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IT QUALITY AND EGOVERNMENT NET BENEFITS: A CITIZEN PERSPECTIVE

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Abstract

The ultimate question about the success of eGovernment depends on how citizens perceive its value. Understanding success in Information Systems (IS) is however a complex challenge made more difficult when set in the public sector environment. While private sector studies may focus on profitability efficiency, quality and reliability, public sector evaluation must combine these concerns with accountability, citizen trust and the creation of public value. This research adopts the Public Value approach to provide the first empirical assessment of eGovernment success from a citizen perspective. It is also the first study to identify the important IT Quality dimensions that have a positive impact on success. This paper identifies the specific constructs within Information, System and Service Quality that predict citizen value perceptions. This level of granularity provides an important contribution in advancing a deeper understanding of the dynamics of eGovernment success. The novel environment of Web 2.0 in eGovernment is also explored, resulting in new findings that define what citizens’ value in this mode of interaction. This research therefore contributes to the body of knowledge by increasing our understanding of what citizens’ value in eGovernment services and what aspects of IT Quality influence eGovernment success.

Keywords: eGovernment, IS Success, Web 2.0.
1 Introduction

Although much research has been conducted on eGovernment supply-side metrics (Reddick, 2005, 2006; Helbig et al., 2009), citizen needs or perceived values have not been adequately accounted for (Streib & Navarro, 2006). As self-motivation plays a critical role in Internet-based usage (Mühlberger, 2005), there is an increasing imperative to understand what citizens’ value in their interaction with eGovernment services and what features of the system influence that perception. Due to the increased deployment of Web 2.0 technologies, there is a further challenge to explore what benefits and impacts are pertinent from this new form of citizen interaction.

This study builds upon the prior work of Scott et al. (2009) to derive a validated instrument for measuring eGovernment Net Benefits. The D&M IS Success Model (DeLone & McLean, 2003) has been successfully used to study IS in an eGovernment context (Teo et al., 2008; Wang & Liao, 2008) and this paper presents the development of measures in order to explore success and the determinants of success. Specifically, this paper aims to develop a comprehensive Net Benefits measure, based on the paradigm of Public Value (Moore, 1995) and to evaluate what impact IT Quality (information quality, systems quality and service quality) has on citizen perceptions of eGovernment success.

In order to explore the impact of IT Quality on citizens' perceptions of success, a standardised instrument representing Net Benefits was developed. This research study meticulously followed Churchill’s (1979) paradigm for instrument development, generally regarded as one of the most influential methodological guides for instrument development in the MIS field (Straub, 1989; Boudreau et al., 2001; Straub et al., 2004). This research combines the heuristics and techniques recommended by Straub et al (2004) with the construct development process developed by Churchill (1979) to produce a rigorous eGovernment Net Benefits instrument.

The findings in this paper present an exploratory validation of this instrument. eGovernment success is suggested to comprise of nine dimensions: Cost, Time, Personalisation, Communication, Ease of Information Retrieval, Convenience, Trust, Well-Informedness and Participate in Decision-Making. The instrument has been empirically tested with data gathered from a pilot survey of ninety experienced users of eGovernment services. The paper then presents and discusses the significant causal relationships between constructs representing IT Quality and Intention to reuse, User Satisfaction and Net Benefits.

2 eGovernment

Electronic government consists of using technology, particularly the Internet, as a means to deliver services to citizens, businesses and other entities (Gronlund & Horan, 2004; Hughes et al., 2006). More recently the rhetoric of many governments has evolved to loftier ambitions of improving relations between citizenry and the administration through enhanced participation in democratic processes (US Government, 2002; Commission of the European Communities, 2006). While engaging citizens online in a meaningful way remains difficult (Kolsaker & Lee-Kelley, 2008), the goal of wider political participation is becoming a pressing challenge as Governments seek the creation of public value (Grimsley & Meehan, 2007; Helbig et al., 2009).

