Components of a Digital Transformation Strategy: A South African Perspective

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Abstract. Most organisations have begun to take the phenomenon of digital transformation very seriously and in response, they have adopted a digital transformation strategy (DTS) to guide them on the journey to being digitally transformed. Despite the impetus to adopt a DTS, most organisations lack the understanding of what a DTS entails and the components of such a strategy. In an effort to bring better understanding on the components of a DTS, this study adopted a qualitative research approach and collected research data using an internet-mediated questionnaire. Our research findings revealed that most organisations have recently adopted a DTS within the last ten years with the exception of a few. Furthermore, our research findings reveal that a DTS must incorporate the following components, digitisation of the customer experience, digitisation of products and services, digitisation employee ways of working and digitisation of business processes. Our findings also revealed that a DTS leverages digital technologies enabling the organisation to compete, innovate, grow and achieve its business strategy. These results have implications for academics; our study adds to the digital transformation body of knowledge and specifically the components of a DTS. We also propose a definition of a DTS based on our findings of DTS components. For practitioners, managers formulating and refining their DTS can use the DTS components as a benchmark of what to incorporate in their DTS.

Keywords: digital transformation strategy, digital transformation, business transformation, strategy components

1   Introduction

In recent times, almost all businesses in most industries have been impacted largely by the technological environment due to digitisation; "conversion of physical into virtual content" [1:121] and digitalisation; "processing of digitised content" [1:121]. The nomenclature of digitisation and digitalisation is part of a bigger digital transformation paradigm that organisations, industries, professions and societies are undergoing due to the pervasiveness of digital technologies in every aspect of life [2, 3, 4].

Organisations are facing immense challenges in undertaking digital transformation especially as they venture into new and unfamiliar territory, and at the same time lacking the solid strategy upon which to achieve the desired state of digital transformation [4, 5, 6]. The real problem in digitally transforming enterprises is that the full spectrum of what is possible with digitisation remains latent [7]. The fact that organisations have only begun to embrace and implement digital transformation strategies, mean that there is need to conduct research on digital transformation strategies in general and more specifically to elucidate on the components that such a strategy should encompass [8]. Furthermore, Hess et al., [9] argues that there is no clarity on the DTS options available for practitioners to choose from and the components that managers need to consider in their DTS.

The objective of this research was to understand the components of a DTS thereby providing guidance to practitioners on what a DTS should contain. The aforementioned objective was realised by conducting a theoretical review of literature on digital transformation and the DTS. Furthermore, insights are gleaned from a qualitative internet-mediated questionnaire conducted with research participants from South African organisations. The study contributes to our understanding of digital transformation and specifically, the components of a DTS and adds to the DTS body of knowledge. The study also assists practitioners, such as business and digital managers on what components to incorporate in their DTS. We also propose a working definition of a DTS based on the identified DTS components.

The research paper is organised as follows; section 2 discusses the literature on digital transformation and the DTS. Thereafter, section 3 discusses the research method adopted for this research study and section 4 presents the discussion of research findings. Lastly, section 5 concludes the research paper by delineating the key findings in the research study, research contributions, research limitations and directions for further research.

2 Theoretical Background

In this section, we present the extant literature on digital transformation and DTS. These concepts lay the theoretical foundation that informs our study and guided the design of the questionnaire research instrument.

2.1 Digital Transformation

Reis et al., [10] and Vial [11] note that digital transformation can be categorised into three main thematic definitions namely technological, organisational and social. From a technological perspective, these definitions emphasise that digital transformation has to do with the use of digital technologies such as social media, mobile, analytics, cloud and Internet of Things (IoT) [8, 11, 12, 13, 14]. Vial [11] adds that however, the definitions differ with regard to the types of technologies. Organisational definitions focus on how digital transformation is bringing about changes in the organisation's business processes, operations, products, servicing, customer experience and business

models [2, 10, 11, 13, 15]. Lastly, social definitions focus on the impact of digital transformation on the social and personal lives of people [10]. Vial [11] further notes that there are also definitional differences in terms of the type of transformation taking place.

