

Dec 12th, 12:00 AM

## Digital Transformation Normalization: Using Managerial Actions to Effectively Execute Digital Business Strategy

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### Recommended Citation

Klopper, Joep; Kalgovas, Bradley James; Borgman, Hans P.; and Benlian, Alexander, "Digital Transformation Normalization: Using Managerial Actions to Effectively Execute Digital Business Strategy" (2022). *ICIS 2022 Proceedings*. 2.  
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# **Digital Transformation Normalization: Using Managerial Actions to Effectively Execute Digital Business Strategy**

*Completed Research Paper*

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## **Abstract**

*Technological developments are challenging incumbent organizations' business models, increasing the need for the Top Management Teams (TMT) to initiate a Digital Transformation (DT). This requires a Digital Business Strategy (DBS), which is executed using Managerial Actions (MAs). However, DT success is low, and MAs do not address the complexity and digital leadership skills required to execute the DBS and embed DT into the organization (DT Normalization). To explore these MAs in the context of DBS execution and DT Normalization, we conducted seven in-depth case studies of Dutch incumbent firms in the process of implementing a DBS across a range of industries. Our findings identified eight granular Digital Managerial Dimensions (DMDs), and we have related them to the previously identified MAs. We also related the DMDs to DT Normalization, providing pathways from DBS execution to DT Normalization. Our research contributes to the TMT's role in guiding the organization through DBS implementation.*

**Keywords:** Managerial Actions, Digital Business Strategy, Digital Transformation Normalization

## **Introduction**

It is widely accepted that Digital Transformation (DT) is the primary response to technological developments, new market entrants, and existing competitors (Bharadwaj et al., 2013; Vial, 2019). However, despite its espoused benefits, DT remains challenging to achieve, and therefore success rates are low (Correani et al., 2020; Tabrizi et al., 2019). As such, there has been a recent upsurge in research aiming to improve DT (Vial, 2019). While such research has focused on improving the Digital Business Strategy (DBS) formation process (Tabrizi et al., 2019), an examination of organizational inertia indicates that difficulties in achieving DT success extend beyond strategy formation to execution (Bonnet & Westerman, 2021; Chaniias et al., 2019; Haskamp et al., 2021; Westerman et al., 2014). In the current study we combine several elements of the literature to define DBS execution as the process by which the particular DBS under contemplation is executed through a series of interventions directed by the Top Management Team (TMT) to influence the business model, organizational structures, key personnel actions, and control systems (de Oliveira et al., 2019). Given that 37% of an organization strategy's expected performance is often not

realized due to formation and execution failures, with a significant portion of this due to the difficulties in implementing, rather than formulating, the DBS (Mankins & Steele, 2005), we argue that current IS research does not reflect the complexity of organizing, aligning, and, in particular, embedding the DBS into the organization (Carroll et al., 2021). As a result, the value that the TMT can bring to the overall DT through successfully executing a DBS is poorly understood.

Managerial Actions (MAs) are defined as efforts taken by the TMT to guide the execution of an organization's overall strategy. However, the execution of a DBS, a distinctive and often dominant component of the organization's strategy, presents unique challenges that are not fully addressed by organization strategy execution literature. These include explaining the business value of digital ventures, prioritization between the business and digital initiatives, the unusually high resistance to DBS implementation from the organization, the influence of mechanistic and control functions, and the need for enhanced digital literacy leadership (Bitzer et al., 2021; Kane et al., 2019; Neilson et al., 2008). The need to develop a "digital culture" and the alignment across the organization further contributes to these challenges (Sull et al., 2018; Westerman et al., 2014), as does the requirement for digital leadership skills in the form of DT awareness, DT acceleration, and DT harmonization (Hanelt et al., 2021). Our research builds on the categorization of MAs for strategy execution as defined by de Oliveira et al. (2019) and examines them in the context of DBS execution. These categories consist of: 1. unfolding (sensemaking of the strategy), 2. coordination (mobilizing team members), 3. communication (dissemination of information), 4. control and feedback (monitoring of results), and 5. development of human resource (HR) (incentives and policies). We argue that applying this process to DBS requires identification of specific dimensions of the MAs, which we define as Digital Managerial Dimensions (DMDs), to assist in executing the DBS and consequently embedding the DT in the organization. Specifically, the current study acknowledges that while MAs are a critical tool used by the TMT to improve corporate strategy implementation, specific DMDs are required to address the challenges associated with DBS execution.

DT success is increasingly defined as more than just a one-off execution of a DBS; it is a continuous process that needs to be embedded in the business (Bitzer et al., 2021; Vial, 2019). This concept has recently been coined as DT Normalization (Carroll et al., 2021), which consists of coherence (individual or collective understanding of DT), cognitive participation (relational work), collective action (the operational work for implementation), and reflexive monitoring (the review of the work) (Carroll et al., 2021). This concept builds on the Strategy as Practice Perspective which argues that attention should be paid to potential MAs that can effectively implement the strategy (Peppard et al., 2014; Whittington, 1996) and to embed DT in the organization (Bitzer et al., 2021; Vial, 2019) in order to revise the organization's identity (Wessel et al., 2021).