In the face of heightened user expectations, fuelled by the rapid development of the Internet, Governments are encouraged to invest in new web capabilities and embrace user participation (Baumgarten & Chui, 2009). Technologies such as Web 2.0 provide innovative ways for Government agencies to advance to the final stages of eGovernment by using the unique characteristics of social computing to enable political participation (Moon, 2002). eParticipation is thus becoming a critical component for Governments (Sæbø et al., 2008; Peristeras et al., 2009). eParticipation provides opportunities for citizens to shape current politics and policies and from the Government perspective, offers a useful way of engaging with the
concerns and views of their citizens (Goldfinch et al., 2009). As evidenced by various benchmarking reports, many Governments have begun the process of embracing a new vision for customer service, designed around serving citizens in a more personalised, citizen-centric manner (Accenture, 2006; Capgemini, 2007). Most recently, the Open Government Directive launched in December 2009 by President Barack Obama, is an ambitious strategy aimed at transforming the agencies, departments and offices of the Federal Government to achieve the ideal of transparent, participatory and collaborative government (Whitehouse, 2010).

The ultimate question about the success of eGovernment depends on how citizens perceive its value. However, efforts to develop measures of eGovernment success have been hampered by the rapid development and use of technology in governments and the lack of conceptual bases necessary to develop success measures. The development therefore, of psychometrically sound measures is an urgent task to enable investments in new technologies to justify their value and to provide a firm basis for theoretical advancement in the emergent area of eGovernment success research.

2.1 Public Value

However, measuring success in the public sector is a difficult task. Hefetz and Warner (2004) outline the challenge for public managers by arguing that while private sector firms focus on efficiency, quality and reliability, public managers must combine these concerns with accountability, the creation of trust and public preferences. The nature and breadth of the purposes and proposed outcomes of public value serves to distinguish the task of eGovernment evaluation from commercial endeavours (Grimsley & Meehan, 2007).

Scott et al. (2009) propose the use of Public Value as a new method for meeting the challenges of efficiency, accountability and equity in understanding success. First articulated by Moore (1994, 1995), the Public Value approach is gaining considerable interest as an alternative to previous public management approaches, which have been criticised for emphasising narrow concepts of cost-efficiencies (O'Flynn, 2007). Public value can be understood as the value or importance citizens attach to the outcome of government policies and their experience of public services (Moore, 1994). Public Value provides a new way of thinking about the evaluation of government activity, as a new conceptualisation of the public interest is defined in an effort to best balance efficiency and effectiveness (Stoker, 2006; O'Flynn, 2007).

3 IS Success and eGovernment

The goals of eGovernment are to improve the quality of the service, increase the efficiency of administrative processes and enable more effective participation and engagement with service users (Gronlund & Horan, 2004; Helbig et al., 2009). However, although IS Success models have been applied in numerous contexts predominantly the private sector, little research has been conducted in identifying measures that determine eGovernment success. Wang & Liao (2008) have empirically validated the D&M IS success model in the context of G2C eGovernment systems, Teo et al (2008) studied the relationship between trust and eGovernment and Connolly et al (2010) recently evaluated the impact of Service Quality using an online tax filing system. These studies provide evidence of the explanatory power of the D&M IS Success Model in an eGovernment context. However, there is an absence of research that examines Net Benefits from a citizen perspective.

3.1 eGovernment Net Benefits

The development of comprehensive measures for Net Benefits is sparse in studies on IS success and in the eGovernment field. The majority of studies measuring individual impact focus almost exclusively on the impact of IS in the work environment (Petter et al., 2008). Net Benefits are typically measured in these
studies using perceived usefulness or job impact as the most commonly used measure (Adams et al., 1992; Segars & Grover, 1993). In the area of eGovernment however, the intention by designers and policy makers is broader, encompassing the goals of greater participation and engagement as well as providing more efficient processes. There is a need therefore, to develop success measures that reflect this environment and accurately capture the variety of potential benefits citizens may perceive in using eGovernment. It is also necessary to underpin the creation of such a measure with a well-developed theoretical framework such as Public Value, tailored for the complex environment of the public sector.

Few studies have sought to empirically examine or identify benefits from the perspective of the citizen (Andersen et al., 2010). Gilbert et al (2004) propose six factors relating to efficiency benefits of eGovernment services, identifying items representing avoid interaction, cost and time as most significant to users. In a similar study, Kolsaker & Lee-Kelley (2008) undertake an examination of citizens’ attitudes towards eGovernment and find that in relation to service usage, the ability of the portal to satisfy personal needs ranked higher than other benefits. These exploratory studies, although useful, are not comprehensive and do not exclusively canvass the views of experienced users of eGovernment. Grimsley & Meehan (2007) also identify benefits particular to the public value paradigm in a study on evaluation led eGovernment design focusing on control, well-informedness and influence based on their analysis of the work of Moore (1995).

