eGovernment Service Quality Assessed through the Public Value Lens

Khayri Omar, Helana Scheepers, Rosemary Stockdale

E-Government Service Quality Assessed through the Public Value Lens

Khayri Omar, Helana Scheepers, Rosemary Stockdale

Faculty of Information and Communication Technologies, Swinburne University of Technology, EN 403, d.53 John Street, Hawthorn, Victoria, Australia 3122
{komar, hscheepers, rstockdale}@swin.edu.au

Abstract. This paper assesses the role of e-government service quality in the creation of public value from the citizen perspective. By assessing the added value of e-government services through a public value lens we aim to explore more deeply how e-government service quality impacts on public value creation. We propose a conceptual framework based on the theoretical perspectives of public value and e-service quality to support the examination of e-government service quality from the citizens' viewpoint. An exploration of the literature on public value, e-service quality, and e-government indicates that the creation of public value is highly dependent on the level of quality of a service delivered by a public organization. The framework draws together the elements of public value as determined by Moore [1] and Kelly [2], and quality dimensions from the updated IS success model by DeLone and McLean [3].

Key words: E-government, Service Quality, Public Value, Public Organization.

1 Introduction

Governments take resources from citizens and transform them into products and services to create public value [1]. Public value includes the quality of citizens' experiences of public services [2], and it can be created and improved by improving public services quality [2, 4]. Since the emergence of electronic government (e-government) in 1997 [5], the significance of providing quality services online to citizens has been recognized by many government sectors [6]. Public sectors adopt e-government to enhance their service provision quality and boost public management organizations' efficiency. E-government guarantees the ability to obtain government services from the home or workplace and cut down costs with (24/7) availability and greater ease of access [7]. E-government also supports several significant features such as e-democracy, transparency and government reform which save money and close the distance between government and citizens [8]. Thus, it has become clear that what is delivered to the public through e-government is much more than just an online service added to the rest of government services. E-government has a public value itself since the government can provide various important quality services to the public.

The majority of the latest reports available show that the level of government spending on information technology (IT) projects, including e-government initiatives, has grown exponentially [9]. For example, IDC estimated that e-government spending in the Asia-Pacific region will exceed US$31 billion by end of 2010 [10]. With this

volume of spending governments might face serious political backlash if they cannot provide evidence of the return value of the money they invest in e-government; also they may be accused of wasting taxpayers' money on needless initiatives. While many governments have invested heavily in e-government projects in the last decade, relatively little is known about the return value of these investments from the public value perspective. Thus, government administrators need external and objective feedback on their e-government efforts and effects [11] to have a better understanding of the benefits and return on their investments. Therefore, the public value of e-government should be considered and understood in particular to help decision-makers when implementing new policies or initiatives. Wimmer [12], recommend assessing the value of government IT investments as an important research area, arguing that the potential benefits of e-government initiatives can no longer be assumed, but must be demonstrated. They argue that 'a clear understanding of the value of egovernment, and value for whom, is needed' [12, p. 6]. Furthermore, Maxwell [9, p. 37] stressed that: 'The value of a government's investment in IT should be assessed from the point of view of the public it serves.'

Providing citizens with high quality services is one of the main sources of public value [2, 4]. In the area of the quality of e-government most of the studies concentrate only on evaluating the overall customer (citizen) satisfaction and the quality of the e-government websites [13]. Additionally, such studies do not assess the performance and quality of e-government initiatives from a public value perspective. However, this paper develops the concept of public value of e-government services quality from a "citizen's eye" perspective. We examine the added value of e-government to citizens in a public value context and thus explore the relationship and the influence of factors of e-government service quality on public value creation. This directs us to form the research question as follows - How do service quality factors impact on public value creation, and how does e-government service quality contribute towards public value? This paper aims to investigate the contribution of e-government service quality towards public value creation, proposing a conceptual framework based on theoretical perspectives of public value and e-service quality.