Abdelaal et al., [13] conducted an extensive literature review on digital transformation and consolidated perspectives on digital transformation into five perspectives: era, social/economic, industry/ecosystem, network, company/institutional and individual. The *era* perspective acknowledges that the fourth industrial revolution is upon us [7, 13, 16]. The *social/economic* facet recognises the notion of a shared economy in which different actors share in the creation and distribution of value [10, 17, 18].

From an *industry/ecosystem* perspective, traditional industry boundaries have become blurry and concepts such as industry 4.0 have become popular signifying the impact of digital technologies [7, 8, 13, 16]. The *network* perspective describes how the value network or value chains have been transformed from linear to more complex and dynamic matrix structures [11, 19, 20]. The *company* perspective highlights the on-going digital transformation efforts that organisations are undertaking to harness the power of digital technologies and the emergence of the strategic contribution that digital transformation can bring to an organisation [3, 4, 13, 21]. The *individual* perspective underscores the concept that people's identities have been extended to include their online profiles due to the use of digital technologies.

As organisations embrace digital transformation into their organisational structures, new roles are emerging [13, 22]. The role of the Chief Digital Officer (CDO) has risen to prominence in most organisations undertaking digital transformation and, echoes the importance of digital leadership [11, 22]. The scope of the DTS spans across all the organisation's departments and is the responsibility of everyone in the organisation [2, 21]. Notably, the business-related roles are now required to take on and lead digital projects, and at the same time, technology roles are required to become more business savvy [11].

2.2   Digital Transformation Strategy

Matt et al., [22:339] state that a DTS focuses on "… the transformation of products, processes, and organisational aspects due to new technologies". Specifically, the DTS, "… signposts the way toward digital transformation and guides managers through the transformation process resulting from the integration and use of digital technologies" [9: 125]. Digital transformation strategies often describe anticipated business risks, opportunities and strategies of organisations that are fully or to some extent based on digital technologies [3, 4]. Digital transformation strategies are procedures that govern the organisation's path to being digitally transformed [9].

The DTS is holistic in nature, spans across and is aligned to the other functional strategies [2, 4, 13, 21]. Unlike the IT strategy, which is the sole responsibility of the IT department, the DTS is a collective responsibility amongst the organisation's functional departments [21]. Chanias et al., [21] claim that the DTS is distinctively

different from the IT/IS strategy because it is business and customer centric and not centred on technology as the case of the IT/IS strategy.

Another important distinction is between the digital strategy and the DTS. A digital strategy according to Bharadwaj et al., [24: 472] is "… organisational strategy formulated and executed by leveraging digital resources to create differential value". Furthermore, the digital strategy is a functional level strategy that is at par with the business strategy [4]. Hess et al., [23] contend that the digital business strategy lacks the transformational steps required to reach a state of being digitally transformed which a DTS encompasses.

Digital transformation strategies are the road maps or blue prints that prescribe the transformations available to organisations, how organisations can implement these transformations and ultimately how organisations integrate the transformations into their operations and business processes [23]. Berman [25] adds that regardless of the industry that an organisation is in, digital transformations have an aspect of one of these four elements: use of digital or disruptive technologies, customer value creation, structural organisational changes and financial aspects. Concisely, digital transformation strategies are fundamentally challenging the traditional approach to strategy setting and maintaining those strategies pertinent in light of swift technological changes [2, 4, 21, 23]. Chanias [2], Zimmer [3] and Albukhitan [4] found out that the DTS formulation process does not follow the traditional top-down and formal planning approach. Instead, it follows a bottom-up fashion initiated by cross-functional or informal teams before management formalises the strategising process.

