

Continuous Transformation of Public–sector Organisations in the Digital Era

Emergent Research Forum (ERF)

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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 policymakers are concerned that unexpected disruptions could take away their governance power. 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 transformation drivers. This research highlights the gap related to organisational capabilities for existing and novel organisational forms.

Keywords

Digital Transformation, Digital Era, Public-sector Organisations, 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; Abedin and Chew, 2016). 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 (Nadeem et al., 2018). 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).

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).

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 answer our research questions: 'how do public-sector organisations respond to digital transformation' and 'what does an organisation need to facilitate its responses'. The preliminary finding is that organisations' responses and required capabilities are situational, and depend on the digital technology (existing or novel) and organisational form (existing/novel) as described by Hinings et al. (2018).

Theoretical Model

Adoption of appropriate theories in information systems has been a subject of research for years. Truex et al. (2006) discuss the importance of adopting a theory that fits the subject area and its historic context, guides the research method and has the capacity to be expanded by the research. Omar et al. (2016) conducted a Systematic Literature Review (SLR) of theories adopted in the research related to Digitally Enabled Service Transformation (DEST) to enable e-governments. The review concludes that institutional theory and structuration theory remain mostly used and relevant research in this area. Institutional theory is relevant to this research as literature review shows organisational aspects of digital transformation are more important than technological aspects. Omar et al. (2016) conclude that a fusion of institutional theory with technology related theories such as structuration theory is appropriate for digitally enabled service transformation in public-sector. Therefore, we refer to Technology Enactment Framework (TEF), an extension to the institutional theory, as it considers developments in information technology adoption in the context of public-sector organisations which makes it suitable for this research. Specifically, it discusses IT's organisational impacts which is core to digital transformation, and defines two organisational forms: bureaucratic and networks (Fountain 2001) with networks being more emergent from the introduction of digital technologies such as the internet. 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, our proposition is that 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).

Networks and Bureaucracy organisation forms are described in TEF. However, the organisational capabilities required to enable them are not specified. Based on the pilot 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. Teece (2007)'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.

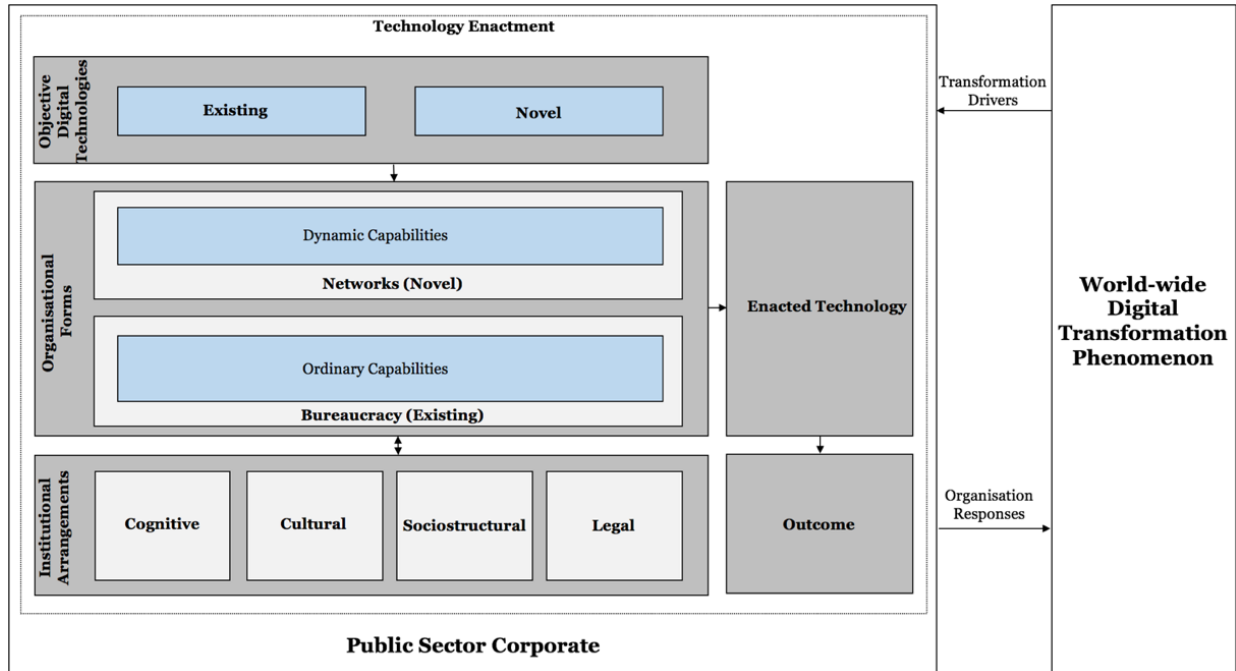


Figure 1 - Continuous Transformation Model (CTM) based on TEF by Fountain (2001)