The paper is organized as follows. In the first section we define and discuss the concept of public value from different perspectives, focusing on features which are relevant to e-government service quality. In the second section we examine the relevancy between public value and service quality in general and with e-government in particular. This is followed by a discussion of evaluation approaches related to e-government services quality. In the fourth section the identified constructs are brought together to build a conceptual framework that could facilitate research into the public value arising from e-government initiatives. Finally, we will draw some conclusions and highlight some future directions for research.
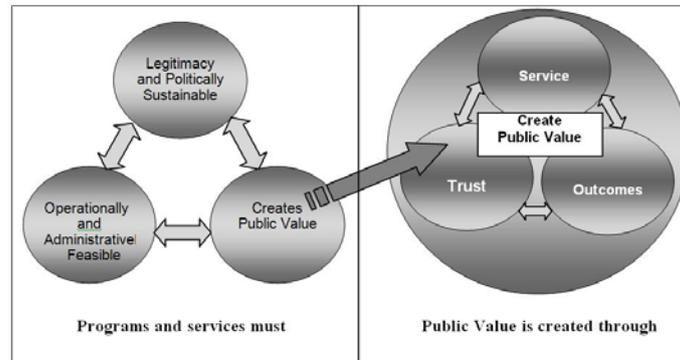

2   Public value

In the 1980s countries such as the UK, US, Australia, New Zealand and many other OECD countries adopted the strategy of New Public Management (NPM) to modernise and reform the public sector [14]. NPM always stressed cost-efficiency over any other criteria arising from the tendency to focus on those things that can be

evaluated easily and turned into objectives, whilst those that are difficult to evaluate are disused. A common problem of NPM is that it evaluates public service efficiency based on the average cost of processing a given output, rather than examining the potential outcomes that are valued by citizens [15]. For example, Raus [15] stresses that 'measuring how cost-effective a government website provides quantity of information rather than the usefulness and relevance of the information to the citizen' [15p. 124]. This example indicates that in this narrow sense, efficiency improvements do not contribute to the enhancement of public value. In view of the fact that NPM strategy focuses more on outputs rather than on outcomes, public managers often cannot see the bigger picture beyond the service they provide leading to weak coherence in the public services sector [16]. As a consequence the idea of public value has been developed to give a clearer view of government performance and to overcome the disadvantages of NPM.

Public value was first articulated by Mark Moore from Harvard's Kennedy School of Government as a new way of thinking about public management that might help public managers. Moore [1] describes public value as the value that a government generates for its people. Moore suggests that public managers should focus on creating public value by satisfying individual and collective desires instead of basing their work on traditional NPM strategy which was seen as best practice in the 1980s and 1990s. Furthermore, Moore [1] questions NPM quantitative measures arguing that they often fail to address the fundamental intangible issues of public service quality.

For Moore [1], public organization strategy should be about three main concepts; (1) Creating public value (2) Being legitimately and politically sustainable and (3) being operationally and administratively feasible. Creating public value is about the value that the public organization wants to create for its citizens (for example the organization aims and objectives). Legitimacy and political sustainability is the foundation of authority and sustainable resources that public organizations depend on to offer services. Operational and administrative feasibility refers to the operational capacity of the public organization including their employees (e.g. financial and technological resources). Moore [1] illustrates public value strategy in 'the strategic triangle' (Fig. 1a), and stresses that creating public value should be central to the activities of public managers. As Moore explains, private companies create value by offering consumer products and services and creating economic value for stakeholders. For public organizations, their clients are the citizens who profit from their services and their goal is to create public value for them, and their stakeholders are the politicians/legislators who offer resources and empower them to manage.

Fig. 1a. The strategic triangle
Sources: Moore (1995)

Fig. 1b. Public value main sources
Sources: Kelly (2002)

The concept of public value is gaining considerable attention from many academics and experts [4, 15]. Moore's public value management model demonstrates a new way of thinking which moves away from the NPM era approaches that were centralized on quantitative measurable outputs [17].