In light of this, the current research addresses the need for analysis of specific DMDs that can improve DBS execution, as well as the need to further explore how to effectively embed DT into the organization (Carroll et al., 2021; Correani et al., 2020; Sull et al., 2018; Vial, 2019). This study is motivated by the need to determine how the TMT, through the use of MAs, and DMDs specifically, can effectively facilitate DBS execution and consequently DT Normalization, thus improving DT success and enhancing the organization's identity (Wessel et al., 2021). While existing literature has focused on MAs that improve overall strategic success in an organizational context (de Oliveira et al., 2019), an organization's DBS requires a significant revision of the organization's core identity, and thus presents unique challenges (Correani et al., 2020; Wessel et al., 2021). Additionally, the organizations' need to continue to digitally evolve requires them to embed DT into the organization through a process of DT Normalization. As such, research should investigate how the execution of a DBS creates an environment where DT can flourish. Thus, the current study seeks to identify the DMDs required to improve DT success:

1. *What are the DMDs related to the previously identified MAs that a TMT can use when executing a DBS?*
2. *How can the DMDs facilitate DT Normalization and thus enhance DT success?*

Through a case study approach with seven Dutch companies, we identify eight DMDs that can enable this, and relate them to the relevant MA. Additionally, we relate the DMDs that are associated with DBS execution to DT Normalization by providing pathways from DBS execution to DT Normalization. Thus, our research provides a significant progression in the strategy execution literature and its unification with prior DT research.

## **Literature Review**

The current research builds on the DT literature. Prior research is focused on promoting the effective execution of an organization's DBS in order to enhance an organization's digital culture and identity through the embedding of DT. While existing research has identified the challenges that organizations experience in embedding DT, the process by which the TMT can influence outcomes is not well understood. This research seeks to build on existing strategy execution research by identifying the dimensions of existing MAs that are relevant to executing a DBS and consequently embedding DT into the organization.

### ***DT Success Requires Effective DBS Execution***

Research has identified DT as the primary response mechanism to the technological and business model developments of competitors and new entrants alike. The benefits of DT have been widely espoused to include the creation of new products and services, shorter innovation and time to market, and the creation of digital ecosystems (Correani et al., 2020). However, while incumbents are increasingly undertaking DT to reorient the organization to one associated with a digital identity (Wessel et al., 2021), DT success rates are low, with failure rates estimated to be between 66 and 84% (Correani et al., 2020). Much research is dedicated to improving the understanding of the formation process which includes items such as disruptions, strategic responses, and the use of digital technology (Tabrizi et al., 2019; Vial, 2019), confirming that the concept of DT must extend beyond just the technology in order to be successful (Tabrizi et al., 2019). The resulting definition of DBS is a multifaceted concept comprising business model execution, digitization of products and processes, IT governance and investment, ecosystem capability, and leadership and culture (Bharadwaj et al., 2013; Bitzer et al., 2021; Hess et al., 2015). As such, DBS refers to the establishment of a business model with the digital elements that create value for the organization. These consist of: the firm's value proposition, the value chain structure, the mechanisms to create value, and relationships between the elements (Correani et al., 2020). This has resulted in researchers and practitioners looking to the DBS as a guiding mechanism to facilitate DT, and it becoming a distinctive and often dominant element of the organization's overall strategy, extending beyond any specific function (Bharadwaj et al., 2013). A DBS does not simply aim for IT enabled change as it is focused on creating differentiated value through the leveraging of digital resources (Bharadwaj et al., 2013). However, while the creation of the DBS is increasingly well understood, the path to achieving it is not (Correani et al., 2020; Vial, 2019).

DBS execution literature argues that there is significant value in examining the implementation of the plan as a means to improve DT success. While the DT scope has already been extended beyond technology to include DBS, an examination of organizational inertia reveals that difficulties in achieving DT success extend beyond formation to include execution (Haskamp et al., 2021). The presence of this inertia can result in outcomes such as employee resistance, biased decision making, project failures, and lack of innovation, as well as a lack of strategic change and renewal (Haskamp et al., 2021). In a case study of corporation "GE", its lack of DBS execution success resulted in it firing 100 employees in the software operation division which had been established to support GE's digital strategy (Correani et al., 2020). DBS execution addresses this by focusing on the translation of the plan into actions, with strong alignment between the actions and objectives of the overarching strategy. Thus, DBS execution literature argues that the concept of DT requires a further extension to include DBS execution. Research has identified that achieving success with DT is complex as it requires changes in the value creation path and the continuous development of dynamic capabilities (Vial, 2019; Warner & Wäger, 2019). Specific capabilities that need to be continuously developed include not only the underlying DT but also the agile and cultural transformation (Bitzer et al., 2021). This builds on the perspective that true competitive advantage in a complex business environment is created from configurations, rather than just pure capabilities and the design of a strategy on paper (Park & Mithas, 2020).

Organization strategic initiatives have been identified as challenging endeavors, often due to issues in the execution, rather than the formulation, of the strategy (Sull et al., 2015). The strategic execution research argues that the majority of implementation efforts fail because there is no overarching consensus on an effective strategy implementation model (Sull et al., 2015). Furthermore, the DBS execution literature indicates executing a DBS presents additional, more pronounced challenges, such as explaining venture business value, prioritization between the business and digital initiatives, the unusually high resistance to

DBS implementation, the influence of mechanistic and control functions, and the need for enhanced digital literacy leadership (Correani et al., 2020; Kozak-Holland & Procter, 2020). Venture business value challenges include unclear definitions, misunderstanding the economics of digital initiatives, overlooking the nature of digital ecosystems, and over indexing on the usual suspects (and not focusing enough on the B2B opportunities) (Bughin et al., 2018). Recent research has identified that the nature of success may depend on the type of strategy executed, further complicating the assessment and making prioritization between digital and business initiatives even more challenging (Kurtz et al., 2021). The DBS can often involve the development of a new business line which may be in conflict with the existing operations of the business. This can result in the business “living in two worlds”, and contribute to the unusually high resistance to change (Bughin et al., 2018). Achieving an agile transformation, which is critical to digital development and option execution, requires not only a break with traditional IS planning but also a new extreme version of emergent strategy making, which requires a comprehensive overhaul of existing control structures. Digital leadership is frequently mentioned as a key component to effectively motivate the execution of a DBS (Bonnet & Westerman, 2021; Correani et al., 2020). Thus, it is important that management takes action in the implementation of a DBS.