Research Method

This paper provides the preliminary results of a research in progress. Guided by (Erfani & Abedin, 2018), a semi-structured literature review of over 80 well established 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’. The literature review shows digital transformation is context-driven requiring more research using deep case studies. This is aligned with this research’s objectives as a public-sector financial organisation in Australia (referred here as PFO) engaged with the researcher to develop an organisation-specific model to guide its continuous digital transformation. PFO is a unique organisation that provides multiple services to the public, government agencies and financial institutions. The case is a scarce research area as not enough information about its similar organisations operation is available. PFO relies on complex technologies to achieve its goals. Reliance on digital technologies has created a challenge for a continuous transformation. PFO 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. Following the literature review, an initial conceptual model was developed (Figure-1). We used CTM and research questions to form expert interview pilot questions. Meetings were organised for semi-structured interviews with three management staff in the area of digital innovation, information digitisation, and technology strategy at PFO. The semi-structured interviews were used to refine interview questions in preparation for external industry expert interviews, and to verify CTM. The interview results were grouped by interview questions looking for common themes and conflicting views. 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 Chanas et al. (2018). Their work, and our pilot interviews confirm literature review findings that digital transformation requires more research using deep case studies. Therefore, we plan to use CTM as an initial artefact to conduct an ADR as this research progresses further in PFO for a deeper understanding of continuous transformation in the context of public-sector organisations (Figure 2). Practitioners are going to be senior staff of PFO involved in its digital transformation. Industry experts are going to be external to PFO who will verify and enrich the findings. The expected research results are: 1) extension of TEF to generalize the findings and reflect organisational capabilities role in technology enactment 2) a PFO-specific continuous digital transformation model which provides a practical example

for the generalised extended theory 3) extension to the theoretical framework is verified by industry experts via the interviews.

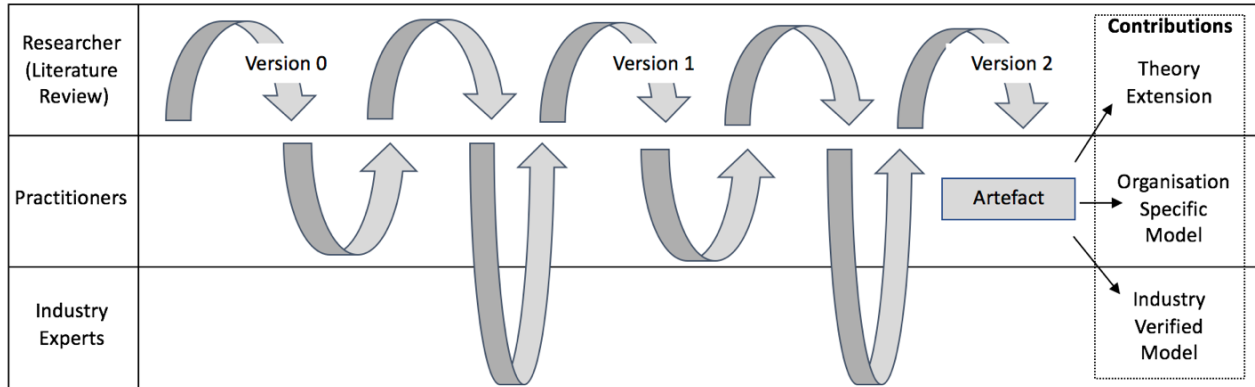


Figure 2 – Proposed ADR cycles based on Sein et al. (2011)

Preliminary Results

Responses to conducted semi-structured pilot interviews are below.

What does digital transformation mean?
In general, all interviewees indicated digital transformation is an abstract concept and needs to be described in context. They 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?
In your view, what are the potential responses of an organisation to digital transformation?
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 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 PFO 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.
What does an organization need to facilitate its responses to digital transformation?
Interviewees believed that transformation requires a top-down approach. Strategic planning, sensing and response was defined as capabilities that help 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 focused on profit making or competition. The interviewees wondered if transformation influencers in public-sector organisations are a research gap. People, culture, urgency and risk appetite were raised as influencing factors that could act as barriers or enablers. 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 facilitates responses to digital transformation drivers. A common theme raised was upskilling existing resources as lack of knowledge management, and reliance on organisational knowledge to navigate the politics and rules embedded in the culture makes it difficult to replace existing staff.

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 PFO 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 and Future Work

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.

Moving forward, this research will conduct an ADR in PFO 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 PFO. Use of any results from this paper should clearly attribute the work to the authors and not to the PFO.

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