Recent studies that review progress in the eGovernment field consistently call for more research to study the demand for eGovernment services from a citizen-based perspective (Reddick, 2005; Helbig et al., 2009; Andersen et al., 2010). These studies point to an emphasis on supply-side studies that benchmark the existence of services without considering the underlying dynamics of actual usage. This study aims to extend previous efforts to understand eGovernment success by developing a comprehensive set of benefits from the citizens’ perspective.

### 4 Research Framework

The objectives of this research were to explore eGovernment success and the determinants of success from a citizen perspective. This study builds upon the prior work of Scott et al. (2009) to derive a validated instrument for measuring eGovernment Net Benefits and evaluates the impact of IT Quality (information quality, systems quality and service quality) on eGovernment success. Our study is therefore motivated by the following research questions: What are the conceptual dimensions of eGovernment Net Benefits? What aspects of IT Quality affect citizens’ perceptions of benefits from eGovernment, their satisfaction with eGovernment and their intention to reuse eGovernment services? This research used data from a survey involving ninety experienced users of eGovernment web sites to provide a preliminary validation of the Net Benefits measure and explore the impact of IT Quality on Success.

Figure 1 contains the schema for our proposed research model showing the hypothesised relationships and individual items within the constructs. The hypothesized relationship between Use, User Satisfaction, Net Benefits and the IT Quality constructs is based on the theoretical and empirical work reported by DeLone and McLean (2003). The expectation of causal interrelations between these constructs is further based on the empirical review conducted by Petter et al (2008) and more specifically the work of Scott et al. (2009). Accordingly, relationships are hypothesised, for example System Quality will positively influence citizens’ perceptions of Net Benefits, in line with the causal arrows indicated.

Given the exploratory nature of this research, a wide range of constructs representing IT Quality measures was used. Items were taken from prior research and adapted for the eGovernment context (Gilbert et al., 2004; Barnes & Vidgen, 2006; Teo et al., 2008; Wang & Liao, 2008).
Figure 1. Proposed eGovernment Success Model

In keeping with rigorous scale development procedures recommended by authorities in the field (Straub, 1989; DeVellis, 1991; Netemeyer et al., 2003; Lewis et al., 2005), this research adopted the well-known instrument development process developed by Churchill (1979) in order to develop a reliable measure of Net Benefits. The following sections provide a detailed account of the steps, procedures and protocols followed in this endeavour.

5 Step 1 - eGovernment Net Benefits Model Development

The first step of instrument development aims to establish the domain of the idea (Lewis et al., 2005). This study utilises the conceptual framework of the D&M IS Success Model along with the concept of Public Value (Moore, 1995) to conceptualise the broad dimensions of success as they relate to the public sector. The clear focus of this study is an evaluation of the citizen’s perspective of eGovernment success and it is thus the user that defines the context or frame of reference as called for by DeLone & McLean (2003). The concept of public value, as defined by Moore (1995) and Grimsley & Meehan (2007) in the eGovernment context, requires a balancing of efficiency and effectiveness measures and this paradigm anchors our perspective on the definition of eGovernment Net Benefits.

Following the deductive approach recommended by Webster et al (2002), content analysis was used to capture the dimensions of eGovernment Net Benefits from an extensive review of the literature (Weber, 1985). This process included the careful review of literature from several disciplines, Information Systems (IS) (eGovernment, eCommerce, General IS), Public Administration and included both journal and academic conference sources. Keyword searches were performed targeting the title, abstract and keyword list of published material. Multiple databases were included: Web of Science, ABI-Inform for example. The chosen keywords initially reflected the key elements of the construct: “eGovernment success”, “eGovernment benefits”, “eGovernment Net Benefits”, “eGovernment efficiency”, “eGovernment effectiveness”, “eGovernment participation” for example. As recommended by Weber and Webster and Watson (1985; 2002) this process followed an iterative pattern targeting different pieces of information, ultimately identifying and determining specific parts of the construct domain. The search strategy also included several other sources of material: practitioner-oriented magazines, trade magazines, private-sector reports, reports conducted by public and private sector research groups and an extensive review of Government strategy documents and policy material. The broad groupings initially defined as part of the domain definition, were iteratively refined until relatively distinct groupings emerged, which in turn embodied the specific dimensions of the Net Benefits construct (Lewis et al., 2005).