### ***MAs Significantly Impact the Effectiveness of the DBS Execution***

The support and involvement of the TMT is one of the most important factors in successfully implementing strategy in organizations (Correani et al., 2020; Mubarak & Yusoff, 2019). This aligns with the Strategy As Practice research, which states that an organization is more impacted by the MAs than the strategy itself (Peppard et al., 2014; Whittington, 1996). With specific reference to DBS, leadership has been identified as more important than technology in DT and that the TMT plays a significant role in overseeing the DBS implementation (Bonnet & Westerman, 2021). Furthermore, there are many digital leadership skills that the TMT need to master in order to improve DT success, including DT awareness, DT acceleration, and DT harmonization (Hanelt et al., 2021). Firstly, DT awareness refers to sensing shifts in digital technology, and the ecosystem more broadly, and leveraging the power of these changes. Secondly, managers must also be able to accelerate the changes by continuously creating novel digital products and processes. In addition, managers need to understand that fast execution and experimentation is superior to ex ante planning and analysis due to the dynamic nature of the current ecosystem. Finally, they must have the ability to combine and integrate new digital products and processes within the existing organization, known as DT harmonization skills (Hanelt et al., 2021). Although these skills have been shown to enhance DT success, the especially challenging nature of DBS execution (Correani et al., 2020) and the specialized skills required (Hanelt et al., 2021) mean there is still a need to identify the specific MAs required to enhance DT success.

Strategy implementation research has conceptualized a set of MAs which operationalize an organization’s strategy (de Oliveira et al., 2019). However, DBS execution requires a rapid change in the organization’s identity, which makes DBS execution an intense form of transformation (Wessel et al., 2021). Specifically, there are five dimensions related to organization strategy execution which are relevant to the context of DBS execution: unfolding of a strategy/strategic plan, coordination, communication, control and feedback, and development of HR policies and employee competencies (de Oliveira et al., 2019). These will be discussed in turn. The *unfolding of a strategy/strategic plan* dimension is focused on the translation of the strategy into a set of goals to unify efforts, along with a set of actions (de Oliveira et al., 2019). This is particularly challenging in the context of DBS execution as DTs can often take the form of new ventures/startups where the option to rapidly scale makes conventional strategy formation processes challenging (Bughin et al., 2018; Chanias et al., 2019) and requires new management methods like Objectives and Key Results (Doerr, 2018). Challenges arise as leaders must be able to articulate why the organization needs to invest in a certain new technology and what those new technological initiatives mean for translating the strategy into specific actions. Technology is only as valuable as the new business strategies and practices it enables (Kane et al., 2019). Additionally, literature has identified that a heightened form of DT awareness is required but this concept lacks a clear definition in the context of DBS execution (Hanelt et al., 2021). The *coordination* dimension is focuses on integrating senior and middle management efforts so that employees can be mobilized, and appointing leaders to organize the strategy implementation (de Oliveira et al., 2019). Coordination activities are critical to the implementation of the strategy by the TMT as poor coordination can often lead to the failure of the overall strategy (Sull et al., 2015). This is particularly challenging as executing the DBS successfully requires prioritization between digital and core business initiatives, creation of digital governance structures, meeting regularly across

functional boundaries, and holding workshops involving multiple organizational levels (Chanas et al., 2019). In addition, the manager's responsibility for DBS execution extends beyond the facilitation of meetings to include DT acceleration (Hanelt et al., 2021). As such, the responsibility cannot be delegated solely to the technologists in the firm; instead the TMT must actively lead the initiative, taking action to prioritize and align the cross-functional teams. Against this background, the current paper responds to the calls for more research into how this capability can be built (Hanelt et al., 2021).

