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Exploring Dynamic Capabilities, Digital Business Transformation and Indonesia's Creative Industry Sector

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Research-in-progress

Abstract

Organisations that are less digitally capable are more vulnerable to the impacts of change. It is argued that organisations must enhance Dynamic Capabilities (DCs) and embrace Digital Business Transformation (DBT). However, whilst technology disruption and global competition impact both developed, and developing countries, most theories and implementations of DBT are derived from experiences in developed countries. Implementation of DBT in less developed countries requires an understanding of the current status of DBT, influencing factors and what adaptations are needed, in those contexts. The paper presents the conceptual foundations for ongoing research into how concepts of DCs and DBT are applicable to Indonesia's Creative Industry Sector (CIS). The work has particular importance for Indonesia's economy. Specifically, the paper provides a conceptual foundation for further research synthesized from extant DCs and DBT models. This current research suggests the importance of investigating how to bring theories of DCs and DBT into developing countries.

Keywords: dynamic capabilities, digital business transformation, creative industry sector, Indonesia

1. Introduction

Organizations that are less digitally capable are more fragile and vulnerable to global socio-technical and economic pressures. Events like the COVID-19 pandemic make this point much clearer: it has shown how important digital capability maturity is to survive the changing circumstances (Fletcher and Griffiths 2020; Westerman et al. 2014). COVID-19 has led to a reduction in investment, quarantine measures, disruption to supply chains, sudden production stops and closure of businesses (Manta and Neacsu 2020). Business organisations with higher levels of digital capability maturity have demonstrated greater resilience and are more likely to survive (Fletcher and Griffiths 2020; Kane et al. 2016). Developing the digital capability of human resources is an essential core and dynamic capability needed for undergoing digital business transformation (Warner and Wäger 2018). There are several reasons for this. First, organisations with human resources which are digitally mature are more comfortable in taking risks than organisations with a less digitally mature workforce (Kane et al. 2016). Its team members tend to trust peers in how to handle the transformation (McKeown 2015, p. 7). Second, an organisation with a higher level of digital capability maturity in the workforce is more comfortable creating digital innovations to overcome the challenge of the transformation (Berghaus and Back 2016). Furthermore, the pandemic has been a significant accelerant and amplifier of the need for digitalisation and its processes because it has forced many workers to work from home and consumers to be limited to online buying channels (Fletcher and Griffiths 2020). Events such as this highlight the need for organizations to increase their digital capability maturity (Fletcher and Griffiths 2020). Consequently, businesses need to engage in business transformation such that their functions are digitalised, otherwise, the current and future social, economic and environmental challenges they face will not be able to be resolved in an effective, sustainable manner (Bican and Brem 2020). Prior to COVID-19, Digital Business Transformation (DBT) was already an important issue for both information systems (Vial 2019) and businesses (Berghaus and Back 2016). There exists widespread recognition of a need for businesses to develop Dynamic Capabilities (DCs), in terms of both ability and capacity, because they are needed to respond to the disruptions in technology, customer expectations and competitive environments (Warner and Wäger 2018), and to orchestrate DBT (Wade et al. 2017). This need already exists, but global disruptive events, such as the pandemic, have increased the urgency for DBT (Warner and Wäger 2018).

Although the need for developing DCs in DBT applies to all economies, research into how it can be realised has been based on the experiences of companies, industry sectors and countries in developed economic contexts (Warner and Wäger 2018). It is less clear how relevant their findings are for specific sectors in developing countries which often have a greater scarcity of resources (D'Annunzio et al. 2015). The incumbent businesses in a developing country, e.g. Indonesia, need to adapt to customer and market change by building DCs that sustain and drive DBT (Mihardjo 2019). This applies to all sectors, including the Creative Industry Sector (CIS), itself also reeling from COVID-19 challenges (Comunian and England 2020). Studying DBT in developing context is important because businesses in developing countries need to understand better how to implement DBT. Existing research provides understanding on how this can be achieved in developed economies where businesses have access to many resources. However, this is not the case in developing countries and therefore, it is not clear how well current findings about DBT in developed countries apply to businesses in developing countries. This research will evaluate the applicability of existing theory of DCs and DBT to developing countries contexts, and investigate adaptations needed to harness the implementation of DBT in developing countries, including government's policy and community's support to enable the process.

As the first step in this assessment, this work reviews existing literature on the DCs necessary to effect transformation, and the processes of DBT, with a view to: 1) understanding how existing research into DCs and DBT applies, if at all, to developing countries; and 2) synthesizing those existing theories as a basis for further exploring their relevance to developing countries. A proposed conceptual framework with descriptive-analytical model will be evaluated through the survey questionnaire and interviews. The results of the review are first presented, and the implications for future work are then outlined.