Following this process eleven dimensions were identified: Cost, Time, Communication, Avoid Personal Interaction, Control, Convenience, Personalisation, Ease of Information Retrieval, Trust, Well-
Informedness and Participate in Decision-Making falling under the categories of Efficiency, Effectiveness and Improved Democracy.

5.1 Step 2 - Item Generation and Validation

The second step is to generate a master list of items from the set of dimensions identified as part of the Net Benefits construct (Churchill, 1979). Multiple items were generated for each dimension to ensure reliability and internal consistency (Nunnally, 1978). First, items were categorised according to the dimension they were originally intended to address. This resulted in an initial pool for each of the dimensions. Then items considered too narrow in focus were culled. Finally, new items were created for dimensions with fewer than 3 items or where the total meaning of the dimension had not been covered. This process yielded a total of 48 items for eleven dimensions.

The content validation procedure began with the selection of a group of experts knowledgeable about the construct (Straub, 1989). In total, eleven content experts were selected: three from academia and eight represented professional positions within the public sector. Experts were asked to review the consistency of items with the conceptual definition and assess the adequacy and representativeness of the dimensions (Lynn, 1986). The expert qualitative review indicated that the list of dimensions was comprehensive and no additional dimensions were required. A second round of content validation was conducted using a sample of subjects drawn from the target population. As users have strong familiarity with the constructs through direct personal experience, these individuals were an important component of the content validation process (DeVellis, 1991; Grant & Davis, 1997). In total, fifteen users of eGovernment took part in this round of content validation. The purpose of this stage was also to pilot test the instrument; accordingly participants were asked to complete the questionnaire, then comment on difficulties in completing the instrument, offer suggestions for improvement as well as advising on item statements that should be removed or those that were felt to be missing (Dillman, 2007).

6 Step 3 - Field Study Data Collection

The field study was conducted in the USA. Progress in eGovernment has been significant with the USA consistently ranked in first place in the United Nation’s Global E-government Readiness Report, from 2003 to 2005 (UN, 2005). The same report ranks the USA third for e-participation initiatives and is highlighted for developing best practice in this area (UN, 2005). There is also evidence to suggest that users willingly engage with eGovernment and show a desire to use the Internet to search for information, transact with government and participate in debates on government policy (Reddick, 2005). Given the combination of sophisticated e-service development and growing citizen usage, the USA was best positioned to provide a rich set of responses with which to test the research model.

Drawing on the definition of the domain in Step 1, relevant users should be citizens who have had direct experience of benefits accruing from their usage of eGovernment web-based systems. This study is the first attempt to actively target a range of experienced users of eGovernment web sites. Previous studies that evaluate citizens’ perspectives on eGovernment either do not attempt to gather data from experienced users (Gilbert et al., 2004; Carter & Belanger, 2005; Belanger & Carter, 2008; Kolsaker & Lee-Kelley, 2008) or use a limited sample set and do not control for either experience of usage or recency of use in data collection (Barnes & Vidgen, 2006; Teo et al., 2008). In order to develop an accurate measure of Net Benefits this research places a premium on the level of experience across a range of activities and the requirement of recent usage, to ensure accurate impressions were recorded from the respondent.

The sampling frame for this research used the University environment and included undergraduate, graduate, postgraduate, faculty and staff of two Universities. This technique, used also by Palmer (2002) and Moore and Benbasat (1991), suggests that findings may be more generalizable across subjects, settings and time. The intention was to develop a sample similar in characteristic to the reported frequent
user of eGovernment services. From a review of national data (Princeton, 2001), Reddick (2005) defines the most likely eGovernment user to be educated to third level, a worker in the public sector and a highly experienced user of the Internet. In a more recent study, more than 74% of experienced Internet users went online during the 2008 Presidential election in the USA to take part or to get news and information about the campaign (Smith, 2008). Familiarity with web sites and frequent interaction with government web sites result in university populations exhibiting sophisticated personal experience in eGovernment usage. Furthermore, students have been a frequent, valid source of data collection for eCommerce research possessing key characteristics of being frequent, experienced users of the Internet (McKinney et al., 2002; Palmer, 2002).