Public value attempts to capture the difference between outputs and outcomes [18] and it exists at both individual and collective levels [19]. Based on the Competing Values Framework (CVF) there is no singular public value but rather multiple public values [20]. Public and governmental interaction continuously defines and redefines public value, thus public value is not fixed and it should be continually explored [21] and the multiple values addressed through either aggregation and/or choice [20]. For example, to identify public values Jorgensen and Bozeman [22] offer an inventory of seven main "value constellations" with seventy-two categories of public values. Constellation seven in the inventory refers to the relationship between public administration and the citizens and contains four groups of values: (1) Legality, Protection of rights of the individual, equal treatment, Rule of law and Justice. (2) Equity, Reasonableness, Fairness, Professionalism. (3) Dialogue, Responsiveness, User democracy, Citizen Involvement and Citizen's self-development. (4) User orientation, Timeliness and Friendliness.

Kelly [2, p. 4] however, focuses on the practical implications of public value strategy by identifying the sources of public value. They build on Moore's [1] work beginning with defining public value as 'the value created by government through services, laws, regulation and other actions'. The authors argue that public organizations can generate value that will be genuinely valued by citizens in many ways, for instance, by improving the quality of public services. However, they identified three main sources of public value: outcome, trust (including legitimacy and confidence), and services (see figure1b). The value that is created through outcome is highly connected to the following: security, poverty reduction, reduced social exclusion, advancing levels of public health and education, equity and reduced levels of homelessness. Trust, legitimacy and confidence in government are at the core of the relationship between citizens and government and are crucial for public value creation. The value

created by government through services is highly dependent on the level of service quality delivered by public administration. The quality of services provided is driven by a series of factors such as: service availability, satisfaction levels with services, importance of services offered, fairness of service provision, and cost [2].

E-government is linked to the improvement of public service quality [2, 4] and this paper explores the relationship between the e-government service quality and public value creation. The next section addresses the interaction between e-government service quality and public value.

3   E-government service quality and public value

Prins[23] defines e-government as 'the delivery of online government services, which provides the opportunity to increase citizen access to government, reduce government bureaucracy, increase citizen participation in democracy and enhance agency responsiveness to citizens needs'. The emphasis of delivering government services online relates to the definition of e-service as given by Hoffman[24]. E-service is a service conducted through the Internet that completes tasks, solves problems, or conducts transactions [24]. Providing citizens with quality e-government services can create public value, which can be augmented by citizens' positive experiences of public services [2, 4]. Given that modern public managers view the public as customers, who pay rates and taxes and should receive value in return, they should aim to satisfy citizens' demand for high quality e-services[25].

Although Kelly[2] recognizes that the provision of goods and services generate public value, there must be a trade off 'between perceived quality and perceived sacrifice' [26]. However, from the perspective of public value, both Moore[1] and Kelly[2] questioned the NPM quantitative measures. They argue that a NPM strategy often fails to address the fundamental intangible issues of public service quality[27] and state that satisfaction is generally the regular and natural subjective measure of service experience and outcome. Kearns [28] adapted the main public value concepts of Kelly[2] for the context of e-government. He argues that the success level of e-government initiatives from a public value perspective should be evaluated based on the following set of key criteria:

- The provision of services that are widely used.
- Increased levels of user satisfaction with services.
- Increased information and choice available to service users.
- Greater focus on the services that the public believes to be most important.
- Increased focus of new and innovative services towards those most in need.
- Reduced costs of service provision.
- Improved delivery of outcomes.
- A contribution to improve levels of trust between citizens and public institutions.

4 Electronic service quality and information systems success

Zeithaml [29,p. 363] define Electronic Service Quality (e-SQ) as 'the extent to which a website facilitates efficient and effective shopping, purchasing and delivery of products and services'. E-SQ has a significant influence on consumer perceived value of the products, services and online satisfaction [30-32]. Many researchers have developed numerous measures of e-SQ in general and in the e-government field in particular. E-government systems often differ because they include broader political and social strategic goals such as trust in government, social inclusion, community regeneration, community well-being and sustainability which distinguish them from commercial information systems [27].

