The e-Government evaluation challenge: A South African *Batho Pele*-aligned service quality approach

Godwin Kaisara [a], Shaun Pather [b,*]

[a] *Faculty of Business, Cape Peninsula University of Technology, South Africa*
[b] *Faculty of Informatics and Design, Cape Peninsula University of Technology, South Africa*

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ABSTRACT

Over the past decade, governments have embarked on major Information and Communication Technology (ICT) investments in an attempt to take advantage of the benefits of the internet in extending the channels by which services are provided to their respective citizenries. With the increasing reliance on ICTs, one of the challenges facing public sector managers is how to evaluate the success or effectiveness of their ICT investments. Given the citizen-focused objectives of governments, service quality approaches offer a suitable frame for evaluating ICT effectiveness. This paper therefore extends current e-Service quality research into the e-Government domain. The paper reports on the development of a multi-item instrument for evaluating the e-Service quality constructs of an e-Government website in South Africa. The development of this instrument also takes into account the service delivery principles which have been adopted by the South African government viz. the *Batho Pele* program. The study shows that there are six service quality dimensions applicable in e-Government evaluation, viz. website design, navigation, communication, site aesthetics, information quality, and security. The generic instrument allows practitioners to modify and utilise it according to their needs.

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1. Introduction

In the 1990s, the commercialization of the internet transformed the use of Information and Communication Technologies (ICTs)[1] in the commercial sector, with a constantly rising spend on e-Business. Since then, the internet has become an omnipresent and integral part of a dynamic information society with an ever-increasing role in the areas of education, professional sectors, recreation, social networking and in a myriad of other areas of daily life. As a result, the capacity of the modern organization to compete is largely influenced by the way in which it is able to harness the benefits of the internet (Aerts, Goossenaerts, Hammer, & Wortmann, 2004; Irani, Ghoneim, & Love, 2006). Investment in ICTs has therefore become more a means of survival than a competitive advantage (Talluri, 2000). Thus a key challenge for online service and product providers in the retail sector is to attract and retain customers in this increasingly competitive environment. Having an understanding of customer attitudes, needs, and behavioral trends allows internet retailers to fully exploit the

benefits brought by this medium of shopping (Zeithaml, Parasuraman, & Malhotra, 2002).

In the public sector, governments have also embarked on major ICT investments in internet technologies in an attempt to take advantage of the benefits of the internet in extending the channels by which services are provided to their respective citizenries. Citizens who have grown accustomed to customer-centric service delivery from the private sector, expect the same immediacy of service from government. Consequently, endeavors to improve the quality of services form an intrinsic component of the planning and delivery of the public sector services (O'Reilly, 2007). Citizens expect the government to address their manifold demands through the internet (Gupta & Jana, 2003, p. 366) and their demands for social change will continue to drive government to deliver better services via ICTs (Layne & Lee, 2001).

With the increasing reliance on ICTs, one of the challenges facing managers in both the private and public sectors is how to evaluate the success or effectiveness of their ICT investments. ICT evaluation has been on various research agendas since the 1980s, and more recently, researchers have called for more subjective evaluation methods that are grounded in world views, to replace more mechanistic finance-based methods. (Irani, Love, Elliman, Jones, & Themistocelous, 2005). Research over the past three decades has resulted in a number of approaches to evaluate the effectiveness of ICT. These include information quality, system quality, system use, user satisfaction, benefits evaluation, and more recently, service quality (see DeLone and McLean (2003) for a comprehensive review of IS evaluation practice). Given the citizen-focused objectives of governments,

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 [1] Information Technology has been used as an encompassing term in the past to refer to computing technologies and all related artefacts. However, in the current era, the role of networking, and hence communicating, is virtually inseparable from any other aspect of Information Technology. Thus the term ICT is increasingly being used instead of Information Technology (IT) or Information Systems (IS). Note though that in some instances in this paper, such as Section 2, the term Information Systems (IS) is used, so as not to be inconsistent with the literature being cited.

service quality approaches, from amongst the latter mentioned, offer a suitable frame for evaluating ICT effectiveness. Service quality research, which has its roots in the marketing domain, was originally conducted by Parasuraman, Ziethaml, and Berry (1985) in a study, which was primarily focused on service quality and the extent to which it was possible to measure the degree of customer satisfaction with an organization's performance. This is done by measuring the consumer's expectations and perceptions of service quality (Parasuraman et al., 1985; Parasuraman, Zeithaml, & Berry, 1988). The SERVQUAL model that was conceptualized by Parasuraman et al. (1988) was thus offered as a means to measure service quality in traditional brick and mortar business environments. Over the past decade service quality approaches have also been the basis of several studies for evaluating *web-based* ICT effectiveness. Examples of instruments that have been developed are *WebQual* (Barnes & Vidgen, 2002), *e-SQual* (Parasuraman, Zeithaml, & Malhotra, 2005), and the application of the updated IS Success Model (DeLone & McLean, 2004). The use of service quality constructs to evaluate online service quality, or *e-Service quality*, in business contexts has thus an existing base in the extant literature. However, we have yet to understand how service quality instruments should be applied in an e-Government context as the extant literature focuses mainly on the e-Tailing sector. This paper therefore extends current e-Service quality research into the e-Government domain. The paper reports on the development of a multi-item instrument for evaluating the e-Service quality constructs of an e-Government website in South Africa. The development of this instrument also takes into account a set of service delivery principles which have been adopted by the South African government viz. the *Batho Pele* framework. The instrument is demonstrative therefore, of how national or regional imperatives should be accommodated in conducting service quality evaluation. The development of such an instrument is a response to calls from this journal e.g. Jaeger (2003, p. 327), and others, to extend measurement and evaluation paradigms into the e-Government arena. In the South African context, the paper is supportive of the call by the presidency for increased attention to the monitoring and evaluation of government programs.[2] Lastly the paper also adds to the nascent yet growing literature on e-Government evaluation, and contributes to the general discourse in respect of improving e-Government performance (Baker, 2009).

