

Continuous Transformation of Public Sector Organisations in the Digital Era

Emergent Research Forum (ERF) Paper

Abstract

Public sector organisations need to continuously transform to retain their legitimacy by meeting their obligations to citizens, central governments, and laws. Digital era brings new challenges for public sector organisations who historically are slow in adoption of changes. This is significant as policy makers are concerned that unexpected disruptions could take away their governance power (Misuraca and Viscusi 2014). This research in progress aims to clarify how public sector organisations respond to digital transformation drivers. The literature review and expert interviews highlight that organisations require both existing and novel organisational capabilities to utilise digital technologies in order to respond to digital transformation drivers (Fountain 2001; Hinings et al. 2018; Nadeem et al. 2018). This research highlights the gap related to organisational capabilities for existing and novel organisational forms.

Keywords

Digital Transformation, Public Sector Corporate, Digital Era, Organisational Capabilities.

Introduction

Organisations have become more like each other as they have been following the same industry-wide standards (Hinings et al. 2018). This has created the need for transformation to create a competitive advantage (Kotarba 2017). Incremental transformation has enabled innovation letting some organisations stay ahead of others (Carcary et al. 2016). The need for transformation for innovation in organisations to gain a competitive edge is not specific to digital era and has been observed in past industrial revolutions (Schwab 2017). Digital technologies have enabled organisations of any size to get into other businesses easier. This means only companies that can adapt to technology changes to make them a business advantage can survive. The digital technology challenge is accompanied with other trends such as new customer demands, competitive landscape and availability of data requiring rapid innovation to create new processes, services, and products (Reis et al. 2018; Sebastian et al. 2017; Sia et al. 2016; Vial 2019). Therefore, digital technologies play a key role in the fourth industrial revolution for organisations to get competitive advantage over others (Kostić 2018; Schwab 2017). The fourth industrial revolution has resulted in a new organisation transformation phenomenon, namely digital transformation, with an increase in research by practitioners since 2014 (Reis et al. 2018).

The public sector has been transforming using technology since 1950s with arrival of mainframes and then personal computers in 1980s and 1990s, and subsequently wider use of the internet in 1990s (Luna-Reyes and Gil-Garcia 2014). However, many public sector organisations are still behind the private sector when it comes to technology adoption. This is significant as public sector organisations' policy making power could diminish as a result of situations arising from digital innovations (Misuraca and Viscusi 2014). Also, compared to private sector, public sector organisations are influenced by different values and drivers such as service and efficiency. Therefore, public sector organisations in the digital era should focus on product and service innovation, as well as optimising business processes to remain relevant (Carcary et al. 2016). In this research in progress, we review literature and pilot expert interviews to understand how public sector organisations respond to digital transformation. The preliminary finding is that organisations' response to transformation drives are situational. Their response depends on the digital technology (existing or novel) and organisational form (existing/novel) as described by Hinings et al. (2018).

Theoretical Model

World-wide digital transformation phenomenon is driving organisations to continuously transform their processes, services and products using digital technologies to remain a viable business (Kohli and Melville 2018). Once a need for transformation is detected (Teece and Linden 2017), organisational capabilities help decide on how to respond considering the influencing factors. Following the decision, organisation needs to mobilise its organisational and technological resources to achieve desired outcome in the form of new or enhanced products, services or processes. Digital technologies enable the organisation to provide a response to the transformation driver (Vial 2019). Therefore, we refer to Technology Enactment Framework (TEF), an extension to the institutional theory, as it considers developments in information technology adoption. TEF specifies two organisational forms for the public sector organisations: bureaucratic and networks (Fountain 2001). The organisations forms use objective Information Technologies (IT) and are influenced by institutional arrangements, to create enacted technology resulting in outcomes. Enacted technology is the result of the organisation’s own thinking, process and culture in the adoption of the technology. We compare TEF to the model for digital innovation proposed by Hinings et al. (2018) which includes existing and novel digital organisational forms and technologies. They further describe existing and novel technological elements encompassing infrastructure such as blockchain, and institutional building blocks such as enterprise resource planning systems, highlighting that to make radical transformation through digital innovation, organisations require novel organisation form and novel technology capabilities. Also, we know from TEF, and experts that besides innovation, public sector organisations continue to require existing (bureaucratic) capabilities and existing IT to maintain their operation. Therefore, based on TEF, we consider Organisation Form (existing, novel influenced by institutional arrangements) and Digital Technology (existing, novel) as core dimensions for continuous transformation of public sector organisations in response to digital era disruptions (Figure 1).

