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The Realization of Public Value through E-government: a Structuration Perspective

Research-in-Progress

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Abstract

Recent studies show e-government implementations are biased towards the realization of efficiency and service effectiveness benefits, with less attention paid to the delivery of public value. Public value (PV) is a corner stone for balancing benefits across all stakeholders and it redefines our understanding of e-governmental success. However, e-government is having minimal impact on PV. Further, research on PV in emerging democracies or non-democratic states is lacking. Thus, this study adopts a structuration perspective to identify the factors that influence government agencies position with regard to the delivery of PV, and explore user and community responses to e-government initiatives. The study will adopt a mixed methods approach combining qualitative and quantitative techniques. The study will make important contributions to theory by investigating how structuration theory can be integrated with Moore's (1995) strategic PV triangle to understand how e-government may facilitate the production of PV.

Keywords: Public Value E-government, Structuration Theory, Developing Country Context, Duality of Technology

Introduction

A recent United Nation (UN) report (2014) on e-government called for the maximization of benefits for all stakeholders. Unfortunately, literature reviews on e-government outcomes show that existing implementations are typically biased towards the realization of efficiency and service effectiveness benefits, with far less attention being paid to the delivery of public value (Karkin and Janssen 2014; Parvez 2006; Rose et al. 2015). Whilst the benefits from e-government investments differ from one organization to another (Cavalheiro and Joia 2014; Parvez 2006), governments tend to focus upon cutting costs and streamlining their internal processes, which is not necessarily what their citizens are seeking. Indeed, it has been demonstrated that even in established democracies, e-government is having minimal impact on public value (Parvez 2006; Rose et al. 2015). Besides, Meijer and Bekkers noted that the majority of e-government study focuses on “holistic system” rather than “behavior, attitudes and cognitions of individual actors” (2015). Thus, it is important to identify the factors that influence government agencies position with regard to the delivery of public value (PV), and explore user and community responses to, and engagement with, e-government initiatives.

The idea of PV is still a relatively fuzzy concept which has been the focus of much debate in academic circles (Moore 1995; Rutgers 2014; Williams and Shearer 2011). Nevertheless, three key themes can be observed from the existing literature, namely: 1) PV as an assessment tool for the performance of public services; 2) PV is co-created by governments and user communities; and 3) PV requires the expansion of public services to include democratic and political values. PV is, therefore, a corner stone for the balancing of benefits across all stakeholders, and it redefines our understanding of e-government quality, performance and success. We also note that existing PV ontologies and frameworks are typically detected in democratic countries, in which the culture and political system are noticeably different from those in emerging democracies or non-democratic states. Consequently, insights from different contexts will contribute to enriching our understanding of the role and applicability of e-government in promoting the realization of PV.

To examine how PV is produced through the complex interplay between e-government technology, the authorizing environment (institutional properties and human actors), the operational capability and citizens' perceptions of PV we adopt a structuration perspective (Orlikowski 1992). More specifically, this complex relationship will be investigated through a mixed methods approach by addressing the following research question: *how can public value be realized through e-government?* In terms of its structure, the following two sections of this research in-progress paper will present reviews of the literatures on e-government adoption and the role of PV. The fourth section will explicitly explore the relationship between e-government and PV. In so doing, it will identify the research gaps, before introducing the research framework, in the fifth section. The paper concludes with a summary of the proposed research approach, for this study, and the anticipated areas in which it will contribute to theory.

The Adoption and Evolution of E-government

Over the past twenty years, the adoption, scope and sophistication of e-government technologies have increased greatly. Indeed, e-government architectures now incorporate a wide variety of back-office systems which support internal government processes as well as externally oriented systems that allow governments to communicate more effectively with their citizens and other stakeholder groups (Huang and Benyoucef 2014). However, those governmental agencies that have already achieved such a wide ranging and sophisticated architecture tend to have followed a broadly similar evolutionary journey, which is typically composed of four common stages (Janowski 2015), as portrayed in table 1. More specifically, in the initial, ‘*digitization*’ stage, the governmental agency implements and experiments with the technology, after which the focus moves to the ‘*transformation*’ stage in which the technology is used to re-engineer and streamline internal processes. By the time the agency reaches the ‘*engagement*’ stage, they are typically seeking to expand the scope of their technological infrastructure so that it can be used to communicate and engage with external stakeholders and organizations. Finally, during the ‘*customization*’ stage, e-government services are tailored to the needs of specific communities, organizations or even individual citizens.