The paper is organized as follows. Firstly, an overview of service quality as a dimension of Information Systems success is presented. Following this, the rationale for e-Government investments and the associated challenges regarding evaluation are discussed. This is followed by a discussion of e-Government in South Africa, and the relevance of its distinctive *Batho Pele* service principles. In the next section the research methodology is elaborated upon. The results of the study are discussed next, viz. the resultant e-Government service quality dimensions; the Batho Pele aligned instrument as well as recommendations for the application thereof.

2. Service quality in the context of the Information Systems (IS) Success Model

In the Information Systems literature the IS Success Model (DeLone & McLean, 1992;2003) has informed a number of studies dealing with the evaluation of IS effectiveness. Based on an extensive review of 180 empirical studies, DeLone and McLean (1992) proposed a unified framework which incorporated several of the already accepted dimensions of success at that time into a single model. The

main output of this study, the *IS Success Model*, has been widely cited and is regarded by many authors, e.g., Molla and Licker (2001), as a major contribution to the field of IS evaluation.

Since the 1990s, Information Systems (IS) researchers adapted service quality scales developed in the marketing disciplines in order to evaluate the effectiveness of the service provided by the Information Technology[3] function in organizations, for example, Kettinger and Lee (1994), Pitt, Watson, and Kavan (1995) and Jiang, Klein, and Carr (2002). Consequent to this, service quality was included as a dimension of IS success in the updated IS Success Model (DeLone & McLean, 2003). In updating the IS Success Model the authors argue that "service quality…deserves to be added to system quality and information quality as components of IS success" (DeLone & McLean, 2003, p. 18). The updated model consists of the following dimensions of IS success: information quality, system quality, service quality, user satisfaction, use, intention to use, and net benefits.

In publishing the updated IS Success Model, DeLone and McLean (2003, pp. 24–26) concomitantly posit that the model can be adapted to the evaluation challenges in the e-Commerce world. They suggest the following metrics for the *Service Quality* success dimension: assurance, empathy, and responsiveness. However, the metrics suggested for the other IS success dimensions are not dissimilar to e-Service quality dimensions identified in the service marketing literature in papers such as Zeithaml (2002), Lee and Lin (2005) and Parasuraman et al. (2005). For example, the suggested metrics for *System Quality* are: adaptability, availability, reliability, response time, and usability; and for *Information Quality*: completeness, ease of understanding, personalisation, relevance, and security. This underscores the similarities of research findings with regard to online service quality, regardless of the field of study in which it is conducted. The updated IS Success Model continues to be the basis upon which much of the e-Commerce evaluation studies in the IS literature is framed (see, for example, Salehi, Keramati, & Elli, 2009; Cates, Chong, & Rauniar, 2009; Brown & Jayakody, 2008; Garrity, Glassberg, Kim, Sanders, & Shin, 2005; Molla & Licker, 2001).

3. e-Government and service quality

In general terms, given it's not for profit basis, the public sector has lagged the private sector in the pursuit of service excellence. However, in the early 1990s, the quality ideology became widespread in the public services with the total quality management (TQM) movement and thus many governments today strive to meet the service expectations of their citizens. The reliance on e-Government is the latest vehicle used by the public sector in an attempt to improve the quality of services within an overall TQM approach (Teicher, Hughes, & Dow, 2002). In today's global economy, high quality e-Government services can give a nation a competitive advantage for international business (Davison, Wagner, & Ma, 2005).

Generally speaking, long term cost savings and improved service quality are benefits that could be accrued by implementing e-Government (Irani et al., 2005). Public office bearers are increasingly realizing the potential of e-Government in improving the service performance of government departments (Ebrahim & Irani, 2005). The question that arises is how to ascertain whether the levels of service performance have improved within the department. Investing in technology is not enough to improve the quality of services delivered. Elected officials are accountable to the public on their expenditures, with citizens expecting higher quality services at the lowest cost (Wagenheim & Reurink, 1991; Evans & Yen, 2006). In the quest to answer this question, a number of approaches to e-Government evaluation have been put forward by different authors (e.g. Kaylor, Deshazo, & Eck, 2001; Gupta & Jana, 2003; Irani et al., 2005; Evans & Yen, 2006). Amongst these, service quality has been used recently to

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[2] In 2009, the national government indicated its seriousness to implement a government wide monitoring and evaluating system by appointing a Minister for Performance Monitoring and Evaluation in the Presidency. In February 2010 the newly established department announced twelve performance outcomes which are to be used to evaluate the performance of ministers and government departments (http://www.thepresidency.gov.za).

[3] The Information Technology department function in organization is also commonly referred to as the *Information Systems function* in various literature.