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29. Public sector organizational capabilities to develop fully-fledged eGovernment-for-citizens in South Africa

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Abstract

The implementation of fully-fledged eGovernment-for-citizens (eG4C) initiatives by public sector organization (PSO) seems to be a challenging task especially for developing countries. For instance in South Africa, there is no or limited fully-fledged eGovernment portal which provides integrated services for citizens. Researchers have published extensive research work on eGovernment maturity models (Layne and Lee, 2001) to evaluate the readiness of individual public agencies in executing eGovernment programmes. Furthermore, these models were developed in order to integrate the assessment of technological, organizational, operational and human capital capabilities (Valdes *et al*, 2010). Although there is such models PSO in developing countries still struggles to develop a fully integrated eGovernment systems. According to eGovernment ranking index studies commissioned by United Nations (2001 – 2014) developing countries do not have a well-established record top ranking of eGovernment service. These public agencies are struggling to apply these models which are strongly supported by international best practices. Hence, the research questions are:

- What are the factors that hinders a successful application of eGovernment maturity model within a public agencies?
- What are the constraints that affect the organizational capabilities in developing a fully-fledged eG4C?

The research objective of this research is to understand and interpret the complexities within an eGovernment social structure that negatively affects implementation. The research will describe and analyze the human capital capabilities in applying eGovernment maturity model during the development of eG4C initiatives within a PSO. The study will examine some of the processes which are applied by public agencies in developing their eG4C initiatives. A deductive approach would be employed throughout the study, and the structuration and activity theories have been selected as the theoretical lens in order to understand and interpret the complexities within an eGovernment social structure that affects implementation.

Keywords

e-government; e-government-for-citizens; e-government maturity; e-Services; e-Service deliver; human capital; organizational capability, structuration theory and activity theory.

1. Introduction

The infusion of information and communication technology (ICT) systems in the public sector has led some governments to ‘move away from the bureaucratic organisations and streamline their functions according to the needs of the citizens and also to improve service delivery, increase productivity, and cost effectiveness’ (DPSA 2001:4). The use of electronic means came at a time when PSOs around the world were experiencing immense pressure from citizens, who demanded

greater transparency and accountability. PSOs have realized that one of the ways of addressing the citizens' demands and needs is to develop a citizen-centric approaches, where citizens can interact with and access government services using seamless methods. The ICTs have become an important public service artifact for many governmental departments (Nour, AbdelRahman & Fadlalla, 2008) which enables PSOs to become more effective and efficient in delivering their services (Layne and Lee, 2001; Bertot, Jaeger & McClure, 2008). However, the development of fully-fledged eGovernment-for-citizens (eG4C) initiatives by public sector organization (PSO) or public officials seems to be a challenging task especially for developing countries. The research objective of this research is to understand and interpret the complexities within an eGovernment social structure that negatively affects implementation. The research will describe and analyze the human capital capabilities in applying eGovernment maturity model during the development of eG4C initiatives within PSO. The study will examine some of the processes which are applied by public agencies in developing their eG4C initiatives. This *work in progress* research will contribute by developing a systematic procedure which will provide a theoretical elaboration/ explanation on how PSO can overcome/ address the organizational complexities that negativity affect successful development of eG4Cs.

2. Literature review

The potential of eGovernment has not been fully realized and, in fact, its capabilities has not been practically achieved. The departments are lagging behind in terms of developing a fully-fledged digital citizen-centric approaches which addresses their backlog in delivering just-in-time services. The fully-fledged eGovernment project consists of a completely developed electronic service which 'cut[s] across the departments and ministries in a seamless manner, information, data and knowledge is transferred from government agencies through integrated applications' (UN, 2014:195). According to the Western Cape eGovernment strategy, 'the portal and numerous other channels provide no or limited transacting capability' (WCG: 2012:6). This phenomenon exists not only at the provincial level, it is also prevalent at the national level. According to United Nations (2014) the emerging stage of eGovernment in South Africa is the only stage which has progressed well, with 75% of government information shared online; the other stages are all below 50% with the transactional stage with 12% and connected services with 24% (United Nations, 2014). Naidoo (2011:326) asserts that "the continued roll-out of the 'emerging phase' is likely to characterize the bulk of eGovernment rollout for the foreseeable future, with limited online transactability and inadequate mechanisms that allow citizens to access frequently demanded services as close to the customer's home as possible, such as walk-in or call-centres". The emerging phase represents an official government entry point which contains information about government and also links citizens to other departments (Alfarraj, Drew & AlGhamdi 2012:83). According to this research the advancement of eGovernment maturity within public sector relies heavily on having a working human agent activity system which have the capability to coordinate a systematic process needed to address complexities that negatively affect the development of eGovernment. Maturity can be considered a way of measuring how organisations evaluate their capabilities with regard to what they seek to address (Paulk et al, 1993). Maturity models are regarded as conceptual multistage models that describe a particular pattern for organisational development (De Bruin and Rosemann, 2005; Solli-Sæther and Gottschalk, 2010). According to the United Nations (2014:195), eGovernment has four online service developments (further discussed in Chapter 2) which include emerging information services, enhanced information

services, transactional services and connected services. Various government organizations have adopted the UN eGovernment maturity model.