Whilst the adoption and application of e-government technologies appears to follow a standard, evolutionary journey, there also seems to be a discernable pattern in the literature, which appears to echo Janowski's (2015) model. In their review of the literature on e-government, Savoldelli et al. (2014) have argued that the existing literature can be broadly divided into three eras [1994–2004; 2005–2009; and 2010–2013], each of which had a distinctive focal point. In the first, “*technological–operational*”, era, the emphasis was on the identification and deployment of technological solutions. This was followed by the “*managerial–organizational*” period, in which the focus shifted towards the impact of e-government services, particularly in terms of its effectiveness and efficiency. In the final, and current “*political–institutional*” era, Savoldelli et al. (2014) have detected a stronger emphasis on transparency and open government, through which it might be possible to empower the host country's citizens and businesses.

Stage	Application Context	Internal Transformation	External Transformation	Context specific Transformation
Digitization	Technology	No	No	No
Transformation	Government	Yes	No	No
Engagement	Stakeholders	Yes	Yes	No
Contextualization	Communities	Yes	Yes	Yes

Over the past twenty years, the roll-out and evolution of e-governmental infrastructures has progressed rapidly to the extent that modern digital, public services now have the potential to actively engage with citizens, and be tailored to their specific needs (Nograšek and Vintar 2014). Overall, the scope of e-government has significantly broadened from a “*department and service orientation to comprehensive all-of-government approaches*” (Larsson and Grönlund 2014). In so doing, e-government now has the very real opportunity to act as an explicit mechanism to facilitate the delivery of PV, as will be discussed in the following section.

Public Value

There has been a marked increase in both academic and practitioner interest in PV since late 1990s (Williams and Shearer 2011), to the extent that it has been described as the most popular field of study within the broad discipline of public administration (Bozeman 2007; Rutgers 2014). This section presents an overview of the meaning of PV, and reviews the PV triangle (Moore 1995), before critically reviewing its relevance to the study of e-government.

It has been argued that PV is a ‘*vague*’ and ‘*slippery*’ concept as researchers typically choose to present their own, somewhat different definitions (Williams and Shearer 2011). Indeed, it is not even clear what type of construct it is. Alford and O'Flynn (2009) argue that it can be meaningfully interpreted as a management paradigm; a government rhetoric, a narrative, or even a performance management tool, as illustrated in Table 2. However, for the purposes of this study we have chosen to adopt the following definition, by Rose et al. (2014), as it succinctly captures PV's distinctive features: “*maximizing the utility of government to civil society by providing services directed towards the public good*”.

PV Meaning	Description
Paradigm	It is an emergent management paradigm, which replaces New Public Management.
Rhetoric	It argues that PV is designed to protect interests of bureaucrats
Narrative	It is a “ <i>belief and story</i> ” about public services evolvement.
Performance	It is an approach to measure the performance of public services.

When it comes to considering how PV might best be realized, Moore's (1995) triangle is probably the most famous framework for understanding PV production (Williams and Shearer 2011). This framework explains how public sector decision-making processes can facilitate the production of PV through the interplay of three critical dimensions, namely: the authorizing environment, the operational capabilities, and the PV outcomes (Benington and Moore 2011). More specifically, the triangle is designed to ensure that decision-makers address the following three key questions relating to all public service initiatives: is it legitimate and politically acceptable? Is it operationally feasible? And, perhaps most importantly, is its purpose publically valuable? In so doing, the triangle helps to ensure that the lines of accountability between all stakeholders are well understood: *"upwards through institutional and political structures, downwards through management and operational lines, and outwards to the public"* (Williams and Shearer 2011).

