

Chapter 4.14

Quality Assessment of Digital Services in E-Government with a Case Study in an Italian Region

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ABSTRACT

The quality assessment of e-government services is more and more emerging as a key issue within public administrations. Ensuring a proper quality of digital services is mandatory to satisfy citizens and firms' needs and to accept the use of ICT in our lives. We propose a methodology for quality assessment that takes e-government quality features into account. We also define a reference model to provide a single quality value starting from a set of service parameters. To validate our approach we assess the goodness of the 'TecUt' shared services management system.

DOI: 10.4018/978-1-60566-064-6.ch003

INTRODUCTION

Information and communication technologies (ICTs) are widely used within public administrations. In this context, e-government refers to the "use of ICT in public administrations combined with organizational changes and new skills in order to improve public services and democratic processes and strengthen support to public policies" (Commission of the European Communities, 2003, p. 7). These technologies allow governments to improve both the delivery of government services to citizens and the interactions with the business and the industry world. Digital government services represent one of the most critical areas of the whole service domain and several definitions are available in the

literature (see, for instance, Elmagarmid & McIver, 2001; Tiwana & Ramesh, 2001) and references therein). In a broad sense, they can be thought as the provision of service, including pure services or tangible physical products, over electronic networks such as the Internet (Rust & Lemon, 2001). In particular, digital government services encapsulate public administration functionalities and informative resources making them available through the use of digital interfaces.

The growing diffusion of e-government requires services with high standard level of quality. Nowadays, quality of services is a hot topic of research. There is a very extensive research activity towards quality assessment in different application domains such as software development, multimedia applications, networking, mobile computing, real time and embedded applications, and so forth. According to the International Organization for Standardization, the term “quality” is intended as all the features of an entity (resource, service, and tool) that influence its capability to satisfy declared or implied needs (ISO, 1994).

Unfortunately, quality of services receives little attention by the e-government research community (see Papadomichelaki, Magoutas, Halaris, Apostolou, & Mentzas, 2006) and references therein for a review on quality dimensions in e-government services). Within the application domain of our interest—e-government—we could rephrase the above definition of quality as “all the features of digital services in public administrations that influence their capability to satisfy declared or implied citizens and firms’ needs.”

Certainly, quality in e-government plays a significant role. A proper quality of digital services is mandatory to satisfy citizens and enterprises’ needs, to accept the use of information and communication technology in our lives as well as improve “government management.”

In this chapter, we propose a framework to analyze the quality of digital services in e-government. Our methodology takes e-government quality features into account and is composed by three different phases: (i) quality definition, (ii)

quality measurement, and (iii) quality interaction. We define (within the first phase) a comprehensive quality model. It is based on a taxonomy of four parameters subcategories related to services and their implementation (e-government, presentation, behavioral, and infrastructural). Our main efforts were to identify those parameters and their relationships that are necessary to assess the quality of e-government services. For each parameter, we pursue a proper analysis to determine the more appropriate metrics and measurement procedures. At the same time, we define a mathematical model that aggregates the detected parameters values into a single one. The model plays a fundamental role allowing a high abstraction level of the problems description and a formal background of the applicative solutions so to avoid possible structural mistakes and inaccurate descriptions.

To validate our approach, we rely on an existing shared services management system—the so-called TecUt portal (www.tecut.it), a portal developed in collaboration with one of the Italian regions, the Marche Region (Corradini, Sabucedo, Polzonetti, Rifón, & Re, 2007). In more details, we have considered the TecUt digital services and we have compared the quality of services (with the same functionalities) provided by several Italian Municipalities to discover those that are more suitable to users requests.

The rest of the chapter is organized as follows. The second section provides a comprehensive understanding of the case study. The third section introduces related works that have somehow contributed to the development of our work. The fourth section presents our methodology for quality assessment taking into account e-government quality features, while the fifth section introduces service quality model based on taxonomy of parameters related to service and its implementation. The sixth and seventh sections propose the measurement model and the mathematical model, respectively. Finally, the eighth section introduces experimental results, and the final section completes the chapter with conclusions and future work.

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