2 Literature Review

2.1 Dynamic capabilities (DCs)

DCs refers to an organisation's ability to integrate, build and transform internal and external capabilities to address rapidly changing environments (Schoemaker et al. 2018). The theory of DCs highlights organisational and managerial skills which include organisational processes directed toward

learning and innovation as well as the decision frameworks and examination processes that inform a firm's investment choices over time (Teece 2009). They are both the abilities required, in terms of the talent, intelligence and disposition of an organisation and the capacities in terms of the availability of resources, personnel and tools. Far from fixed, DCs are dynamic, innovation-based and consist of identifying opportunities and threats, seizing opportunities, transforming the organisation's business model and widening the resource base. DCs refer to mindsets that nurture change, strategic decision making and processes in an organisation such as product development and cooperation, to create value in a rapidly changing market by manipulating resources to new value-creating opportunities (Lucas & Goh 2009, p. 48). Therefore, the organisations will be unable to face the challenges if they do not undergo DCs necessary for DBT (Schoemaker et al. 2018).

2.2. Digital Business Transformation (DBT)

DBT refers to the journey of a businesses' transformation (Bowersox et al. 2005), at both organisational and industry levels, from a pre-digital, or low digital capability, business into a new digitally capable business (Chanias et al. 2018). DBT is about collaborative approaches to change, particularly within organisation and industry sector contexts that support the development of digital culture (Warner and Wäger 2018) and radical improvement of an organisation's performance, through change to internal processes, value propositions and customer relationship management (Westerman et al. 2011). DBT has four essential strategic components: 1) necessary organisational changes; 2) the use of technology; 3) changes to business model; and 4) changing financial aspects (Matt et al. 2015):

- 1) **Organisational changes.** Optimal organisational changes require *leadership capability* (Westerman et al. 2011) and *cultural changes* (Kane et al. 2016). The three leadership capabilities that are required for successful DBT include strategic thinking (Roger 2016), integrative management (Bowersox et al. 2005), and risk management (Kane et al. 2016). The implementation of DBT also requires *cultural changes* toward a collaborative ecosystem (Kavadias et al. 2016) and a culture of digital learning (Sousa and Rocha 2019b).
- 2) **The use of technology.** The use of technology components includes IT capabilities, the adoption of new digital technology, process digitisation, investment in, as well as the application of, digital technologies (Warner and Wäger 2018). Personnel requires adequate DCs that are important for the digital innovation process (Nylén and Holmström 2015). In addition, the adoption of digital technology to integrate business functions in a company will lead to a change in the business model (Kavadias et al. 2016).
- 3) **Changes to business model.** A business model describes the way an organisation approaches its essential value-creating activities. Digital business transformation is about adaptivity and changes, including how value is created (Kotarba 2018; Matt et al. 2015). This could happen in the area of production. For example, it involves digital innovation which uses a dynamic set of product units (Nylén and Holmström 2015).
- 4) **Changing financial aspects.** The financial aspects are related to the financial ability of organisations to embark on the DBT process and to respond to their struggling core business (Matt, Hess and Benlian 2015, p. 124). This may include whether an organisation that conducts DBT has the means to realign incentives for its skilled employees (Wade 2015).

2.3. Dynamic Capabilities in Digital Business Transformation

DBT is an ongoing process and includes agility in a strategic renewal of the organisation's business model and developing a collaborative approach and culture (Warner and Wäger 2018). There are several reasons why DCs are critical for DBT. *Firstly*, developing capabilities for sensing, seizing and transforming 'digital' is essential to respond to external pressures for change (Warner and Wäger 2018). *Secondly*, the implementation and modification of the digital business model to be relevant in the emergent digital economy requires DCs (Warner and Wäger 2018). *Thirdly*, modification of an organisation's strategic alliances needs DCs (Teece 2009). *Fourthly*, DCs are essential to increase the competitive advantage of an organisation to survive and grow with prosperity in their marketplace (Teece 2009). *Finally*, DCs serve as a reminder to the enterprise to stay on track in implementing DBT. The DCs framework is a powerful lens for examining the DBT of incumbent businesses using traditional organisations and which need to be digitally transformed (Warner and Wäger 2018) and to explain how businesses can respond to rapid technological and market change.