In developing countries, research has indicated that following bulleted challenges that hinders the advancement of eGovernment.

- Infrastructure – eGovernment success relies on having the necessary and reliable infrastructure in place, mainly because the lack of infrastructure is a ‘barrier to the provision of government services (Nkohkwo & Islam, 2013:258). Government departments are unable to develop any fully-fledged eGovernment initiatives if ICT infrastructure is not available. According to Meerman (2010) who is the Head of Department in the State of Information Technology Agency (SITA) stated that networks, related infrastructure, and applications must be developed.
- Human capital – Ndou (2004) emphasises that the lack of human capital is a major contributor in terms of hindering the successful implementation of eGovernment initiatives.
- Socio-economic – eGovernment has not adopted multi-cultural approaches and the Cape Gateway eGovernment Project does not address the socio-economic context and needs of its constituency (Maumbe, Owei and Alexander (2008).
- Strategy – one of the major challenges with regards to eGovernment implementation is the lack of organisational eGovernment vision or strategy (Heeks, 2002). Although progress has been made along the path of eGovernment implementation in South Africa, a number of challenges still need a strategic perspective in order to be addressed (Meerman, 2010).
- Politics – lack of concrete support and commitment from politicians and other public servants poses a challenge for eGovernment (Schwester, 2009).
- Finance – implementation of eGovernment services are costly and a lack of funding poses a challenge to the successful implementation of eGovernment initiatives (Nkohkwo & Islam, 2013:258).

The above challenges faced by PSOs depict that there is still more that needs to be done to eventually.

3. Research problem

The research assumption in this research is that there are various unresolved complexities within an eGovernment social structure that negatively affect the full development of eG4C initiatives. The fact that there is no or limited fully functional eGovernment portal in South Africa suggests that there is a need to investigate the manner which the existing portals (specifically referring to Western Cape eG4C portal) are developed, coordinated and managed. This research specifically hypothesizes that there is no effective human agent activity system committed in driving eGovernment initiatives; hence, eGovernment maturity level remain stagnant. An additional hypothesis is that eGovernment projects often fail due to the actors’ (designers, developers and managers etc) inability to execute them, as well as having unsolved complexities within social structures extends the problem even further.

4. Research methodology

The underlying philosophical assumption in this research is a qualitative interpretive paradigm. According to Klein and Myers (1999: 67), interpretive research can help information systems (IS) researchers to understand human thought and action in social and organizational context; it has the

potential to produce deep insight into IS phenomena including management of IS and IS development. This paradigm assumes that our knowledge of reality is gained only through social constructions such language, consciousness, shared meaning, documents, tools and other artifacts (Klein and Myers 1999, 69) and it also focuses on the complexity of human sense making as situations emerges (Kaplan and Maxwell, 1994). The interpretive stance puts forth the claim that knowledge and human interests are interwoven and the researcher, being human, cannot be claimed to be value-free or unbiased (Klein & Meyers 1999). This paradigm helps IS researchers to understand human thought and action in social and organizational contexts (Klein & Meyers 1999). Therefore, the goal of interpretivist research is to understand and interpret the meanings in human behaviour rather than to generalize and predict causes and effects (Neuman, 2000; Hudson and Ozanne, 1988). For an interpretivist researcher it is important to understand motives, meanings, reasons and other subjective experiences which are time and context bound (Hudson and Ozanne, 1988; Neuman, 2000). This research will apply a hermeneutic approach which is regarded as a major branch of interpretive philosophy (Gadamer, 2004). The term hermeneutics refers to text interpretation. "Hermeneutics is the theory of the operations of understanding in their relation to the interpretation of texts" (Ricoeur, 1992). Hermeneutics can be treated as both an underlying philosophy and a specific mode of analysis (Bleicher, 1980). It provides the philosophical grounding for interpretivism and also suggests a way of understanding the meaning or trying to make sense of textual data which may be unclear in one way or another.

4.1.Theoretical framework

The deductive approach is employed throughout the study, and two theoretical framework namely, activity theory (Engestrom, 1987); and structuration theory framework (Orlikowski and Robey, 1991 adapted Gidden's structuration theory). The researcher has also selected activity theory (Engeström, 1987) to analyze the actual actor's activities carried out during the development of eGovernment projects. Activity theory "proposes a strong notion of mediation; all human experience is shaped by the tools and sign systems that humans use" (Nardi, 1996:10). Activity theory will provide elements that define what actually constitutes an eGovernment activity. These elements are critical in profiling certain activities. Structuration theory on the other side will be employed to gather data and analyze the interaction of human action and social structures involved in the development of an eGovernment initiative in South Africa. Both theories will be used to investigate the factors that complicate the process of developing a fully-fledged eGovernment in order to advance its maturity levels.