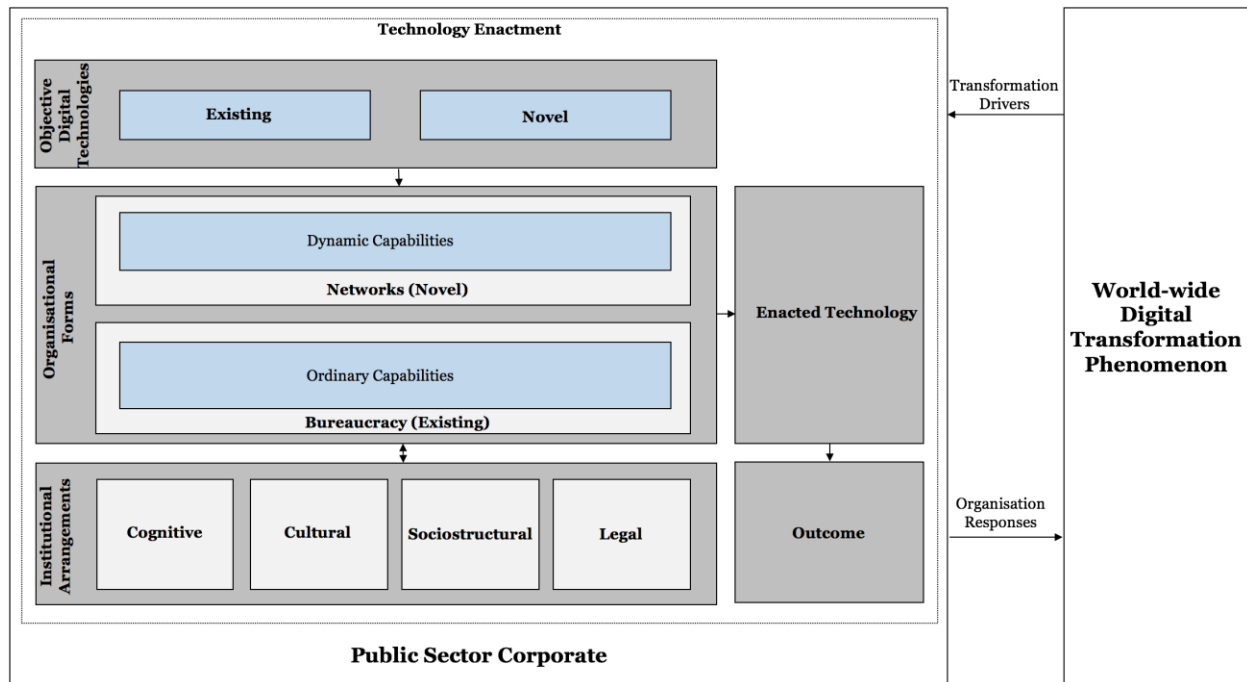


Figure 1 - Continuous Transformation Model (CTM) based on TEF by Fountain (2001)

Networks and Bureaucracy organisation forms are described in TEF. However, the organisational capabilities required to enable them are not specified. Based on the initial expert interviews, both dynamic capabilities and ordinary capabilities are required to enable a continuous transformation in the organisation while meeting the day to day operational need. Collis (1994)’s categorisation for organisational capabilities is used to align dynamic and ordinary capabilities with TEF. CTM will be updated as this field study investigation progresses further via Action Design Research (ADR) method.