Currently, the role of DCs in DBT is not well understood or sufficiently described in the literature for the field (Warner and Wäger 2018). However, it is known that there could be various reasons for adopting a strategy to implement DCs for digital transformation, e.g. new digital technologies (Warner and Wäger 2018) or, as we witness at the moment, even global environmental disruptions such as the COVID-19 pandemic. Following on from Warner and Wäger, it is easy to see that the three capabilities

of sensing, seizing and transforming are critical to digital innovation and the ability of an organisation's leadership to orchestrate organisational processes, decision frames, asset allocation and investments for DBT (Helfat et al. 2007; Schoemaker et al. 2018):

- 1) Developing **digital sensing capabilities** includes digital scouting and digital scenario planning to pinpoint new technologies, customer and competitor-based trends. To sense opportunities, organisations need to develop skills in digital mindset crafting and strategic development.
- 2) Developing **digital seizing capabilities** refers to the need of the organisation to incorporate strategic agility into their business model, rapid prototyping and balancing the digital portfolio. The seizing involves mobilising the firm's research to address customer needs and opportunities and capturing value.
- 3) Developing **digital transforming capabilities** includes improving digital abilities and capacity overall, redesigning internal structures to become adaptive and navigating the innovation ecosystem (Warner and Wäger 2018). Managers need to sense and seize opportunities and reconfigure or transform by allocating, combining and recombining their resources and assets at the right time (Teece 2009).

The three capabilities above are not exhaustive, and apart from these, organisation managers should have a digital business strategy to optimise the implementation of DBT (Goerzig and Bauernhansl 2018). DCs is a strong theory which underpins optimisation of the resources base and strategic thinking (Helfat et al. 2007; Warner and Wäger 2018). Strategic thinking about digital capabilities is essential for DBT because it is crucial as a starting point for DBT implementation.

2.4. Measurement of dynamic capabilities in digital business transformation

Indicators to measure DCs in DBT as discussed above are summarised in Table 1 below.

Measures	Indicators	References
Dynamic Capability	Sensing, seizing, transforming	Warner and Wäger (2018)
Digital Business Transformation	Organisational: strategic thinking, organisational agility, digital learning culture, collaborative ecosystem, approach for doing DBT	Matt et al. (2015); Roger (2016); Westerman et al. (2014); Isaa et al. (2018); Berghaus and Back (2016)
	The use of technologies	Matt et al. (2015); Berghaus and Back (2016)
	The digitalisation of the business model	Schallmo et al. (2017); Berghaus and Back (2016)
	Financial aspects	Hess et al. (2016); Berghaus and Back (2016)

Table 1. Measures and Indicators of DCs in DBT

Dynamic capabilities in Digital Business Transformation can be measured by using the indicator of sensing, seizing, and transforming in the components of DBT, i.e. organisational changes, the use of technologies, the digitalisation of business model and financial aspects to undergo DBT.

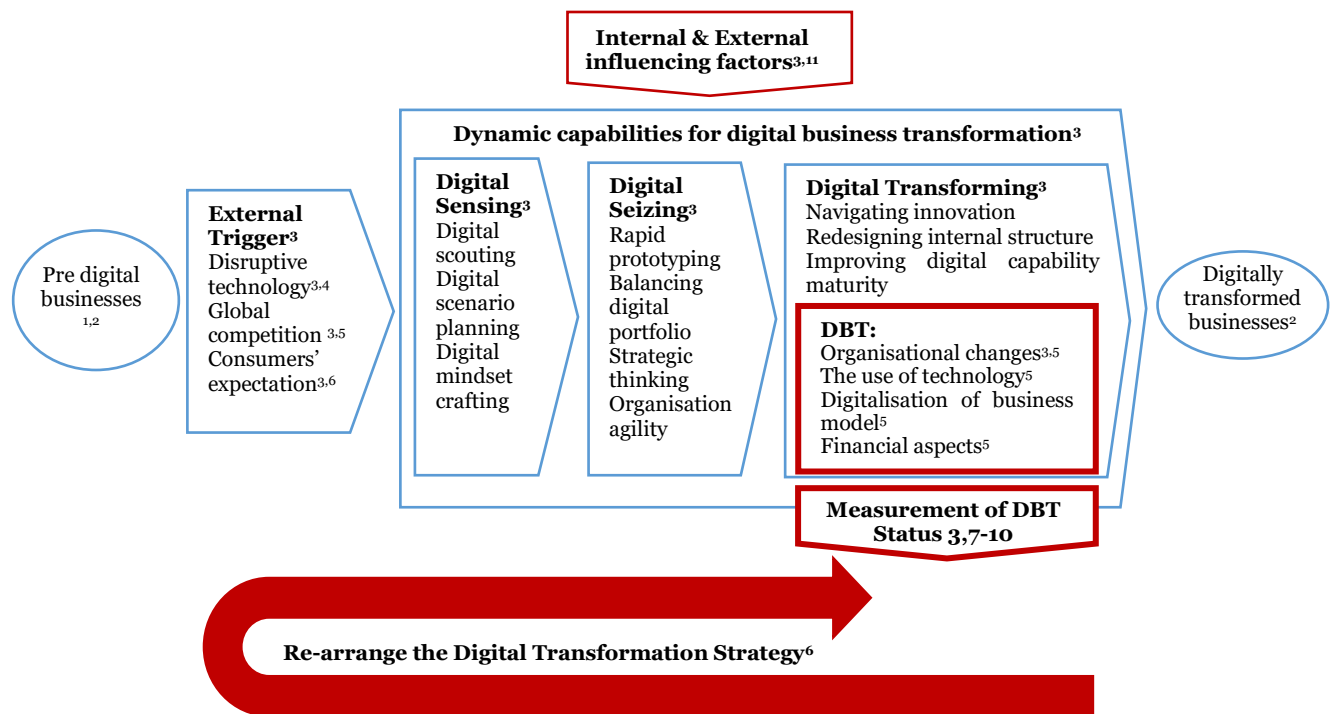
2.5 DCs and DBT in Indonesian Creative Industry Sector (CIS)