The remaining three dimensions focus on the way that personnel interact and develop themselves through the strategy implementation. The *communication* dimension describes the dissemination of information about the strategy to employees, including items such as corporate objectives, goals, responsibilities, actions, deadlines, and results. Communication is paramount to a TMT's successful strategy implementation; if a TMT does not constantly communicate the vision of their DBS, they will face significant challenges, such as conflicting roles, responsibilities, and end goals (Fitzgerald et al., 2014). While CEO communication is the most important factor in implementation of the overall organization strategy (Alexander, 1985), more extensive communication is required by the entire TMT to successfully execute the DBS through a variety of media and channels (Chanas et al., 2019). This should take the form of a leitmotif – a recurrent theme or imperative that can be used as a unifying motivator for the organization's initiatives (Chanas et al., 2019). Communication is particularly important within DT acceleration and harmonization, both of which require further examination of the specific MAs that can be used when executing a DBS (Hanelt et al., 2021). The *control and feedback* dimension focuses on monitoring results by comparing them to the goals and determining whether any adjustments to the plan (e.g., goals, objectives, resources, deadlines) are required as a result of changes in the internal or external environment (de Oliveira et al., 2019). In addition, changes in the digital ecosystem are increasing in speed and thus rapid control and feedback are essential to enhance the value creation that can be achieved from a DBS execution (Bharadwaj et al., 2013). Staff must also understand how managers enact DT acceleration (Bharadwaj et al., 2013). For example, before initiating a DT, managers must first ensure that the IT backbone is sufficient for enabling digital services platforms (Sebastian et al., 2020). The final dimension, *development of HR policies and employee competencies*, is focused on the joint efforts by the people implementing the strategy and the role of HR to promote policies which support the competencies (de Oliveira et al., 2019). Inadequate capabilities of employees involved in the DBS implementation is often an obstacle to achieving strategic success (Hanelt et al., 2021). Managers are often trained in formulation, but not in agile mindsets and methods needed to continuously update their digital knowledge (Kane et al., 2019). Thus, the activities to promote DBS execution and the incentive structures to promote experimentation are not well understood (Chanas et al., 2019; Hanelt et al., 2021; Kozak-Holland & Procter, 2020). Thus, DBS execution research argues that while strategic execution research has identified the MAs to promote strategic success, using them to promote DBS execution misrepresents the complexity associated with DBS execution and the specific capabilities that managers require to execute a DBS (de Oliveira et al., 2019; Hanelt et al., 2021; Kozak-Holland & Procter, 2020). Thus, there is a need to identify the specific aspects of these dimensions as they relate to DBS execution and consequently DT Normalization.

### ***Effective MAs also enable DT Normalization***

DT Normalization refers to the embedding of DT into an organization such that DT becomes part of the organization's identity (Wessel et al., 2021). DT Normalization argues that DT is not a one-off DBS execution, but something that requires the embedding of DT into the organization's DNA (Carroll et al., 2021). DT Normalization is a cyclical process consisting of four steps: coherence, cognitive participation, collective action, and reflexive monitoring. Coherence refers to the understanding that occurs when the organization is considering entering into (the next cycle of) DT. Cognitive participation is the work required to build a community that supports each stage (and cycle) of the DT. Collective action focuses on the actual operational work that is required to enact the DT. Finally, reflexive monitoring pertains to the need to conduct an appraisal of the work to assess and understand the impact of the work on both the organization and its employees (Carroll et al., 2021). Most importantly, at the end of this cycle, the organization will consider engaging in additional iterations of the cycle as the internal and external context changes (Carroll et al., 2021). DT Normalization is critical to the outcome of an effective DBS execution (Carroll et al., 2021; Correani et al., 2020). As such, research is required to understand how DBS execution can lead to DT Normalization.

DT Normalization is strongly tied to the concept of Dynamic Capabilities; Dynamic Capabilities relates to the ability to sense, seize, and transform (Teece et al., 1997) can be likened to Carroll et al. (2021)'s concepts of coherence, collective action, and collective action and reflexive action, respectively. DT Normalization also builds on the concept of Strategy Agility, which focuses on strategic awareness (the ability to scan and define emergent threats and opportunities), collective response (make timely, accurate, expeditious, and relevant decisions), and resource orchestration (deploy resources to execute those decisions quickly and easily) (Pinsonneault & Choi, 2022). In addition, DT Normalization's roots in Agile Transformations make it perfectly aligned with the reality that many organizations are confronting today, making it an appropriate for a DBS execution (Carroll et al., 2021). However, similar to DBS execution, DT Normalization literature argues that IS implementation, IT change, and organizational change research misrepresent the additional complexity of achieving the transformation in a digital context (Carroll et al., 2021). Specifically, the extant literature provides little guidance on the process of DT or how it is managed and sustained in reality. Thus, further investigation into how DMDs can improve DT Normalization is required.

This study is positioned at the nexus of research about Strategy, MAs, and DT Normalization. There is an increased need for organizations to undertake DT and to do so successfully. However, this cannot occur if management fail to promote DBS execution, and it is not done in a way that facilitates DT Normalization over the longer term. Thus, there is a need to focus on the specific MAs that pertain to DBS execution and the specific link between those DMDs and DT Normalization.

## **Research Context and Strategy**

While there has been extensive analysis of strategy execution in general, this research does not address the complexity of DBS execution, the digital leadership capabilities require for it (Correani et al., 2020; Sull et al., 2015) or the pathways to DT Normalization (Carroll et al., 2021) as a means to ultimately improving DT success. Thus, the current research is seeking to explore the MAs that can be undertaken to improve DBS execution and DT Normalization through understanding the how and why., A multiple case study approach was deemed appropriate as this method focuses on observing the phenomenon in a real-life context and the researchers have little control over the events under study (Campbell & Yin, 2018).

Incumbent organizations are established traditional organizations belonging to a specific industry, such as retail or financial services, that were financially successful in the incumbent economy but to which the digital economy poses existential threats and provides game-changing opportunities (Bitzer et al., 2021; Ross et al., 2016). These organizations were selected for the current study as they are increasingly looking to execute a DBS in response to the vast and transformative impact of digital technologies on many aspects of their internal and external environment (Chaniyas et al., 2019). Unlike born-digital firms such as Tencent, Amazon, or Alphabet, incumbent organizations have the difficult task of changing their whole organization, business model, and processes when they adapt to the emergence of new technology (Bitzer et al., 2021; Sebastian et al., 2020; Tumbas et al., 2017). Seven cases were selected (see Table 1), with each case corresponding to an organization that was executing a DBS in order to embed DT into their organization. The inclusion criteria were that 1. the organization had more than 500 employees, 2. had been in existence for more than 10 years, and 3. was actively engaged in a DT.