Issues of service quality are incorporated into DeLone and McLean's[33] commonly cited model for Information Systems (IS) success. DeLone and McLean [33] try to understand and explain the use (intention to use), perceived usefulness, and impact on individuals and organizations depending on system and information quality. Because of the dramatic changes in the information systems role in 1990s, DeLone and McLean [3] believed that the impacts (net benefits) of IS have evolved beyond the immediate users with many other impacts including societal impacts. Thus, they enhanced their original model, and propose an updated IS success model by adding a "Service Quality" dimension as a separate variable to their original success model. Furthermore, they grouped all the impact measures into a single impact or benefit category called "net benefit" [3]. The updated DeLone and McLean IS success model illustrates the relationship between system quality, information quality, service quality, use, user satisfaction, and net benefit.

Wang and Liao[34] adapt the model of DeLone and McLean for IS success to an e-government context. They state that 'e-government service process fits nicely into the DeLone and McLean updated IS success model and its six success dimensions'. In accordance with the updated IS success model [3], Wang and Liao[34] propose an e-government systems success model, shown in figure 2, including six success variables: information quality, system quality, service quality, use, user satisfaction, and perceived net benefit.
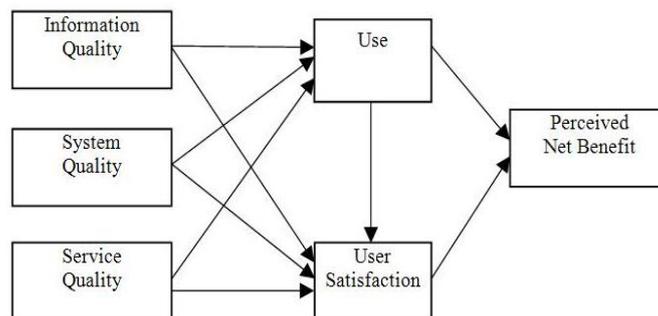

Figure 2: Wang and Liao e-government systems success model
source: Wang and Liao[34]

Wang and Liao's[34] model does not take a public value perspective of e-government into considerations. Public value approaches have become a new tool to evaluate the level of public services success as seen in the UK, Australia and some other countries. For instance, the BBC and Scottish Government have used public value to evaluate police forces, local authorities, public sports and arts [20]. Measuring quality is a highly complex exercise and subject to many interpretations. DeLone & McLean's three quality constructs of service quality, system quality, and information quality have some relevance to e-government [34] and provide a base to begin the exploration into e-government service quality. However, there is a need for a public value perspective as provided by Kearns[28]. Kearns' criteria for evaluating the success of e-Government initiatives from a public value perspective are therefore discussed together with Wang and Liao[34] and Kelly [2] in the development of the framework.

5 Conceptual framework

The framework developed from the literature, as depicted in figure 3, illustrates the theoretical relationship between e-government service quality and e-government public value. The framework draws together the elements of public value as determined by Moore[1] and Kelly [2] and quality dimensions from the updated IS success model by DeLone and McLean [3]. Kelly [2] and O'Flynn [4] found a direct relationship between service quality and public value creation. Service quality in an e-government context is shown to be inextricably linked to information quality and system quality [13, 34]. In constructing the framework we are using the original DeLone and McLean's [3] model to re-examine Wang and Liao's [34] adaptation to fit with the broader context of public value within e-government.

