is analyzed and delivers useful outcomes. This analysis is critical for such a project due to complexity, scale and viability requirements. It is also important since each similar project is ongoing, and its social adoption is not secured in spite of project success in terms of scope, time, budget and quality.

The project management perspective's analysis follows the four construction management generic project processes inspired by (Winch, 2009): (a) Defining the Project Mission; (b) Mobilizing the Resource Base; (c) Riding the Project Life Cycle; (d) Leading the Project Coalition. In each process the Project Management Institute (PMI) Body of Knowledge (PMBOK, 2008) areas are considered and a proposed management model for a digital city is structured. Finally, two different representative cases (a) the e-Trikala (Anthopoulos & Tsoukalas, 2006) and the New Songdo (Lee & Oh, 2008) will support the composition of the project management model.

This paper is organized as follows: in the following section of this paper, the context of the Digital City is analyzed and various digital cities are presented in order to define the scope and the complexity of such a project. In section 3, the project management perspective is considered for a digital city with the use of two case studies: the Digital City of Trikala (Greece) and the Ubiquitous City of New Songdo (South Korea). In section 4, the outcomes of the consideration are discussed, and in the final section 5 some results and some future thoughts are presented.

2. THE CONTEXT OF THE DIGITAL CITY

Digital cities have being developed since the early 90s in various forms, facing different challenges and following alternative approaches (Table 1). The *Web or Virtual Cities* such as the America-On-Line cities (Wang and Wu, 2001), the digital city of Kyoto (Japan) (Ishida, 2002; Ishida, Aurigiri and Yasuoka, 2001) and the digital city of Amsterdam (Lieshout, 2001) were the initial forms. This approach concerns

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