When a nuanced description of a phenomenon is required, semi-structured interviews with experts are an appropriate way to gather the information while balancing the need for rigor and consistency in responses (Trauth & Connor, 1991). First a semi-structured interview was conducted with a TMT Digital Business Executive (i.e., Chief Information Officer [CIO], Chief Technology Officer [CTO], Chief Digital Officer [CDO], or an executive who directly reported to the digital business executive). To verify the findings, two further interviews were held, one with a person who represented a management function in support of the digital business executive, and another with an external consultant.

The interviews focused on the MAs that enable the DBS execution and DT Normalization. The interviews began by asking interviewees about the current MAs that they were engaged with in implementing their DBS. The interviewees were then guided to analyze the five dimensions of MAs and prompted to identify the specific nuances of the particular MA, resulting in the creation of the DMDs. They were then asked to identify how these MAs and DMDs contributed to each aspect of DT Normalization. Probing questions were asked to understand the reasons why there was a link between the DMDs and each stage of the DT Normalization. More generally, the strength of the link and the usefulness of the DMDs was gauged by

obtaining evidence and examples, while the DMDs and links identified in prior interviews were discussed with an external consultant, whose judgment was used to further validate the items identified by the prior interviews.

Case (#inter views)	Sector	Description of current DBS (year in which first initiatives of a DBS took place)	Digital Exec Role (TMT reporting)
A (3)	Natural Resources and Energy	DT is a crucial factor in being able to respond to the following four themes: 1. Contributing to the energy transition, 2. Developing a complex integrated system of different energy resources, 3. Responding to opportunities from developing technology, 4. The changing role of natural gas in society (2020).	Program Manager Digital Strategy (direct report to CIO)
B (3)	Storage	The DBS focuses on creating an end-to-end data driven supply chain. It also considers creating business models by developing a data sharing platform and collaborating through corporate venturing (2015).	CIO (in TMT)
C (3)	Public Service	The DBS has the following aspects: delivering exceptional service for our clients as one organization, creating value through IT and Data, and implementing agile (2019).	Program Director IT & Data (TMT -1)
D (3)	Natural Resources and Energy	The purpose of the DBS is to leverage technology and data to create a digitally connected network of optimized business processes, have valuable insights into assets, enable profitable growth, explore new business models, and better serve customers (2016).	CIO/CTO/CDO (in TMT)
E (3)	Banking	The DBS focuses on utilizing digital to more effectively and efficiently serve customers next to physical customer touchpoints. Digital is meant to assist with customer service (2007).	Manager IT payments (direct report to CIO)
F (2*)	Consumer Goods and Retail	The organization is focused on becoming the best-in-class omnichannel experience, using advanced data to provide excellent customer service, enable profitable growth, and optimize business processes (2017).	CTO (in TMT)
G (3)	Performance Management	The DBS is focused on utilizing technology and data to create a digital experience that enables improvement in the interaction with our clients (2015).	CIO (in TMT)

**Table 1. Overview of Cases**

\*Consultant assigned to the DBS had moved on from the client

Thematic coding was conducted using the methodology of data reduction, data display, and conclusion drawing (Miles & Huberman, 1994). Following the completion of each interview, the data was transcribed, and the MAs as well as the stages of the DT Normalization were used as seed categories for the initial phase of data reduction. The data was displayed using NVivo software by consolidating the data into a tabular form and creating a hierarchy of nodes. The hierarchy was then discussed among the researchers and the MAs were further deconstructed into composite bins of DMDs. Finally, conclusions were drawn by



analyzing the casual flows and patterns that were occurring between the MAs, DMDs, and stages of DT Normalization.

Although theoretical saturation was achieved after the sixth case, a subsequent case was conducted to further validate the nuances and linkages between the MAs, DMDs, and DT Normalization stages (Guest et al., 2006). Validity of the interviews was further enhanced through the use of a multiple case study approach which enabled the findings to be compared and analyzed across the cases. The multiple case study approach increased the accuracy and rigor of the findings (Gehman et al., 2018), and the semi-structured interviews enabled the researchers to collect rich and detailed data. Collecting them in the form of narratives about the DT of a firm through the interpretations of three people fostered triangulation (i.e., approaching data from three perspectives), which enhanced the verification of the data, further contributing to the validity of the findings (Eisenhardt, 1989; Fusch & Ness, 2015).

## **Findings and Analysis**

The case data revealed that three of the MAs can be further categorized into two DMDs each, while the remaining two are supported by one DMD each (see Table 2). The analysis also revealed how the MAs and DMDs support DT Normalization by mapping these DMDs to the steps in DT Normalization.

### **DMDs**

#### **Unfolding of the Strategy/Strategic Planning**

Our results showed that the first MA, the Unfolding of the Strategy/Strategic Planning, comprises two DMDs. Firstly, the findings indicated that there is significant value in focusing on *Translating Digital Strategy into Business Value for Team Members*. Managers often experience difficulties in effectively executing the DBS when the team members do not understand the rationale for the new digital business venture and how it fits into the overarching corporate strategy. The responsibility for translating this value falls to the TMT in most cases, as these cases are usually the instigators of the DBS within the company. For example, *“In the energy industry, utilizing digital solutions in our current business model is a new development and we need strong guidance from top management to understand what the right direction is.”* [A1]. Strong TMT guidance is most effective when communicated before initiating any translations of the DBS into subsequent actions. *“People will start believing their digital tasks only if the vision is clearly communicated and explained before distributing the tasks.”* [A2]. In addition, all TMT members must be able to answer DBS related questions, not just the CIO. This can be significantly challenging for organizations in traditional industries that *“...do not have digital-savvy leaders, where leaders view IT as only infrastructure.”* [D2]. Clearly articulating the business value is critical. For instance, B1 explained that employees are often afraid that the digital initiatives could result in the loss of their job, which makes it difficult for teams to come together and embrace DT. In summary, *“We need somebody to specifically explain what the digital ambition means for us as a business unit, and not only what the high-level goals are.”* [A2].