If, as we argued earlier, the aim of PV is *"providing services directed towards the public good"* (Rose et al. 2014), then a key question to be asked is who should be the judge of what services the public want. In his original analysis, Moore (1995) argued that the key arbiter for PV is the public service manager, who is responsible for the provision of the services. However, in a later work, Moore (2014) recognised that it was inappropriate for the providers of public services to make assumptions, on behalf of the general public, about the PV inherent in the services that they receive. Consequently, Moore (2014) argued that if the responsibility of public managers was to *"embrace the idea that they should earn their keep by creating public value"*, then the best adjudicators of the success of this endeavour were the multitude of individuals who constitute society, and in democratic societies, the electorate. However, this leads to the challenging question as to the basis on which individuals should judge the performance of their governments in delivering PV. Whilst Moore (2014) doesn't provide a comprehensive answer to this question, he does recognize that any measurement framework must incorporate both *"utilitarian values"*, which measure the extent to which the service addresses an individual's material needs and desires - and also *"deontological values"*, which assess the degree to which the service is perceived to be promoting fairness and justice, as well as helping to deliver a *"just as well as a good society"*

Moore's (2014) analysis of PV is relevant to the study of e-government, as it can help the researcher understand the extent to which digital services are delivering a balanced portfolio of benefits, which are judged to be valuable by all stakeholders. Consequently, the following section will explicitly explore the relationship between e-government and PV.

E-government and Public Value

This section relates the evolution of public administration to the position of e-government values. The section also highlights trends in PV realization through e-government and identifies gaps in e-government PV research. In their analysis e-government values, in the context of contemporary public administration paradigms, Rose et al. (2014) suggest that the key role for e-government should be service-enabling, whilst its value should be measured in terms of the quality of "public service" and its degree of "citizen-centricity". Indeed, a study of the users of the USA's top five government websites, supports this view, as it found that citizens are generally more interested in the extent to which e-government delivers public values (participation, trust, informed-ness), than they are in the technology's convenience and efficiency (Scott et al. 2015).

Whilst citizens may desire PV to be delivered through their digitized services, in practice, the effects of e-government initiatives are rather different. For example, Parvez (2006) argues that e-democracy has a very low impact on democracy in three UK authorities. A review of Turkish local government websites shows unsatisfactory level of support toward PV creation, in the form of: engagement, responsiveness, and meaningful dialogue (Karkin and Janssen 2014). Moreover, a study in the Netherlands shows that e-government technologies tend to be biased towards the satisfaction of administrative targets, leaving democratic values unattended (Rose et al. 2015). It has been argued that the rather unbalanced impacts of e-government initiatives may well be because public service managers find it rather easier to justify their investment decisions on the basis of efficiency improvements and cost reductions (Rose et al. 2015) than they do in terms of specifying a return on investment, in terms of greater citizen engagement.

Even those studies which suggest that e-government applications may have a positive impact on PV, in terms of improving governmental transparency and fairness, can be criticized for using cross sectional

analyses which lack the ability to dig below the surface (Linde and Karlsson 2013). Indeed, the latest UN report (2014) show that many authoritarian regimes, such as Bahrain, have a better e-participation index than established democracies, such as France, but this does not mean that e-government is delivering greater PV in Bahrain than it does in France. Against this backdrop, many researchers are recognizing that there is a need for more in-depth studies of electronic government-enabled PV realization, to better understand the relationship between technology, stakeholders and organisational structures (Grimsley & Meehan, 2007; Hui & Hayller, 2010; Rose et al. 2014). Moreover, given that it has been cogently argued that PV is co-created by governments and user communities (Moore 1995) there is also a pressing need for mixed method studies which explore the views of user communities, as well as governmental stakeholders. In the following section we present a research framework which will help focus our on-going study of the realization of PV through e-government initiatives.

Research Framework

A recent review of e-government research shows a bias toward explanation rather than the attainment of a deeper understanding of social constructs and actors behaviours (Meijer and Bekkers 2015). Hence, we are attempting to buck this trend, by seeking to develop a more sophisticated understanding of the role of e-government in the production of PV. In particular, we aim to adopt structuration theory as a theoretical lens, as it is a theory that recognizes the importance of human actors and technology in shaping the outcome (Barbosa et al., 2013; Orlikowski 1992), and is known for “*enriching the understanding of IS phenomena*” (Jones and Karsten 2008). Consequently, this section reviews structuration theory, as applied in the context of IS, before exploring how it can be integrated into Moore’s (1995) triangle, to be used as a framework for exploring how e-government can be used to realize PV.