4.2.Research strategy

The in-depth case study (Walsham, 1993) has been selected as the research strategy to examine how human capital capabilities have impacted the development of eG4C initiatives. The Provincial Government of the Western Cape (PGWC) is case which this research will collect textual data. Yin (1989) considered a case study as an inquiry analysing a particular object of inquiry within its real-life context, even when the boundaries between the phenomenon and the context are not clearly evident, and that multiple sources of evidence are used. The qualitative method will be employed to gather in-depth understanding and interpreting of the actor's actions in addressing the complexities of implementing eGovernment initiatives.

The qualitative longitudinal case study methodology was selected to collect the information relating to the implementation of a fully-fledge citizen-centric eGovernment project within seven (7) critical stakeholders (as shown in figure 1 below) which are directly involved in eGovernment

initiatives. A longitudinal study examines features of people or other units at more than one time (Neuman, 2006:31). The nature of the study is to describe the activities taken by actors in order to develop and implement an eGovernment project. One of the strengths of the longitudinal process is the chance to get closer to the organization and find out what is really going on (Iversen and Ngwenyama, 2006:31).

4.3.Data collection

The data will be collected through document analysis including minutes of meetings, emails correspondence, questionnaires, strategy documents, work documents, and reports as shown in table 1 below.

Table 1: Research data sources

Data Sources	Explanation
Meeting minutes	Minutes of the meeting from stakeholders concerning conceptualisation of the project until implementation.
Email correspondence	Includes email communications among communities of practice involved in implementing an eGovernment project.
Strategic documents	Perusal of all relevant strategic documents regarding eGovernment implementation and project management.
Reports	Analysis of all reports about citizen-centric eGovernment development.
Face-to-face interviews	Sit down interview with participants from different stakeholders will be conducted.
Questionnaires	The questionnaires will be sent for participants who are unable to meet for face-to-face interviews.

The data will be collected from the following different stakeholders as suggested by Mintzberg (1984).

- *Strategic apex*: The home of top management which includes the chief information officer and senior managers, who are mainly responsible for providing a strategic direction for eGovernment in the Western Cape.
- *Middle-management*: Managers who stand in a direct line relationship between the strategic apex and the operating core who are responsible for managing programmes/ projects. The actors are project managers and policy makers.
- *Techno-structure*: The staff analysts who design the systems by which work processes and outputs are standardized in the organization. The techno-structure in the context of this research is mostly external organisations which are contracted to design and develop the systems.
- *Support staff*: The specialists who provide support to the organization outside of its operating workflow.
- *Operating core*: The basic work of producing the organization's products and services.

5. Conclusion

In conclusion, this research will contribute by developing a systematic procedure which will provide a theoretical elaboration/ explanation on how PSO can overcome/ address the organizational complexities that negativity affect successful development of eG4Cs. The expected methodological contribution is to formulate an effective human activity system which will give explanation or methods on processes for developing of a fully-fledged eGovernment project in

complex PSO settings. The practical contribution in this research is to find options which will accelerate the maturity levels for eG4C projects as well as operationalize the development of similar projects. This research would serve as a point of reference with regard to eGovernment implementation; it would also facilitate decision making for public administration officials to take appropriate decisions concerning eGovernment investments and implementation. These research results will add value through addressing challenges that hinder the maturity of eGovernment development and provide options for a coherent activity system (integrated support framework) which is implementable and can improve electronic service delivery.