Our study focuses on the direct impact that the three quality constructs (service quality, information quality, and system quality) have on public value as depicted by the DeLone and McLean's[3] concept of net benefit. In considering Kearns'[28] e-government success key criteria we find a fit between certain of the key criteria that refers to service quality as developed by DeLone and McLean [3]. These include the availability of e-government services, citizens' satisfaction on e-services, availability of choice and information, importance of the e-government services, fairness of service delivery, and cost reduction. Although these criteria can be linked to service quality the illustrated framework is deemed to include them in DeLone and McLean's factors of the three quality dimensions. Kearns' remaining key criteria of improved delivery of outcomes and a contribution to improve levels of trust between citizens and public institutions directly relate to Kelly's [2] main sources of public value, namely outcomes and trust. However these are not the focus of this study and are not further included.
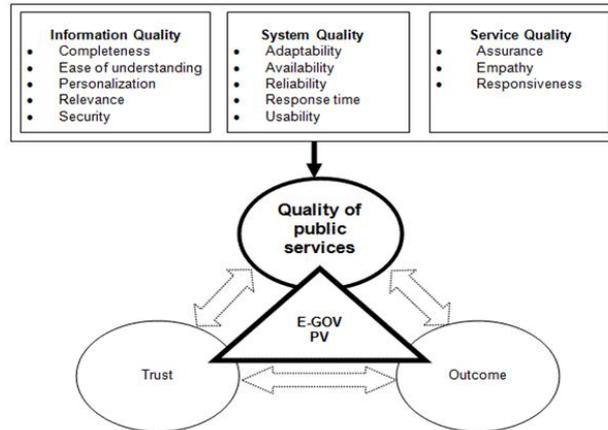
Figure 3: The framework for evaluating the public value of e-government initiatives

6   Conclusions and future research

The framework we propose in figure 3 results from a broad literature review into public value, e-service quality, and e-government. The literature suggests that providing citizens with services is one of the main sources of public value, and this value is highly dependent on the level of quality of service delivered by a public organization. The literature supports our contention that in the e-government context the quality constructs (service quality, system quality and information quality) are interlinked and provide a base to begin the exploration into e-government service quality's contribution towards public value.

Our framework represents a starting point for understanding the public value phenomena from the point of view of the citizens, and for assessing how they perceive and evaluate the e-government services. The framework is developed based on theoretical perspectives of public value and e-service quality including; the elements of public value as determined by Moore [1] and Kelly [2] and quality dimensions from the updated IS success model by DeLone and McLean [3]. We aim to empirically examine the framework to investigate its validity for evaluating the public value perceived by citizens through service quality based on the success level of e-government initiatives key criteria of Kearns [28]. A qualitative research approach using semi-structured interviews as the main method will be used for assessing the public value perceived by citizens through service quality. The framework will be used as a basis for the data collection and analysis.

References

[1] M. H. Moore. Creating public value: strategic management in government. reprint, illustrated ed.: Harvard University Press, 1995, pp. 402, 1995.

[2] G. Kelly, G. Mulgan and S. Muers. Creating Public Value: An analytical framework for public service reform, 2002.

[3] W. H. Delone and E. R. Mclean. The DeLone and McLean model of information systems success: A ten-year update. Journal of Management Information Systems; JMIS, vol. 19, no. 4, pp. 9, 2003.

[4] J. O'Flynn. From New Public Management to Public Value: Paradigmatic Change and Managerial Implications. Australian Journal of Public Administration, vol. 66, no. 3, pp. 353-366, 2007.

[5] H. C. Relyea. E-gov: Introduction and overview. Government Information Quarterly, vol. 19, no. 1, pp. 9, 2002.

[6] P. Shackleton, J. Fisher and L. Dawson. E-government services in the local government context: an Australian case study. Business Process Management Journal, vol. 12, no. 1, pp. 88-100, 2006.

[7] J. Teicher. E-government: a new route to public sector quality. Managing Service Quality, vol. 12, no. 6, pp. 384, 2002.

[8] V. Pina, L. Torres and S. Royo. E-government evolution in EU local governments: a comparative perspective. Online Information Review, vol. 33, no. 6, pp. 1137-1168, 2009.

[9] J. A. Maxwell. Qualitative research design: an interactive approach. 2, illustrated ed.: SAGE, pp. 174, 2005.

[10] E. Lai. Public funds to make online services affordable. ZDNet Asia, 2008.

[11] Z. Huang. A comprehensive analysis of US counties e-Government portals: development status and functionalities. European Journal of Information Systems, vol. 16, no. 2, pp. 149, 2007.

[12] M. Wimmer, C. Codagnone and M. Janssen. Future e-Government Research: 13 Research Themes Identified in the eGovRTD2020 Project. Proceedings of the Proceedings of the 41st Annual Hawaii International Conference on System Sciences, pp. 223, 2008.