Structuration Theory

Structuration theory (ST) was introduced by British sociologist, Anthony Giddens, to examine the interaction of groups and organization and it frames a philosophical position on social phenomena being produced by both human agent and structure (Jones and Karsten 2008). The three dual structures of the theory (signification, domination, and legitimization) respectively represent meanings, power allocation through actors and resources, and the moral structure influencing actors’ actions (Jones and Karsten 2008). The theory’s significance is due to its focus upon the duality of structure and the agents’ knowledgeability (Jones and Karsten 2008; Orlikowski 1992; Parvez 2006). However, the theory, in its original manifestation, did not position information technology (IT) as an influential dimension (Jones and Karsten 2008; Orlikowski 1992; Parvez 2006). Therefore, enhanced structuration models were developed to overcome this oversight, such as the “*duality of technology*” which was introduced by Orlikowski (1992).

The duality of technology is the most used form of structuration in the IS literature (Jones and Karsten 2008). The model seeks to balance the views of technological determinism and social shaping of technology perspectives. In short, Orlikowski (1992) argues that IT should be conceived as a fundamental ‘*duality*’: IT is both shaped through the actions of human agents and the technology will also influence the actions and behaviour of its users. Indeed, there has been a growing consensus that information technology is both shaping of, and shaped, by its working environment (Rose and Jones 2004). In her model, Orlikowski (1992) adds an important third dimension, namely ‘*institutional properties*’, which are structural elements of the organisation, such as policies, regulations and resources. Orlikowski (1992) argues that institutional properties have the potential to influence human agents in their use of technology, whilst through their interactions with the technology, human agents have the potential to either reinforce or transform institutional properties and structures. However, the model has been criticised for being inconsistent with Giddens original view of structures being nonphysical and inseparable from human agency (Jones and Karsten 2008). In response to these criticisms, Orlikowski argues that technology structure is enacted rather than appropriated using the term “*technology in practice*” (2000). However, in a later paper, Orlikowski (2009) criticized this perspective for giving “*ontological priority*” to human actors, which can lead to the “*sidelining of physical characteristics and capabilities*” within technology, and introduced *social materiality*, which treated human and non-human actors equally (2009). Yet, this most recent view has been criticized for ignoring the social structure and using a “*flat ontology*”, which fails to recognize the sources of institutional power (Greenhalgh and Stones

2010). Against this backdrop, we have chosen to focus on the enactment process of actors identified by Moore (1995), utilizing the enactment model and types presented by Orlikowski (2000), which also recognizes the embodied technical artifact, as this is envisaged to be an important asset for facilitating e-government PV production.

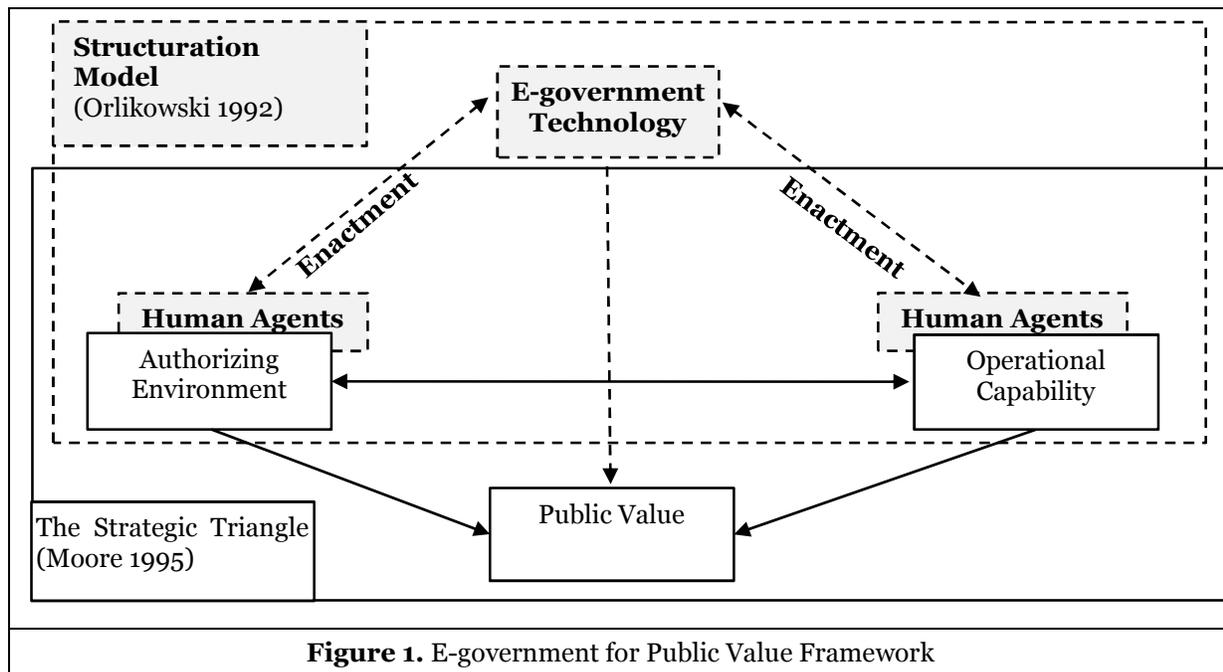
Structuration Theory and E-government: A Research Framework