Research Method

This paper provides the preliminary results of a PhD research in progress. A semi-structured literature review of over 80 A* and A published journal articles and conference proceedings, as ranked by the Australian Business Deans Council (2019), was performed to identify dimensions of transformation in the digital era. Electronic databases were searched for ‘digital transformation’, ‘digital innovation’, ‘digital transformation strategy’, ‘digital business strategy’, ‘continuous transformation’. Following the literature review, CTM was developed (Figure-1). We used the conceptual model and research questions to form expert interview pilot questions. Meetings were organised for semi-structured interview pilots with three staff with management responsibilities in the area of innovation, information digitisation, and strategy in a public financial organisation in Australia (referred here as PFC). PFC is a unique organisation that provides multiple services to the public, government and its agencies, and financial institutions. The case is a scarce research area as not enough information about its similar organisations operation is available. PFC relies on complex technologies to achieve its goals. This has created a challenge for a continuous transformation in the organisation with heavy reliance on digital technologies. PFC is a risk-averse organisation that recently established an innovation lab to take advantage of modern technologies and working models. The two objectives are aligned with dimensions identified in the CTM. The semi-structured interviews were used to refine interview questions, and to verify CTM. The interview results were grouped by interview questions looking for common themes and conflicting views, and documented in the following section. The process of conducting interviews is inspired by the work on a deep case study analysis for Digital Transformation Strategy in a fanatical institution by Chanias et al. (2018). We plan to use CTM as an initial artefact to conduct an ADR in PFC as depicted in Figure 2 as this research progresses further.

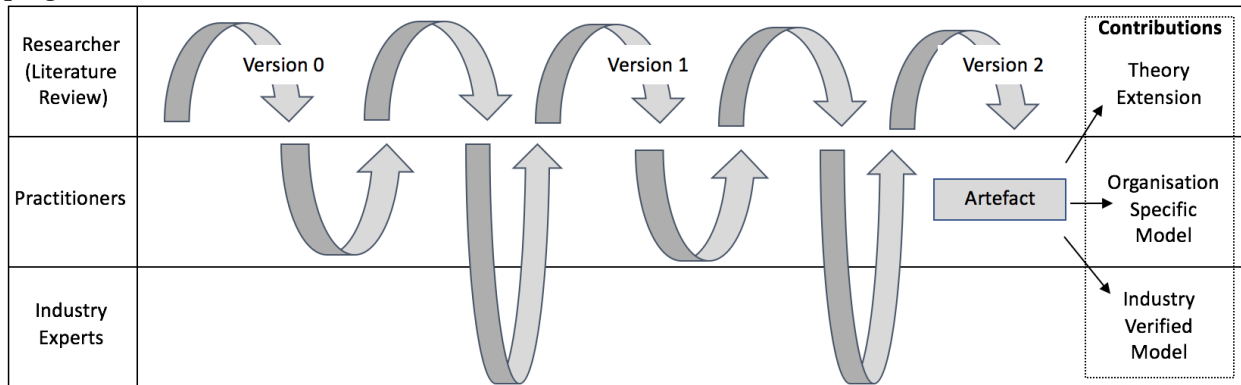


Figure 2 – Proposed ADR cycles based on Sein et al. (2011)

Preliminary Results

Responses to conducted semi-structured pilot interviews are below.

<p>What does digital transformation mean?</p> <p>In general, all interviewees indicated digital transformation is an abstract concept and is difficult to describe. The interviewees highlighted that digital transformation has a more radical change in everyday life compared to digitisation. An expert described it as democratisation of digital technologies creating additional dimensions in all aspects of our life. Digitally-native organisations such as Uber and Airbnb have made people realise the importance of digital transformation impact to business models. While change in business models is an expected outcome of digital transformation, an interviewee couldn't see how it impacts a public sector organisation business model. Digital transformation may mean public sector organisations asks bigger questions like, do we need to reinvent ourselves to remain relevant?</p>
<p>In your view, what are the potential responses of an organisation to digital transformation?</p> <p>The responses range from doing nothing to providing opportunity for staff to learn and experiment, changing incrementally, or transforming radically. It was highlighted that public sector organisations</p>

