

Chapter 65

Limits and Potential for eGov and Smart City in Local Government: A Cluster Analysis Concerning ICT Infrastructure and Use

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ABSTRACT

This study explore ICT infrastructure in the towns of Paraná State, reflecting on the potential and limits of ICT in the local government and the possibilities of these cities developing into smart cities. A quantitative study was conducted using multivariate data analysis techniques. The data are secondary and were obtained through a Municipal Basic Information Study in Brazil in 2012. The main result was the identification of five distinct municipal clusters in terms of ICT use and infrastructure. The size of a town is not a determining factor for towns to use and make web based services available to its citizens. Many towns remain lacking in basic infrastructure, with every profile showing different needs. There are a few strong patterns of eGov development and local conditions that could be treated as the foundation for some different policy packages that would be appropriate in these five situations. There are aspects that characterize the challenges and potential of towns than the emphasis placed on eGov. These aspects should be considered in studies of eGov and smart city.

DOI: 10.4018/978-1-5225-7030-1.ch065

INTRODUCTION

Since the 1970s, the Brazilian governments (federal, state and local) have adopted measures to modernize the public sector. The changes came to be known as the reform of public management and aimed to improve public services and provide guidelines for them based on managerial principles that focus on results, efficiency, governance and public management orientation for market practices (Diniz et al., 2009). Although the study of electronic government in the dimension of the provision of services is not exhaustive, in Brazil great emphasis has been placed on improving it by electronic means. In Brazil, the term eGov emerged in the late 1990s in the field of Public Management Reform, but the history of Brazilian computerization stretches back to before this time. The use of Information and Communications Technology (ICT) by governments in the past was an academic reference to the implementation of systems which, starting in the 1990s, concentrated on providing public services. More recently, this concentration has shifted to e-participation, e-democracy and smart cities. A smart city could be defined as one that possesses ICT infrastructure. However, a city is not considered smart merely because an ICT infrastructure is available. It should also have the capacity to support learning, technological development and innovation. Not every city with ICT infrastructure is necessarily smart, but a smart city does possess digital components (Nam & Pardo, 2011).

Studies in the field of information systems and administration have focused on discussing and attempting to explain this phenomenon of eGov based on the intensive use of ICT. However, little has been said regarding the technological infrastructure required by governments to develop and apply ICT in their public administration.

Brazil is a federative republic, with federal, state and municipal governments. It follows a decentralized management model, and many functions are the responsibility of local governments, including strategic and financial planning, the execution of government programs and the use of ICT for the development of performance and results (Cunha & Miranda, 2013). This study seeks to explore and describe ICT infrastructure in the municipalities of Paraná State, reflecting on the potential and limits of ICT in the local government and the possibilities of these cities developing into digital cities. Paraná is one of the 26 states in Brazil and is located in the south of the country. Curitiba is the capital city. Other important cities are Londrina, Maringá, Foz do Iguaçu, Ponta Grossa, Cascavel, Guarapuava and Paranaguá. With a population of over ten million (2010), the state has the fifth largest economy in the country and is responsible for 5.84% of the nation's GDP (2012). Income per capita is R\$20,800¹ (2010) and the HDI of the state is 0.749 (2010), which is also the fifth highest.

There are the global measurements of e-readiness, such as the Global E-Government Survey, E-Participation, the United Nations E-Inclusion, the Corruption Perceptions Index of Transparency International, and others that, as they are intended for use at the national level, conceal the differences that exist in local governments. This also applies to the United Nations e-government measures. These measures are an interesting metric that can be applied for the purposes of comparing countries, but there are considerable differences between locations in each country, with some municipalities bearing a resemblance to more developed countries and others being closer to countries at the lower end of the scale. It is important to understand the challenges faced by different regions to define policies that improve results at the local level. Paraná has developed electronic government projects such as Paraná Digital, Telecentros Paranavegar and a catalogue of services on the government website. It has won some prizes for programs such as the state government's Interactive Mobile Portal.

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