In order to gather responses pertinent to the Net Benefit items, the research instrument developed a predefined list of US Federal Government Web sites. From a review of previous studies, the provision of a list of web sites for respondents to choose is a common approach (Carter & Belanger, 2005; Barnes & Vidgen, 2006; Belanger & Carter, 2008; Wang & Liao, 2008; Morgeson & Mithas, 2009). This research selected certain web sites (USA.gov, Whitehouse.gov, Regulations.gov, ED.gov, IRS.gov, SSA.gov) that were benchmarked according to the relevant questionnaire items to ensure response relevance; Moon’s (2002) stage model was used to assist in the identification of levels of functionality. Web sites were also evaluated for highest likely usage rates and that covered a broad range of Government functions. This process was conducted in June-August 2009 and repeated immediately prior to data collection.

A sample of users was gathered next (Step 3 of Churchill’s process). Email invitations were sent to students, faculty and staff from two participating Universities in the USA. In total, the pilot survey generated ninety (90) usable responses for which the respondent indicated the last access date to the predefined web sites was within 6 months. The survey instrument also contained a wide range of IT Quality items as described earlier in this paper in order to explore in detail the impact of various features of quality on net benefits. All items were measured using a 7-point Lickert scale. The sample size was considered adequate, following the parameter estimate ratio of a minimum 5 responses per construct; the sample size allows for a ratio of 8.2 which is closer to the ideal ratio of 10 (Netemeyer et al., 2003; Hair et al., 2006).

6.1 Step 4 - Scale Measurement Properties

The data from the pilot sample were studied to purify the measures of the Net Benefits scale (Step 4 of Churchill’s model). The sample met the thresholds for sampling adequacy (KMO=0.65, Bartlett's test of sphericity $P < 0.001$). Next exploratory factor analysis was conducted to reveal if every component was measuring one and only one construct. As suggested in the literature, this process was conducted in an iterative process, testing the efficacy of different techniques in interpreting the data. In particular, different factor solutions were tested and compared using the rotated varimax orthogonal method in an endeavour to devise the best fitting structure accounting for the greatest percentage explained of the variance (Tabachnick & Fidell, 2001; Hair et al., 2006). This research adopted widely accepted rules of thumb in the factor extraction process: factors with an eigenvalue greater than 1.0, factors to exceed an acceptable percentage of variance explained; and factors containing multiple items that load significantly on one dimension (Hair et al., 2006). As a result of this process, nine factors were identified from the original eleven dimensions of eGovernment Net Benefits consisting of 30 items overall: Cost, Time, Personalisation, Communication, Convenience, Ease of Information Retrieval, Trust, Well-Informedness and Participate in Decision-Making. All remaining items loaded significantly on their respective factor, indicating unidimensionality and the absence of cross-loadings supported preliminary discriminant validity of the scale. Furthermore, the reliability coefficients were acceptable at above 0.74, indicating preliminary reliability (Nunnally, 1978).

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1 A summary of items and factor loadings for the Net Benefits scale is not presented due to space limitations, but is available for research purposes upon request.
This process resulted in an initial nine-factor model for the eGovernment Net Benefits construct and cumulatively accounts for 87% of variance. These results provide initial evidence of discriminant and convergent validity (Straub, 1989; Straub et al., 2004) and suggest that the nine-factor model is a reliable and valid starting point to measure eGovernment Net Benefits (step 6/7 in Churchill's model).

7 IT Quality Impact on eGovernment Success

Having developed an exploratory, multi-dimensional measure of Net Benefits, the impact of IT Quality components (system quality, information quality and service quality) on citizen Intention to Reuse, Satisfaction and Net Benefits was fully explored using data from the pilot sample. This study posited positive relationships in accordance with prior research using the DeLone and McLean IS Success Model (see Figure 1). Accordingly, regression models were constructed to test the proposed relations. Composite scores for each Net Benefits dimensions were regressed against IT Quality measures. This process was repeated to test the impact of IT Quality on User Satisfaction and Intention to Reuse. The findings summarized below demonstrate that different dimensions of IT Quality impact different eGovernment success measures. These findings are useful in identifying the particular context in which favourable citizen benefits are achieved.