<p>need to perform tasks quicker or will fall behind. Also, it was highlighted that organisations could use digital technologies to maintain, improve, experiment or innovate. A key comment was that the response shouldn't be chaotic but rather a repeatable process. The person responsible for innovation activities at PFC highlighted that the organisation needs to decide on being a first mover or fast follower when it comes to innovation using digital technologies. Therefore, organisations require capabilities that enables continuous decision making for digital disruptions.</p>
<p>What does an organization need to facilitate its responses to digital transformation?</p> <p>Interviewees believe that transformation requires a top-down approach. The sense and response was defined as a capability that helps identify what is relevant. Also, having an adaptive leadership assists with the top-down approach to transformation. Organisations need a third category of leaders that can experiment and also turn them into operation. Such leaders should be cross-skilled in IT and Business. Also, it was highlighted that public sector leaders require incentives to transform organisations as they are less likely focused on profit making. The interviewees wondered if transformation influencers in public sector organisations are a research gap. People and organisation's culture were raised as two influencing factors that could act as barriers or enablers. Urgency and risk appetite were other influencing factors. One of the interviewees felt that the organisation may not be able to respond to new wave of disruptions as it isn't as agile compared to the previous disruptions. Therefore, agility with fit-for-purpose governance is a need that facilitates response to digital transformation drivers. A common theme raised was upskilling existing resources as lack of knowledge management makes it difficult to replace existing staff, due to reliance on organisational knowledge to navigate through the politics and rules embedded in the culture. Strategic planning was a need that was mentioned twice.</p>

Table 1 – Expert Interview Pilot Questions and Answers

Two from three interviewees are interested to know if transformation is in fact a continuous process. Also, two highlighted that true innovation is a rare phenomenon. Organisations carve out resources to work on innovative activities, or bring consultants in, but rarely there is any tangible result. Innovation often occurs in incremental form thorough experiments that come together for an improved and a novel outcome. Overall, the results show that PFC experts feel the disruptions from the digital era, and identify a need to have capabilities that enable responding to transformation drivers. Also, it was highlighted that the existing ordinary capabilities for operation should not be left behind. This may mean public sector organisations need to be 2-speed organisations that are both dynamic and stable. This preliminary research shows expert interviews can reveal concepts that didn't stand out in the literature review. This is significant as interviews with public sector financial organisations is scarce. For example, the interviews showed a confusion exists between digital transformation as a phenomenon and as an internal transformation. Literature shows that some studies refer to digital transformation as an organisational change, and some as a phenomenon (Hinings et al. 2018; Vial 2019). Additionally, the interviewees highlighted that the transformation influencing factors are unique in public sector. Therefore, this PhD research will investigate such topics further. This research extends the existing theoretical knowledge by providing practical input to create a theoretical framework that can be applied to other cases. The result of this PhD research extends TEF and subsequently institutional theory by considering the impact of digital transformation phenomenon on institutions. This preliminary research results show that responses to digital transformation drivers rely on the organisational capabilities in the form of dynamic and ordinary. Nadeem et al. (2018) identified the core dimensions of the organisational capabilities related to digital transformation. However, a distinction is not made between the two types of organisation forms as identified in the technology enactment and other related research (Fountain 2001; Hinings et al. 2018). Therefore, this research will identify organisational capabilities required for public sector to continuously transform using networks and bureaucratic organization forms to be dynamic and stable.

Conclusion

Public sector organisations need to continuously transform in the digital era to respond to digital transformation drivers. The literature and expert interviews identify digital technologies, organisational forms, and institutional arrangements (influencers) as core dimensions for a continuous transformation. This preliminary research identifies a need for a more detailed field study to understand the organisational capabilities required for a continuous transformation in the public sector to enable a balance between dynamic and ordinary operations to respond to transformation drivers in the digital era.