3 Methodology

To understand the components of the DTS, this study adopted a qualitative research approach and collected research data using a qualitative internet-based questionnaire hosted on SurveyMonkey. The qualitative questionnaire was chosen because it is an easier way to reach research participants in many organisations and generates large amounts of data faster [26]. The research participants that responded to the qualitative questionnaire are practitioners, business and digital managers in South African organisations from the following industries: financial services, telecommunications, consulting, Information Technology (IT), aviation and insurance. Qualitative research is most appropriate when conducting exploratory research, which involves an investigation on a new topic or subject of inquiry where there is deficient literature on the subject such as DTS [27, 28]. This research study utilised the non-probability stratified convenience sampling technique to recruit research participants who were suitable to respond to the research questions [29]. In our case, convenience sampling was ideal because we specifically targeted research participants that work in digital transformation and strategy.

The questionnaire had the C*oding* and *DTS Rationale* sections. The questions in the *Coding* section addressed these key concepts: organisational roles of the participant, industry in which the company belongs and how long the organisation has been in existence. The following concepts were covered in *DTS Rationale* section: definition

of a DTS, whether the organisation has a DTS, how long the company has formally had a DTS, motivation behind the company's adoption of the DTS and components that make up the DTS. This section had multi-choice and open-ended questions.

The questionnaires were qualitatively analysed using thematic analysis, specifically, thematic networks [30]. Firstly, the basic themes are identified by assigning initial labels to the data. Secondly, the basic themes are further grouped into organising themes that combined common basic themes. Lastly, the organising themes were grouped into the high-level global themes. In the next section, we present and discuss the research findings of our study.

4 Analysis and Discussion of Findings

In this section, we present and discuss the findings from the qualitative internet-mediated questionnaire. We also discuss what the findings mean and highlight where the findings corroborate literature.

The questionnaire was sent to 69 research participants and 51 research participants responded to the questionnaire. This represents a response rate of 74%. Eighty three percent (83%) of research participants reported that their organisations have a DTS, whereas, 11% reported that their organisations did not have a DTS. About 6% of research participants were unsure if their organisations have a DTS. An analysis of the data revealed that most of organisations have formally adopted a DTS in the past ten years. These findings corroborate the assertion that most organisations have recently adopted a DTS [8].

4.1 Components of a DTS

The data collected from research participants on the definition of a DTS yielded eight global themes that attempt to summarise the components of a DTS. The global themes are *digitise customer experience*, *digitise products and services*, *digitise employee ways of working*, *digitise business processes*, *achieve competitiveness through digital technology*, *grow the organisation through digital transformation*, *realise business strategy through digital transformation* and *innovate with digital technology*. Each of these global themes are discussed in detail next and verbatim statements are be used to substantiate these themes.

Digitise customer experience. The *digitise customer experience* global theme, has two organising themes that are associated with it; *use of digital to improve customer experience* and *use of digital to solve customer needs*.

Use of digital to improve customer experience. This organising theme pertains to the use of digital technology in offering customers a remarkable customer experience. The use of digital technologies is giving organisations the opportunity to improve customer experience through improved service delivery and better engagement with customers [23] as stated in these statements. RP-2: "Simply the use of information technology to

enhance and improve the service delivery to the end customers." RP-36: "…digitisation of the client experience and digitisation more broadly"RP-37: "A strategy that leverages digital (all facets) to optimise business outcomes and change/improve how customers engage."

Use of digital to solve customer needs. This organising theme describes the use of digital technology to solve customer problems or fulfil customer needs in a novel way. The following statements from buttress this view: RP-11: "Digital solution that solves clients' needs; one that is apt."RP-20: "The intent to integrate digital technology … to solve customer problems."

We can therefore, conclude that the use of digital technologies to deliver a unique customer experience and solve customer problems or meet customer needs is an important component of the DTS. Our findings bode well with those of Ketonen-Oksi et al., [17] and Vial [11] who assert that digital technologies are being used to better understand customer behaviour and target customers more effectively.

Digitise products and services. The *digitise products and services* global theme is derived from the *use of digital to digitise/create products and services* organising theme.