Secondly, *creating a Team-Based Strategic Mindset Culture* is recommended to help team members understand the DBS. While the previous DMD is focused on leadership, this DMD focuses on how teams should adopt an explorative attitude. The implementation of a DBS often represents a discontinuity in the identity of the organization where *“For decades the firm did not have to change, and now suddenly the way their whole business was working had to change.”* [A3]. This change in culture is closely tied to having an agile mindset within the organization, where experimentation is encouraged, but is focused on the strategic awareness of the team. For example, *“People in operations must first understand the business value of DT to help them specifically to understand what technology can do for their unit. This then creates a mindset which fosters the digital change.”* [B1]. This then affects the unfolding of the strategy as *“...each department makes a digital business plan each year of what they think they want to do the next year and they align this with the three strategic pillars of the organization.”* [A1].

### **Coordination**

The second MA, Coordination, is also supported by two DMDs. Firstly, the data revealed that many organizations are focused on *Prioritizing and Coordinating the Digital Endeavors*, as this is required to

effectively execute the DBS. Specifically, *“Top management and middle-level management have a different time perspective. The TMT is always thinking about the firm in 3 to 5 years, whilst middle-level management is focused on the short term and what their targets are for the current year. Middle-level management sees digital as a lesser priority than the TMT, because for middle-level management, it is less relevant in the short term. By connecting the short-term business responsibilities to the long-term digital ambitions, we align these different time perspectives.”* [D3]. This prioritization can be difficult to achieve when the digital initiatives are small in scale, as often the governance and mindset are designed and built for larger organization initiatives. However, there are often ways to enable this by implementing new organizational structures. For example, Bimodal IT in Organization C enables the organization to pursue both the development of traditional infrastructure and the digital initiatives. Organization A identified the need to set up a dedicated team to track and maintain progress. However, it was the responsibility of the business owners to execute the initiatives, not the transformation office to ensure there was greater organization buy in. This can also be done through a separate innovation team that builds the products or through corporate venturing where the company can invest in or acquire various startups which then can be incorporated into Organization B in the future. This then builds up to a *“tipping point”* [A1] where digital then becomes a significant part of the organization. Finally, organizations also identified that targeting areas where digital aligns well with the speed of the organization are also important as they can then take *“...advantage of the opportunity and accelerate there.”* [A1].

The second DMD is *Creating Alignment between the Corporate, the Business Unit, and the Individual*. There was strong recognition among the interviewees that achieving alignment between the different layers of the business is challenging. For example, in Organization B, *“There is not always a business case at the beginning and sometimes an individual will think ‘What’s in it for me?’. For example, developing a digital twin by itself doesn’t add any value for the individual in a business unit. Only when the organization decides to market and sell it does the individual and business unit receive a reward.”* [B3]. Organizations focus on addressing this through ensuring that people are located in the appropriate parts of the organization to support the digital initiatives. For example, with Organization B, *“IT reports to the COO which implies that to manage our operations successfully, we need IT. Additionally the CIO is focused very much on DT and prosperity instead of only IT maintenance and ‘keeping the lights on.’ This sends a message to the organization that without IT, we do not exist anymore and that digital solutions define us.”* [B3].

## **Communication**

The focus of the Communication MA is on *Ensuring an Organizational Shared Understanding of Digital* as many different organizational layers are usually involved in the execution of a DBS, yet there are significant differences in how people across the organization may approach the DBS. The findings support the existence of this MA but call for further specification of this important MA. For example, in Organization F, *“In one country, they interpreted that the store employees were only allowed to use the mobile register if there were five people waiting in line for the normal cash register. This is nonsense because the mobile register should be used all the time to optimize the customer experience.”* [F1]. Different levels of organizational hierarchy can also create issues *“...as a TMT, you can communicate as much as you want but if the managers are not communicating the DBS consistently throughout their teams and thus the organization, no change will happen.”* [G1]. Thus, when communicating a digital change, the MA should focus on communicating to the functional owners and middle-level management rather than the IT community and senior leadership. Finally, to aid the communication of the digital initiatives in Organization A, managers often use successful digital initiatives as flagship projects to show the rest of the organization what success looks like. This helps harmonize within the business where, for example, *“Some people think the DT has to do with an ERP upgrade, whilst others in the same team think it is about creating new business models through the means of IoT.”* [D1].

## **Control and Feedback**

Control and Feedback can also be divided into two DMDs. The first is *Creating an Agile Enterprise Feedback Culture*, which spans many different dimensions but is particularly relevant as a DMD for this MA as it creates the need for customer feedback in addition to internal feedback that crosses the organization. This can often result in the need for changing the management system of the firm, which was

the case in Organization G. Feedback is often actioned in the redesign of the product roadmap which requires the organization to adopt a new way of working together instead of as a set of silos. Additionally, it is important to rapidly take in customer feedback as “...it is important to go to the customer as soon as possible, as it can often take a long time to receive feedback from the customer, and we need time to test and complete adjustments based on customer feedback.” [E1]. This recognizes that “...agile delivery really starts with listening to the pain of your customer” and as “...customers are often more digitally minded than the salesperson” [E3] this feedback can help in developing the digital product. This can really reinvent the strategy planning process as “...when you implement short feedback loops, you are able to respond swiftly to your internal and external environment.” [C1].