The research has chosen the Indonesian Creative Industry Sector for the following reasons: first, the Creative industry sector is the motor of economic development (Porfirio et al. 2018). Second, Indonesia has a large population; however, the economic growth of Indonesia is lower than its neighbouring countries. Considering the size of the population in Indonesia, the CIS has the most potential to improve the economy of the country because many people can become involved in this sector if they are suitably upskilled. Therefore, further undergoing DBT in the sector is crucial. However, there is a scarcity of publication of DCs and DBT in Indonesian CIS. A survey in Malang (Anjaningrum and Rudamaga 2019) and Bandung (Utami and Lantu 2014), Indonesia, disclosed that the Indonesian CIS businesses need to improve their innovation to maintain their competitiveness. Adoption of theories and technologies from developed countries require adaptation and adjustments because of differences in cultural and environmental norms (Nurdin et al. 2011).

3 Proposed Research Framework

Synthesizing the literature above, a proposed research framework has been developed. Technology disruption, competitive environment and consumers' expectations encourage pre-digital organisations to aim at DBT. These conditions cause less digitally capable organisations to attempt to increase their levels of digital capability through the implementation of DBT. An organisation needs to develop DCs to undergo a DBT including the abilities of sensing, seizing and digital transforming. Measuring DCs in DBT and the status of DBT is essential to minimise the risk which could emerge due to the implementation of DBT and re-arranging DBT strategies. This framework is important to understand the DCs and DBT theory from developed countries, and what adaptation needed to optimise the adoption of DCs and DBT in developing countries.

Based on these insights gained from the literature and discussed above, the proposed Conceptual Framework presented in Figure 1 has been developed, linking the relevant elements together. It also informs the future study in the Indonesian context, which we will briefly outline next.



Sources: ¹Andal-Ancion et al. (2003); ²Chantias et al. (2018), ³Warner and Wäger (2018), ⁴Vial (2019); ⁵Matt et al. (2015); ⁶Kane et al. (2016); ⁷Roger (2016); ⁸Westerman et al. (2014); ⁹Isaa et al. (2018); ¹⁰Berghaus and Back (2016); ¹¹Singh et al. (2017).

Figure 1. Proposed Conceptual Framework of DCs in DBT

The status of DBT will be reported after the researchers analyse the result of study, including consideration of how this informs their framework

4 Research approach

This research is designed as an embedded mixed methods approach; particularly a qualitative design with an additional quantitative strand (Creswell and Clark 2011, p. 71). It will employ an online survey and online semi-structured interviews with triangulation data sources from selected CI businesses, CIS community leaders and government representatives. This research will focus on CIS in Malang City, Indonesia. The questionnaire and interview guidelines in this study were derived from several works of literature (Berghaus and Back 2016; Matt et al. 2015; Roger 2016; Sousa and Rocha 2019a; Warner and Wäger 2018; Westerman et al. 2014) to answer the research questions. The research project has received ethic approval certificate from Human Research Ethics Committee of Swinburne University of Technology, Ref 20201278-5230.

5 Conclusion and Future Direction

This research-in-progress paper proposed a conceptual framework that integrates concepts and indicators of DCs in DBT in a new and innovative way, with the aim to eventually apply it to developing countries. Adding to the knowledge base in this space will help organisations facing digital disruption and continuous digitalisation of the environments they operate in, which has recently been further accelerated by the global pandemic crisis, to reduce their risk and improve their sustainability. Organisations with relatively lower digital capability maturity levels are at greater risk of survival. To be sustained, these organisations need to improve their DCs to undergo a DBT.

A future study is planned that will contextualise this area of interest by looking in detail at the situation in the CIS in Indonesia as an important developing country with different conditions from the better understood DBT phenomena in Western developed countries. The planned study aims to provide insights into the current state of DBT implementation in the CIS in Indonesia, analysed through the lens of DCs. The influencing factors, including internal factors, government policies and environmental factors (e.g. communities of practice etc.) will also be explored. The goal is to improve our understanding of how DBT in CIS in developing country settings can be harnessed successfully and to what extent Western theoretical foundations and empirical insights are transferable and/or require context-specific adaptation.

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