Chapter 13
A Research on the Use of Cloud Computing Technology in Local Governments in Turkey

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ABSTRACT

Today, with the rapid progress of digitalization, cloud computing technology is widely used by both the public and private sectors due to the advantages it offers and the potential it has. In addition to governments, it is of critical importance for local governments that provide direct services to citizens to closely follow these technological developments and make their service delivery processes more efficient. In this study, firstly, the conceptual framework of cloud computing technology is drawn; its basic components and the service models it offers are detailed. Then, the applications of cloud computing technology in local governments are discussed worldwide and in the context of Turkey, and successful application examples and encountered difficulties are examined comprehensively. Following this theoretical basis, various public policy recommendations are made so that local governments in Turkey can benefit more effectively from cloud computing technologies and implement this technology in a way that increases operational efficiency.

DOI: 10.4018/979-8-3693-6547-2.ch013

INTRODUCTION

The history of computers and information systems has been undergoing continuous evolution, development, and transformation since its first steps in the 1950s. Centralized computer systems, initially gigantic and occupied large areas, have gradually become smaller and more affordable and accessible thanks to advances in semiconductor technology. With this technological revolution, centralized systems have been replaced by more flexible and functional distributed systems. The flexibility of information systems to adapt to the dynamic structure of the Internet and to make complex systems manageable was made possible by the Cloud Computing technology that emerged in the early 2000s. This technology became widespread in the early 2000s and triggered an important transformation in information systems.

The use of cloud computing technology, which attracts great interest due to its potential to add efficiency and strategic value, has rapidly expanded in the public and private sectors in line with the requirements of the rapidly changing era. Cloud computing technology, which offers advantages such as increased data storage needs, insufficient capacity, secure data storage, easy access and low data loss risks, has also become a priority issue for governments. In this context, local governments, which are the closest service units to citizens in the public sector, directly feel the effects of technological transformation at both national and local levels. With the innovations offered by the digital age, local governments are constantly updating and improving their technological infrastructure in order to provide faster, accessible and effective services to citizens. Cloud computing technology is also preferred by local governments due to its potential to improve service quality, reduce costs, and provide secure storage space. In this respect, there is an orientation towards cloud computing technology at the local government level with the aim of increasing service quality and efficiency.

Despite the many advantages offered by cloud services, it is also a fact that cloud services pose various risks in terms of data privacy, security issues, service agreements, audit deficiencies, legal difficulties and bandwidth. It is therefore critical that both users and service providers are aware of these risks and take the necessary precautions. For this reason, the adoption and perception of this digital power, which offers many advantages for the public sector, can be shown as an issue that needs to be emphasized.

In our age of rapidly advancing digitalization, the necessity for local governments to optimize their service delivery processes by closely following technological developments is also an issue that needs to be emphasized. In this context, in the first part of the study, the conceptual framework of cloud computing technology is drawn and the basic components and service models offered by this technology are detailed. In the second part, the applications of cloud computing technology in local