The research framework, as presented in Figure 1, has been designed to help focus the conduct of this study, by integrating the key recursive features of structuration theory into Moore's (1995) PV triangle. In the top half of the framework [shaded boxes], we see a simplified version of Orlikowski's (1992) interpretation of structuration theory, highlighting the recursive relationship between human agency and technology, whilst in the bottom portion of the framework we present Moore's (1995) PV triangle [unshaded boxes]. When interpreting this framework there are a number of important issues to bear in mind:

1. Although Moore (1995) identifies technology as an integral part of operational capability (Benington and Moore 2011), we have chosen to extract the technological components, and treat e-government services, as a standalone dimension to both emphasize the influential role of technology, in this study, and to establish its relationship with other constructs within the operational capability, most importantly the human agency of operational staff;
2. When it comes to the "authorizing environment" and "operational capability" elements of the PV triangle, we have chosen to focus specifically on the human agents who enact these organisational processes and activities. The authorizing environment is staffed by a variety of actors, including politicians, chief executives, public service managers, lawyers, who are tasked with enforcing laws, policies, and organizational regulations, relating to the provision of PV. The operational capability is also enacted by a wide variety of governmental managers, service operatives, technicians and software designers, who are tasked with delivering PV through the effective operation of e-governmental systems;
3. As well as facilitating the delivery of PV, the human agency elements of the "authorizing environment" and "operational capability" elements, are also shown to be in a recursive relationship with the e-government technology. During their development the design of the digital services is likely to be very heavily shaped by the actions and decisions of human actors who are charged with ensuring that the technology is legitimate and politically acceptable, and also those who are responsible for ensuring its operational feasibility, and ultimately its delivery. However, once the digitized services are operational, it is recognised that the behaviors or human actors, both authorizing and operational, are likely to be shaped by the functionality of the technology;
4. Interpretive flexibility - which has been defined as "*the capacity of a specific technology to sustain divergent opinions*" (Doherty et al. 2006) - has long been recognised as playing an important role in explaining how technical artefacts are shaped through use (Orlikowski 1992). Consequently, we will also be examining the extent to which e-government technologies can sustain divergent interpretations, and how this ultimately impacts upon their on-going shaping and use;
5. Whilst at this stage in the study, we have simplified our framework by omitting Orlikowski's (1992) "*institutional properties*", we recognize that as these can both enable and inhibit the behavior of human agents and the shaping of technologies, their roles and impacts will be a major focal point of our data collection and analysis activities. Moreover, as the structures of domination, legitimation and signification lie at the heart of Giddens's (1984) conception of structuration theory, we intend to pay particular attention to these important factors, when studying the behavior of human actors and the effects of the institutional properties;
6. As the key dependent variable in our framework, the PV dimension is an extremely important element of our study. To measure PV we will create a performance framework that incorporates both utilitarian and deontological dimensions (Moore 2014).
7. We are primarily interested in studying how e-government technologies are shaped by, as well as shaping of, the organisational actors and stakeholders, who work for governmental agencies.

However, as it is highly likely that the communities of individuals who are the ultimate end-users of these digitized services will also be shaped by, as well as shaping of, e-government technology, we also hope to explore these important relationships. This issue is particularly important, as many commentators (Moore 1995; Rutgers 2014; Williams and Shearer 2011) have recognized that PV is co-created by governments and the user communities that they serve.

As the study progresses, it is envisaged that it will be possible to unveil rich and detailed pictures of each of the major constructs, within the research framework, as well as a sophisticated understanding of the relationships between each of these constructs.