Constructs representing Information Quality (IQ) were nearly ubiquitous in the impact on eGovernment success measures. The important IQ dimensions are: Accuracy, Ease of Understanding, Reliability, Completeness and Timeliness. Cost and Personalisation were the only Net Benefit measures not to report an effect from IQ. Time for example, is strongly associated with a combination of Accuracy, Timeliness and Ease of Understanding, displaying betas of 0.604, 0.292 and 0.670 ($R^2 = 0.970, P < 0.000$). Similarly, the extent to which a user values being well informed about governmental issues is strongly predicted by the Accuracy and Relevance of the information (betas of 0.589 and 0.236 respectively; $R^2 = 0.310, P < 0.000$). Ease of Information Retrieval was significantly predicted by Ease of Understanding and Reliability, displaying Betas of 0.301 and 0.681 respectively ($R^2 = 0.597, P < 0.000$). In terms of User Satisfaction, the Completeness and Accuracy of information form a powerful dynamic with Service Quality dimensions of Security and Empathy resulting in an association with betas of 0.431, 0.172, 0.331 and 0.519 respectively ($R^2 = 0.532, P < 0.000$). The influence of Relevance and Completeness of information (betas of 0.614 and 0.438) together with Service Quality Responsiveness (0.393) also form a significant effect on Intentions to Reuse government web sites ($R^2 = 0.640, P < 0.000$). The additional influence of Responsiveness is an interesting contribution from this study and demonstrates the important effect that combinations of IT Quality constructs have on success.

Constructs representing System Quality were the least influential on eGovernment success. System Response quality was the only construct to significantly impact a success construct, Personalisation displaying a beta value of 0.249, along with Service Quality constructs Empathy and Security with betas of 0.888 and 0.491 respectively ($R^2 = 0.589, P < 0.000$). Given that Personalisation is associated with a deeper use of the online facility, the sensitivity of the user to this attribute of the system is reasonable. Service Quality constructs display several significant associations with success measures. Particularly relevant are Empathy, Security and Responsiveness affecting Personalisation, Communication and Trust perceptions among citizens. Empathy results in a Beta value of 0.888, in combination with Security (0.491) and Response (0.249) to form a significant predictor of Personalisation ($R^2 = 0.589, P < 0.000$). Also, in combination with the quality of Responsiveness of government officials and information Reliability, a significant association with Betas of 0.384, 0.188 and 0.425 respectively are noted in relation to Communication ($R^2 = 0.589, P < 0.000$). Empathy is further relevant along with Accuracy and Relevance of information on value perceptions of Participation; beta values: 0.602, 0.861, 0.273 respectively ($R^2 = 0.692, P < 0.000$). Security also results in strong associations with citizen value

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2 The *a priori* survey instrument is available for research purposes upon request.
perceptions. In particular, Security predicts Cost, displaying a beta of 0.749 ($R^2 = 0.894$, $P < 0.000$). Responsiveness was also identified in combination with other IT Quality constructs as a significant predictor of Convenience, Communication and Intention to Reuse. The explanatory power of this regression variable was strongest in predicting perceptions of Convenience, exhibiting beta values of 0.587, along with IQ features of Presentation 0.456 and Reliability 0.191 ($R^2 = 0.756$, $P < 0.000$). Finally, Reliability combines with Responsiveness and Empathy in explaining a significant association with Communication, with beta values of 0.425, 0.384 and 0.188 respectively ($R^2 = 0.628$, $P < 0.000$).

8 Discussion and Conclusion

This research makes a significant contribution to the field by addressing citizen issues in the context of eGovernment. Specifically, this research provides two key areas of contribution to eGovernment research. Firstly, this paper has developed a validated instrument for measuring eGovernment success, including Public Value benefits from the perspective of the citizen. Although not yet conclusive, the results of factor analysis offer compelling evidence of the following dimensions of Net Benefits: Cost, Time, Personalisation, Communication, Convenience, Ease of Information Retrieval, Trust, Well-Informedness and Participate in Decision-Making. Research is underway to complete Stages 6 and 7 of the Churchill model, using confirmatory factor analysis. This research illustrates the importance of intangible benefits in value assessment, thereby demonstrating the efficacy of the Public Value approach.