Future research:

We are going to conduct an ADR in PFC to better understand how public sector organisations respond to drivers for continuous transformation in the digital era, what digital transformation means to them, what influences their responses, and what organisational capabilities are required to facilitate their responses.

Disclaimer

Views expressed in this paper are those of the authors and not necessarily those of the PFC. Use of any results from this paper should clearly attribute the work to the authors and not to the PFC.

REFERENCES

- Carcary, M., Doherty, E., and Conway, G. 2016. "A Dynamic Capability Approach to Digital Transformation: A Focus on Key Foundational Themes," *10th European Conference on Information Systems Management: ECISM 2016: Academic Conferences and publishing limited*, p. 20.
- Chanias, S., Myers, M.D., and Hess, T. 2018. "Digital Transformation Strategy Making in Pre-Digital Organizations: The Case of a Financial Services Provider," *The Journal of Strategic Information Systems*.
- Collis, D.J. 1994. "Research Note: How Valuable Are Organizational Capabilities?," *Strategic management journal* (15:S1), pp. 143-152.
- Council, A.B.D. 2019. "Abdc Journal Quality List 2016." from <https://abdc.edu.au/latest/1036/>
- Fountain, J.E. 2001. *Building the Virtual State: Information Technology and Institutional Change*. Brookings Institution Press.
- Hinings, B., Gegenhuber, T., and Greenwood, R. 2018. "Digital Innovation and Transformation: An Institutional Perspective," *Information and Organization*.
- Kohli, R., and Melville, N.P. 2018. "Digital Innovation: A Review and Synthesis," *Information Systems Journal*.
- Kostić, Z. 2018. "Innovations and Digital Transformation as a Competition Catalyst 2," *Ekonomika* (64:1), pp. 13-23.
- Kotarba, M. 2017. "Measuring Digitalization—Key Metrics," *Foundations of Management* (9:1), pp. 123-138.
- Luna-Reyes, L.F., and Gil-Garcia, J.R. 2014. "Digital Government Transformation and Internet Portals: The Co-Evolution of Technology, Organizations, and Institutions," *Government information quarterly* (31:4), pp. 545-555.
- Misuraca, G., and Viscusi, G. 2014. "Digital Governance in the Public Sector: Challenging the Policy-Maker's Innovation Dilemma," *Proceedings of the 8th International Conference on Theory and Practice of Electronic Governance: ACM*, pp. 146-154.
- Nadeem, A., Abedin, B., Cerpa, N., and Chew, E. 2018. "Digital Transformation & Digital Business Strategy in Electronic Commerce—the Role of Organizational Capabilities," *Journal of Theoretical and Applied Electronic Commerce Research* (13:2), pp. i-viii.
- Reis, J., Amorim, M., Melão, N., and Matos, P. 2018. "Digital Transformation: A Literature Review and Guidelines for Future Research," *World Conference on Information Systems and Technologies: Springer*, pp. 411-421.
- Ross, J., Sebastian, I., Beath, C., Mocker, M., Moloney, K., and Fonstad, N. 2016. "Designing and Executing Digital Strategies: Completed Research Paper,").
- Schwab, K. 2017. *The Fourth Industrial Revolution*. Crown Business.
- Sebastian, I.M., Ross, J.W., Beath, C., Mocker, M., Moloney, K.G., and Fonstad, N.O. 2017. "How Big Old Companies Navigate Digital Transformation," *MIS Quarterly Executive*.
- Sein, M.K., Henfridsson, O., Purao, S., Rossi, M., and Lindgren, R. 2011. "Action Design Research," *MIS quarterly*), pp. 37-56.
- Sia, S.K., Soh, C., and Weill, P. 2016. "How Dbs Bank Pursued a Digital Business Strategy," *MIS Quarterly Executive* (15:2).
- Teece, D.J., and Linden, G. 2017. "Business Models, Value Capture, and the Digital Enterprise," *Journal of Organization Design* (6:1), p. 8.
- Vial, G. 2019. "Understanding Digital Transformation: A Review and a Research Agenda," *The Journal of Strategic Information Systems*).