Use of digital to digitise/create products and services. This organising theme emphasises the role of digital technology in rendering products in a digitised form.

The following verbatim statements reinforce this theme: RP-4: "Components of digital that impact… product…" RP-5: "The plan or journey to digitise your products and service offerings using digital technologies."RP-32: "Business strategy that is driven by the use of emerging technologies to either improve existing services and products, and/or to create new products and services."

In summary, the DTS incorporates the digitisation of products and services. More importantly, digital technologies have enabled organisations to create new products and services that would traditionally have not been possible without using digital technologies [16].

Digitise employee ways of working. The *digitise employee ways of working* global theme has two organising themes linked to it, which are *digitise employee experience* and *use of digital to transform ways of working*. These organising themes underscore the use of digital technologies in the organisation, to digitise the way the organisation engages with employees, and the employees' ways of working in a digital world.

Digitise employee experience. The *digitise employee experience* organising theme highlights the need to avail the information systems and technology tools that employees use to accomplish everyday tasks remotely and in digitised forms. These verbatim statements support this assertion: RP-40: "… digitisation of your colleague [bank employees] experience" RP-42: "….a large scale digital ambition and what it means … for the employees"RP-48: "The changes associated with digital technology

application and integration into all aspects of the organisation, including human resources"

Use of digital to transform ways of working. The *use digital to transform ways of working organising* theme stresses the use of digital technologies in the workplace. These research participants echoed the following views: RP-16: "Components of digital that impact … and shifts in ways of work." RP-42: "….a large scale digital ambition and what it means … for how we do work" RP-46: "Planned activity to introduce technology into every day work tasks."

To summarise, digitising the employee experience is an essential aspect of the DTS in this digital world as echoed by [13, 14], and all organisations need to be striving for the employee experience that attracts and retains the best talent.

Digitise business processes. The *digitise business processes* global theme has one organising theme linked to it, *use of digital technology to transform business processes*.

Use of digital technology to transform business processes. This organising theme entails the use of digital technologies in the organisation, to improve, automate and change business processes. The following statements support this: RP-1: "It is the move to a digital business to simplify processes…" RP-5: "A DTS focuses on moving manual and often paper based processes or artefacts onto digital platforms." RP-8: "Business strategy that is driven by the use of emerging technologies to improve existing processes…"RP-10: "… it is about literally getting your processes digitised end to end."

From the above assertions, it is evident that the DTS must incorporate the digitisation of business processes using digital technologies to streamline manual and inefficient business processes. This view supports that of Albukhitan [4] and Vial [11], who state that digital technologies are driving business process efficiencies.

Achieve competitiveness through digital. The *achieve competitiveness through digital* global theme has one organising theme called *use of digital capabilities for competitive advantage*.

Use of digital capabilities for competitive advantage. Competitive advantage, which enables an organisation to have a competitive edge or compete effectively against other organisations in its industry, is achievable with digital technologies. Research participants corroborate these findings by saying: RP-18: "… turning digital disruption and innovation into competitive advantage." RP-27: "… creating competitive advantage by honing in the ability to consume customer feedback and to rapidly create and respond with a solution." RP-33: "A strategy to leverage off IT systems for increased efficiency, competitiveness and growth."

A digital competitive advantage enables the organisation to remain viable by competing effectively and fending off new digital entrants into the industry. These

findings are similar to those of [3, 9, 31, 32], who note that digital transformation can give an organisation a competitive advantage.

Grow the organisation through digital transformation. The *grow the organisation through digital transformation* global theme has one organising theme *use of digital technologies to grow the organisation* associated with it.

Use of digital technologies to grow the organisation. This use of digital technologies to grow the organisation organising theme explains the way in which organisations can use digital technologies to grow the organisation from a value, revenue and market share perspective. Research participants confirm these views: RP- 19: "Leveraging digital assets for current and future growth of the organisation." RP-44: "Using technology as an enabler for growth and driver of business value." RP-50:"… innovation in the interest of growth, both from a revenue and market share perspective."