Secondly, this paper contributes to research by providing an analysis of the impact of IT Quality dimensions on eGovernment Success. The associations developed from IT Quality constructs provide a rich picture of relationships among success dimensions. Furthermore, this study provides a more detailed representation of IT Quality components and using various Net Benefit dimensions, analyzes possible relationships from a more precise value perspective than previous research. This level of granularity provides an important contribution in advancing a deeper understanding of the dynamics of eGovernment Net Benefits from the perspective of the citizen. The influence of various dimensions are illuminating for eGovernment and IS researchers, pointing to areas for future research. The results are also useful indicators for practice, in the design and evaluation of eGovernment web sites.

Clearly the impact of IQ is significant on common benefits such as time saving and convenience, but also critical on levels of openness, the development of trust in government and efforts to engage the citizen. This is an important finding as it empirically corroborates the proposition of these relationships in earlier eGovernment literature (Thomas & Streib, 2003; Welch et al., 2005). User Satisfaction was significantly impacted by the Completeness and Accuracy of information along with the level of Security and Empathy perceived by the citizen. This finding contradicts previous research that reported an insignificant relationship between IQ and User Satisfaction (Teo et al., 2008). The influence of Relevance and Completeness of information together with Responsiveness of the service form a significant effect on Intentions to Reuse government web sites. This finding again differs from existing research as only IQ had previously been identified in this context (Teo et al., 2008).

The importance of Service Quality dimensions, especially Empathy, is particularly interesting for practice and the development of eGovernment web sites. Given the popularity of introducing personalisation features in eGovernment initiatives, this finding gives credence to this method of delivering services. Furthermore, it is reasonable to suggest that the importance attributed to personalisation could in part be influenced by the experience users gain from their usage of commercial web sites c.f. (Kolsaker & Lee-Kelley, 2008). This particular finding is consistent with similar studies conducted in the eCommerce environment e.g. (Xiaoni & Prybutok, 2005). Empathy is further present along with Accuracy and Relevance in their impact on Participation. Users of eGovernment 2.0 services appear to value the personalisation and social communities represented by the Empathy construct. Although exploratory, this provides an initial insight into the value perceptions of citizens on Web 2.0 services. Also important in this dynamic is the influence of the accuracy and relevance of the information provided by the web site.
Maintaining high information quality is an important condition on the success of this impact and has consequences for how Government agencies maintain the quality of Web 2.0 initiatives. As a result, these innovations may be more resource intensive than first envisaged.

The absence of Ease of Use as an influential construct reveals subtle differences between users of eCommerce and eGovernment. This is an interesting finding as it is frequently a significant variable in eCommerce research. Perceived ease of use has been the subject of a substantial body of research, as the consequences of the usability of a system have clear implications on the image of the organisation and impact the intentions of the individual towards the website (Gefen & Straub, 2000; Liu & Arnett, 2000; van der Heijden & Verhagen, 2004). However, as users of eGovernment services generally have no choice in the service provider, the influence of perceived ease of use is perhaps less relevant to the satisfaction of citizen users. This finding corroborates the results of a similar study that reported low significance for this factor (Gilbert et al., 2004).

There are strong implications for practice as the survey instrument can be used to benchmark the success of eGovernment web sites provided by various agencies/departments. As such this instrument offers a practical means for public sector organizations to evaluate the success of initiatives that may have complex expected outcomes or benefits for citizens. Strategically, public organizations can focus on creating public value through targeted benefits as perceived by citizens. Concurrently, the agency concerned can target particular features of IT Quality in the knowledge that these have an impact on the overall success of the initiative. For example, the completeness and reliability of the information provided has been shown to positively impact the level of trust citizens have when interacting with Government online. This is useful for web site designers and potentially influential in a policy-making context.

Finally, Governments have a responsibility to provide secure, quality services and engage citizens in order to create public value. Government practitioners should take note of the premium that citizens place on high quality services; responsiveness for example, is a critical determinant of intention to reuse. Such high expectations must be met in order to achieve success and contribute to the ongoing challenge of eGovernment.

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