6. References

- Alfarraj, O., Drew, S. & AlGhamdi, R. 2012. EGovernment Stage Model: Evaluating the Rate of Web Development Progress of Government Websites in Saudi Arabia, accessed on 11 March 2015 online at <http://arxiv.org/abs/1211.2406>.
- Bertot, J.C., Jaeger, P.T. & McClure, C.R. 2008. Citizen-centered e-government services: benefits, costs, and research needs. *Proceedings of the 2008 international conference on Digital government research* Digital Government Society of North America 137.
- Bleicher, J. 1980. *Contemporary hermeneutics*. Routledge & Kegan Paul, London.
- De Bruin, Tonia & Rosemann, Michael (2005) Towards a Business Process Management Maturity Model. In Bartmann, D, Rajola, F, Kallinikos, J, Avison, D, Winter, R, Ein-Dor, P, et al. (Eds.) *ECIS 2005 Proceedings of the Thirteenth European Conference on Information Systems*, 26-28 May 2005, Germany, Regensburg.
- Department of Public Services and Administration. 2001. *Electronic government – the digital future. A public service IT policy framework*. Pretoria: RSA Government Printer.
- Engeström, Y. (1987). Learning by expanding: An activity-theoretical approach to developmental research. Helsinki: Orienta-Konsultit.
- Heeks, R. 2002. *Reinventing Government in the Information Age*. Routledge, London. pp. 9–21.
- Hudson, L., and Ozanne, J. 1988. Alternative Ways of Seeking Knowledge in Consumer Research. *Journal of Consumer Research*, 14(4), 508–521.
- Iversen, J., and Ngwenyama, O. 2006. Problems in measuring effectiveness in software process improvement: A longitudinal study of organizational change at Danske Data. *International Journal of Information Management*, vol. 26 no.1, pp. 30-43.
- Kaplan, B., and Maxwell, J. A. 1994. "Qualitative Research Methods for Evaluating Computer Information Systems," in *Evaluating Health Care Information Systems: Methods and Applications*, J. G. Anderson, C. E. Aydin, and S. J. Jay (eds.), Sage, Thousand Oaks, CA, pp. 45-68.
- Klein, H.K., and Myers, M.A. 1999. A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems. *MIS Quarterly*, Vol. 23, No. 1, pp. 67-93. Accessed on 10/12/2012 at <http://www.jstor.org/stable/249410>
- Layne, K. & Lee, J. 2001. Developing fully functional E-government: A four stage model. *Government information quarterly*, vol. 18, no. 2, pp. 122-136.
- Maumbe, B., Owei, V. & Alexander, H. 2008. Questioning the pace and pathway of e-government development in Africa: A case study of South Africa's Cape Gateway project. *Government Information Quarterly*, vol. 25, no. 4, pp. 757-777.
- Meerman, S. 2009. South Africa's e-Government journey – taking the next step. Online <http://lgict.org.za/sites/lgict.org.za/files/documents/2009/sita-e-gov-presentation.ppt>

- Mintzberg, H. (1984). A Typology of Organizational Structure. In Miller, D. and Friesen, P. H. (Eds.), *Organizations: A Quantum View*, Prentice-Hall, pp. 68-86.
- Nardi, B. A. 1996. Studying context: A comparison of activity theory, situated action models, and distributed cognition. *Context and consciousness: Activity theory and human-computer interaction*, pp. 69-102.
- Ndou, V. 2004. E-government for developing countries: opportunities and challenges. *The Electronic Journal of Information Systems in Developing Countries*, vol. 18, no.1, pp. 1-24.
- Neuman, L. W. (2000). *Social Research Methods: Qualitative and Quantitative Approaches* (4th Ed.), USA: Allyn and Bacon.
- Neuman, W. L. 2006. *Social research methods: Qualitative and quantitative approaches* (5th ed.), USA. Allyn and Bacon.
- Nkohkwo, Q.N. & Islam, M.S. 2013, "Challenges to the Successful Implementation of e-Government Initiatives in Sub-Saharan Africa: A Literature Review", *Electronic Journal of e-Government*, vol. 11, no. 2.
- Nour, M.A., AbdelRahman, A.A. & Fadlalla, A. 2008. A context-based integrative framework for e-government initiatives. *Government Information Quarterly*, vol. 25, no. 3, pp. 448-461.
- Orlikowski, W.J and Robey, D. 1991. Information technology and the structuring of organizations, *Information Systems Research* vol. 2(2) pp.143– 169.
- Paulk, M. C., Curtis, B., Chrissis, M. B., & Weber, C. V. (1993). Capability maturity model, version 1.1. *Software, IEEE*, 10(4), 18-27.
- Ricoeur, P., 1981. *Hermeneutics and the human sciences*. In J.B Thompson (Ed), Cambridge, UK: Cambridge University, pp: 112-128.
- Schwester, R. W. (2009). Examining the Barriers to e-Government Adoption. *Electronic Journal of e-Government* Vol. 7, no. 1, pp. 113 – 122.
- Solli-Sæther, H., & Gottschalk, P. (2010). The modeling process for stage models. *Journal of Organizational Computing and Electronic Commerce*, 20(3), 279-293.
- United Nations. 2014. *United nations eGovernment survey, eGovernment for the future we want*. Department of Economic and Social Affairs, New York.
- Valdés, G., Solar, M., Astudillo, H., Iribarren, M., Concha, G. & Visconti, M. 2011. Conception, development and implementation of an e-Government maturity model in public agencies. *Government Information Quarterly*, vol. 28, no. 2, pp. 176-187.
- Walsham, G. 1993. *Interpreting information systems in organizations*, Chichester, UK: John Wiley & Sons.
- Western Cape Government, 2012. *Electronic government strategy*. Western Cape Government printer. Online <http://tinyurl.com/prffg9>.
- Yin, R. (1994). *Case Study Research Design and Methods* second and third edition Applied Social Research Methods Series, Volume 5, Sage Publications.