[13] C. Halaris, B. Magoutas, X. Papadomichelaki and G. Mentzas. Classification and synthesis of quality approaches in e-government services. Internet Research, vol. 17, no. 4, pp. 378, 2007.

[14] C. Hood. A PUBLIC MANAGEMENT FOR ALL SEASONS? Public Administration, vol. 69, no. 1, pp. 3-19, 1991.

[15] M. Raus, J. Liu and A. Kipp. Evaluating IT innovations in a business-to-government context: A framework and its applications. Government Information Quarterly, vol. 27, no. 2, pp. 122-133, 2010.

[16] D. Coats. Reviving the Public: A New Governance and Management Model for Public Services, pp. 70, 2006.

[17] A. Hefetz and M. Warner. Privatization and Its Reverse: Explaining the Dynamics of the Government Contracting Process. Journal of Public Administration Research & Theory (10531858), vol. 14, no. 2, pp. 171-190, 2004.

[18] D. Walker. A Stormy Ride Ahead for Public Value. Journal for Public Management, no. Autumn 2009, 2009.

[19] B. Bozeman. Public values and public interest: counterbalancing economic individualism. Washington DC: Georgetown University Press, 2007.

[20] C. Talbot. Measuring Public Value - A competing values approach, 2008.

[21] B. Jantz. Public Value – Who is Responsible for Delivery? Journal for Public Management, no. Autumn 2009, 2009.

[22] T. B. Jorgensen and B. Bozeman. Public values: An inventory. Administration & Society, vol. 39, no. 3, pp. 354, 2007.

[23] C. Prins. Designing e-government: on the crossroads of technological innovation and institutional change. The Hague Boston MA: Kluwer Law International, 2001.

[24] K. D. Hoffman. MARKETING + MIS = E-SERVICE. Communications of the ACM, vol. 46, no. 6, pp. 53-55, 2003.

[25] B. Magoutas, C. Chalaris and G. Mentza. A semantically adaptive interface for measuring portal quality in e-government. Intelligent user interfaces: Adaptation and personalization systems and technologies., C. Mourlas and P. Germanakos Eds., Hershey, PA US: Information Science Reference/IGI Global, pp. 147-166, 2009.

[26] D. Anik, C. Boonstra and J. Mak. Handbook of sustainable building: James & James, 1996.

[27] M. Grimsley and A. Meehan. e-Government information systems: Evaluation-led design for public value and client trust. European Journal of Information Systems: An Official Journal of the Operational Research Society, vol. 16, no. 2, pp. 134-148, 2007.

[28] I. Kearns. Public Value and E-Government, 2004.

[29] V. A. Zeithaml, A. Parasurarnan and A. Malhotra. Service quality delivery through web sites: a critical review of extant knowledge. Journal of the Academy of Marketing Science, vol. 30, no. 4, pp. 362, 2002.

[30] E. Cristobal, C. Flavián and M. Guinalıu. Perceived e-service quality (PeSQ): measurement validation and effects on consumer satisfaction and website loyalty. Managing Service Quality, vol. 17, no. 3, pp. 317, 2007.

[31] M. Fassnacht and I. Köse. Consequences of web-based service quality: uncovering a multi-faceted chain of effects. Journal of Interactive Marketing, vol. 21, no. 3, pp. 35, 2007.

[32] G. G. Lee and H. Lin. Customer perceptions of e-service quality in online shopping. International Journal of Retail & Distribution Management, vol. 33, no. 2, pp. 161, 2005.

[33] W. H. DeLone and E. R. McLean. Information Systems Success: The Quest for the Dependent Variable. Information Systems Research, vol. 3, no. 1, pp. 60-95, 1992.

[34] Y.-S. Wang and Y.-W. Liao. Assessing eGovernment systems success: A validation of the DeLone and McLean model of information systems success. Government Information Quarterly, vol. 25, no. 4, pp. 717-733, 2008.