Secondly, *developing an Operational Backbone and Digital Service Platform*, the second DMD, often requires the replacement of legacy technology that the organization has acquired over time. For example, “Many country subsidiaries are struggling with legacy platforms which reduce their ability to rapidly maneuver and adjust with respect to the DBS, compared to other country subsidiaries where there is no legacy software. This makes it challenging to implement agile operating procedures in those places, even though people already want it.” [D1]. The legacy technology can also be coupled with a “legacy mindset” [D2] whereby the technology has been viewed as a commodity for many years, resulting in it being so fragile that it is difficult to do substantial digital improvements using the existing platform. Even in the best case where the platform has already been invested in “...when the organization grows digitally, new business models emerge. However, we do not have the core competence to effectively lead this IT governance and really effectively use that data.” [B1]. Thus, it is important to have an operational backbone that is flexible enough to adapt to the DBS as it changes.

### Development of Human Resources Policies and Employee Competencies

The findings support the importance of Development of Human Resources Policies and Employee Competencies as the fifth MA. However, based on the interview data, we redefine it as *Educating the Organization in Digital Literacy and Mindset*. Specifically, this education should be conducted not only at the team level, but also at the leadership level because “... our former COO would give the CTO a compliment that Microsoft Teams was working very well. In light of our DBS, we recently changed some members of the TMT from people that have absolutely no clue about digital to people who have at least a basic knowledge of digital.” [F2]. Additionally, within the organization, many team members require training to assist them in closing capability gaps in order for the organization to effectively execute the DBS. “At Organization B, a lot of effort and money is put into providing the opportunity for employees and the leadership to acquire the necessary digital literacy and to make people understand why and how they should use data in their jobs. They have founded a data academy in which everybody can take part”. [B1]. Finally, there is a need to align individual incentives with the DBS to promote adoption. There needs to be alignment so that people understand “...what the benefit is for an employee to include digital in my improvement initiative” [A3]. There should also be a focus on aligning the DBS and its benefits for the company to the individual incentives to promote execution of the DBS.

Managerial Action	Digital Managerial Dimension	Description
Unfolding	Translating Digital Strategy into Business Value for Team Members	While the TMT is often responsible for devising the DBS, it is important that once developed, the organization is able to understand how the work of their business unit supports those goals. This requires the TMT to set specific targets and all members to be able to answer questions about the DBS.
	Creating a Team-Based Strategic Mindset Culture	While the TMT often has a well-developed strategic mindset, this is not always the case for the rest of the organization, and this requires each team to often develop an explorative attitude to align to the DBS.

Coordination	Prioritizing and Coordinating the Digital Endeavors	Digital Endeavors often require the organization to shift to a higher pace of development, while still coordinating their existing business operations. This can be achieved by structurally separating the organization, engaging with startups, and making organizational leaders accountable for the success of the DBS.
	Creating Alignment between the Corporate, the Business Unit, and the Individual	An organization needs to be structured to support the alignment of the individuals within the organization to that strategy. This can include managerial reorganization, along with time taken to explain to individuals how their work will change.
Communication	Ensuring an Organizational Shared Understanding of Digital	There is the need for the organization to agree on key aspects of the DBS across all of its different levels and layers to ensure that it is implemented in a standardized fashion. This can be achieved by targeting middle management and publicizing success stories.
Control and Feedback	Creating an Agile Enterprise Feedback Culture	The agile enterprise feedback culture is focused on developing a culture where management regularly solicits feedback from customers and iterates through learning loops to continuously improve product performance.
	Developing an Operational Backbone and Digital Service Platform	Replacing the legacy IT infrastructure with a more flexible architecture is important to allow the new DBS initiatives to be supported as they evolve.
Development of HR	Educating the Organization in Digital Literacy and Mindset	Education should occur among the leadership and throughout the rest of the organization. The training of teams should focus on how the different digital initiatives will impact their jobs.

**Table 2. DBS Managerial Digital Managerial Actions**

### **DT Normalization**

Carroll et al., (2021) identified four steps in the DT Normalization process (coherence, cognitive participation, collective action, and reflexive monitoring) (Carroll et al., 2021). The findings below reveal how the MAs and DMDs support each of those steps (see Table 3).

#### **Coherence**

Coherence is focused on interpreting the strategy where individuals and teams collectively attempt to understand the DT. As this is the first stage in DT Normalization, this can be supported by the two DMDs of *Translating Digital Strategy into Business Value for Team Members* and *Creating a Team-Based Strategic Mindset Culture*, as they create the activation energy for the organization to embark on the next cycle. Specifically, the translation into business value often begins with the creation of a burning platform which drives the “urgency” [D2] for the business to initiate a new iteration of DT Normalization. This DMD can also support the process by orientating the organization to a roadmap which creates an outline of the DT Normalization journey for the organization and, importantly, aid in understanding. For example, “We always have a multi-year vision where many employees have also given their input to this roadmap. The vision is then supported from all sides of the organization. This makes the strategy strong and less difficult to understand.” [C2]. Organization D identified that the roadmap must be aligned to the core values of the DBS. Finally, it is important that the DBS is expressed in terms of clear objectives and clear goals so that

the leaders can then devise plans for “...how they are going to get the company to X in the next 5 years.” [D1].