Growing the business is an imperative for most organisations and the above findings reveal that the DTS should encompass aspects of organisational growth.

Realise business strategy through digital transformation. The *realise business strategy through digital transformation* global theme has one organising theme which is, *use of technology to achieve the objectives of the organisation*.

Use of technology to achieve the objectives of the organisation. This organising theme involves the use of technology in achieving the goals and objectives of the organisation including business metrics such as increase revenue, reduce costs and customer satisfaction. These participants confirm these sentiments: RP-32: "Defining how technology will be adopted to achieve the objectives of an organisation." RP-36: "the roadmap towards achieving digital transformation objectives" RP-43: "…the plan of how you intend to get to be a digitally led organisation, if that's your goal."

The role of digital technology in enabling the attainment of organisational objectives is an important finding that supports the notion that a DTS should inherently incorporate this aspect and should be part of the business strategy. Abdelaal et al., [13] make the same argument that DTS is at the same level as the business strategy.

Innovate with digital technology. The *innovate with digital technology* global theme has one organising theme, *use of digital to enable innovation* that is linked to it.

Use of digital to enable innovation. This organising theme underscores the role of digital technologies in either enabling, driving or being the source of innovation for organisations. The verbatim statements reinforce these assertions: RP-1: "It is the move to a digital business to simplify processes and introduce innovation while keeping up with user demands." RP-45: "The deliberate application of digital solutions and new technology to solve conventional problems and to enable new types of innovation…" RP-50: "… innovation in the interest of growth, both from a revenue and market share perspective."

Innovating with digital technology is an essential component of the DTS enabling the organisation to solve business problems and to grow. These findings buttress those of Kane et al., [19], who argue that digital transformation bolsters innovation.

4.2   Summary

In summary, our findings revealed that the components of a DTS are; digitisation of the customer experience, digitisation of products and services, digitisation employee ways of working and digitisation of business processes, achieving competitiveness, innovating, growing the business and realising its business strategy through digital technologies. Our findings substantiate the notion that the DTS is entirely or largely based on digital technologies [21]. As organisations adopt a DTS and refine their existing DTS, it is imperative to ensure that their DTS incorporates aspects of these components to be successful. Based on our findings on the components of a DTS, we propose the following working definition of a DTS. *A DTS outlines how an organisation will use digital technologies in order to digitise the customer experience, products and services, employee ways of working and business processes. It also encompasses how the organisation will use digital technologies to be competitive, innovative, to grow the business and realise its business strategy.*

5   Conclusion

This research paper is part of the research efforts to bring better understanding on the components of a DTS and answer the clarion call to conduct more research on digital transformation. We found out that, most organisations have a DTS that they have adopted recently within the past ten years. This corroborates the view that most organisations have recently embarked on their DTS journeys [7, 21]. A DTS must incorporate the following components, digitisation of the customer experience, digitisation of products and services, digitisation employee ways of working and digitisation of business processes. Furthermore, it leverages digital technologies enabling the organisation to be competitive, innovative, grow the business and realise its business strategy.

This research has implications for both academics and practitioners. The study contributes to a better understanding of digital transformation strategies, by specifically outlining the components of a DTS [8]. Furthermore, study also proposes a definition for a DTS from a DTS components perspective. From a practitioner point of view, the definition of a DTS brings more clarity on the scope of a DTS and guides those involved in formulating and refining the DTS on what components should be embedded in it.

Our research study recognises the limitations that should be taken into consideration while interpreting our research findings. First, qualitative research is subjective in nature and therefore, has an element of bias. To counter this bias, we undertook a pilot study before the study to eliminate potential problems. Second, the analysis of qualitative research data is subject to the researcher's bias and experience hence limiting the generalisability of our findings. Given that, the literature on the DTS is still

developing and deficient, we suggest that future research should focus on understanding the DTS formulation process in organisations. The same study could be conducted using the quantitative research approach in order to compare research findings.

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