Research Approach and Methods

There are growing numbers of researchers who choose to combine both quantitative and qualitative approaches in a single study, to build a richer and deeper picture of the phenomenon under investigation, increase the validity of findings and to help explain diverging results (Cavaye 1996). Parvez (2006) suggests that when studying the duality of technology, it is particularly important to adopt both subjective and objective data collection approaches. The aim of this section is to present a brief overview of the research context in which this mixed methods study will be conducted, before summarizing the data collection strategy that we are just about to commence.

Research Context

The context for this study is the Sultanate of Oman which can be described as an emerging democracy, as it has an elected consultative council, which was founded in 1991, and the council have been utilizing e-voting since 2011 (ITA 2012). However, in one of the few studies done on public administration in Oman, Common (2008) categorizes it as a “*centralized political system*”, in which national culture plays an important role in shaping public administration practices. Moreover, in 1998 the Sultanate of Oman’s government established an authority – the *Information Technology Authority* (ITA) - that acts on its behalf in promoting and supporting the government’s digitization strategy (ITA 2012), which encourages all government agencies to transform their processes through adoption of e-government. Indeed, in 2014, the United Nation e-government survey ranked Oman among the top 50 countries in e-participation. However, to date, studies of public administration in Oman have been limited to the political dimension, and have not, as yet, explored the impact and outcomes of the Sultanate’s slowly unfolding e-government platform. Moreover, the scarce e-government studies seem to focus on implementation and adoption (Al-

Salmi et al. 2016; Sarrayrih and Sriram 2015; Sharma et al. 2013; AlShihi 2005). Engagement and participation are among the social factors which motivate citizens' adoption of E-government in Oman (Sharma et al. 2013). Hence, it is important to use *citizens-centricity* when evaluating e-government success, and explore if investment in e-government has helped in overcoming some social practices which negatively impact the realized public value. For example, *wasta*, which can be defined as the use of *personal connection* to achieve a task (Common 2008), is a challenge to citizens' perception of fairness and equity. In addition, a recent study notes lack of transparency as another cultural challenge to the adoption of e-government (Al Salmi et al. 2016). Insights from an emerging democracy such as Oman are particularly valuable as existing PV research typically studies democratic countries and as such, may be limited in their explanatory power regarding the use of e-government to realize PV in alternative democratic contexts. Besides, the cultural characteristics of Oman and its existing social challenges introduce new dimensions in the production of e-government PV.

Data Collection Strategy

Our modification of Moore's (1995) strategic triangle [see Figure 1] suggests that there are three critical, and highly interrelated, elements required to deliver PV to the populace: the authorizing environment, the operational capacity and e-government technology. Therefore, the research is modularized into three stages through which all these dimensions are addressed. Firstly, through a number of in depth interviews, with senior managers, public service managers and software designers, we intend to develop a richer understanding of the authorizing environment and the operational capabilities that exists within a variety of public agencies. It is envisaged that our understanding of the environment and its capabilities will be enhanced through a wide-ranging review of existing documentation relating to laws, processes, procedures, and software design. Secondly, to understand the technology, we plan to conduct an evaluation of citizen-facing government portals, to benchmark them on their functionality and ability to promote PV. Finally, citizens' perceptions of the extent to which these systems deliver PV will be captured through a large scale survey of their experiences with, and perceptions of, the e-government applications that they use. It is anticipated that this mixed method approach will facilitate to collection of a wide-variety of context-dependent data, that will allow us to build a rich and insightful picture of this highly complex subject (Gable 1994).

Anticipated Contributions of the Study

It is envisaged that our current study will ultimately make important contributions both to theory and practice. Firstly, by undertaking this innovative exploration of the deployment of e-government, in an emerging democracy, it is anticipated that we will be able to make important contributions to the debate about how PV might be best defined and measured in an emerging democracy, as well as providing important new insights into the mechanisms through which e-government architectures, might promote, or indeed inhibit the production of PV. Moreover, we envisage that we will also be able to make significant contributions to theory by exploring how well our integration of the structuration theory into Moore's (1995) strategic triangle is able to provide a richer picture of the mechanisms through which e-government facilitates the production of PV. From the practitioner perspective, this study will primarily help public service managers to better understand and ultimately measure and balance public values, so that they can be integrated into e-government implementations, where they can be used as performance indicators.

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