*Educating the Organization in Digital Literacy and Mindset* supports the DT Normalization process as it helps the organization understand the difference between the IT strategy and the business strategy, clarifying IT's role as an enabler and active participant in the DBS. The education is not just skills training but also shifting the mindset of the organization to a service centric logic where the customers are viewed as central to the organization; the idea of a customer is expanded to a citizen, other organizations, government parties, and even employees. In Organization B this creates the desire to interact with them as frequently as possible to create partnerships aligned to the core values of the digital strategy. The education also needs to continually support the DT Normalization, involving the TMT as “...we can educate in how technology can redefine the business, but this is an ongoing exercise. You can never say that the leadership understands and now we can stop educating them because often they understand but you still don't see the improvement in the business.” [D2].

### **Cognitive Participation**

Cognitive participation is focused on the relational work that people do to build and sustain a community that supports the DT. There are three DMDs that can support the cognitive participation. Specifically, *Prioritizing the Digital Endeavors* is very important to ensure that the rest of the organization is actively engaged. For Organization A, this is more than just setting up an innovation lab and communicating that digital is important, but about the leadership actually taking an active role in the implementation and leading by example. Additionally, creating a business case is important for prioritizing digital endeavors, as initially “... there may not always be a business case. Showing that digital can be of value and demonstrating various successful use cases within the company to everyone can turn a push into a pull mechanism so that operation teams ask for a digital solutions for their business units instead of it just being pushed centrally.” [B3].

*Creating Alignment between the Corporate, the Business Unit, and the Individual* is a key aspect of accelerating the creation of the community, which is part of the cognitive participation phase of DT Normalization. In Organization D, Product Managers are a critical part of the community as they assist in leading the roadmap and aligning across multiple disciplines. Objective and Key Results (OKRs) were also highlighted as a way to achieve alignment between the corporate and business unit, as while it is a fairly new technology, it is a way to quantitatively align the key performance indicators across the organization. This is important because “...you can no longer make a plan within your own silo within your own unit, because then you're going to have a lot of processes that go across multiple units.” [A1].

Cognitive participation is also supported by *Ensuring an Organizational Shared Understanding of Digital*, whereby it is understood that “DT is a business story, not an IT story. Additionally, the business strategy should include more and more digital in it so that the DBS becomes the normal business strategy.” [D3]. Cognitive participation is also supported as leaders realize the benefit to their business as DT Normalization is imperative to the “... future of the firm, customers, and reduction in costs across the organization.” [E2].

### **Collective Action**

*Creating a Team-Based Strategic Mindset Culture* supports the organization by ensuring that the different parts of the business work “... together toward holistic and real value thinking. This thinking requires a shift to considering the organization as modules and building blocks which enables you to look at the activities of the company in a different way.” [A1]. Organization B uses an innovation branch and corporate venturing to enhance the collective action as it allows the organization to focus on keeping its core competencies intact while the new capabilities are brought in inorganically from a new entity. However, Organization G cautions “...that 80% should be your own competencies and 20% can be from outside.” [G3]. Additionally, starting small is a key aspect of enhancing DT Normalization. “At first, we tackled small departments. This works better than saying that everyone is suddenly responsible for the digital strategy. Start small.” [E2]. Finally, it is important that the tools and technology are consistent as “... it would be nice if everything is in one system, so you do not have lots of places to look. It is difficult to innovate when the system keeps changing.” [G2].

## Reflexive Monitoring

*Creating an Agile Enterprise Feedback Culture* is associated with the need to continuously interact with the customer and the internal incentives which support this. This assists DT Normalization by allowing teams and individuals to understand and assess the DT progress and better shape the next cycle of DT Normalization. The customer is important, and they drive the impetus for the continuation of DT Normalization as “... the DBS develops continuously as the customer influences the business strategy. That keeps feeding the desire to move forward. During the COVID-19 pandemic the customer adopted digital. This created a real urgency to implement a DBS.” [F1]. Additionally, DT Normalization can be assisted by developing a governance mechanism focused on scaling small initiatives up as they progress, with the flexibility to acknowledge that “Every business has its own plans.” [A2]. The people in charge of the DT should also be focused on DT success. For example, “A few years ago, the CIO was still a classic CIO, but recently the new CIO has a strong DT future focus instead of only maintaining and optimizing their current IT. You really have to get the business on board so that the business really understands the value of digital and goes along with it and does not see it as an IT issue.” [D3].

*Developing an Operational Backbone and Digital Service Platform* is important as it enables the organization to develop a platform that supports future iterations of DT Normalization. “Conducting a pilot in your organization is easy to do, but ensuring that the IT backbone of your firm is fully up to date to scale up your successful experiments throughout the organization is really challenging.” [D1]. This is critical to truly scale the digital initiatives in a standardized way. The Operational Backbone also includes people, as often “...attracting digital native capabilities in your human resources is very difficult. This is because we are not in a very attractive industry where digital people would want to work.” [D1]. It is important to ensure the people dimension is considered when developing the operational backbone.

DT Normalization	Supported by Digital Managerial Action	Rationale
Coherence	Translating Digital Strategy into Business Value for Team Members	The motivation for the initiation of the cycle is provided by a “burning platform” which creates the impetus for change. In addition, the use of a roadmap helps orientate the organization on the value from this iteration of the DT cycle.
	Educating the Organization in Digital Literacy and Mindset	Focusing the organization on a service-oriented mindset can help the organization align to a customer first mindset and better understand the required changes. This education should not just focus on the lower levels of the organization, but also on the TMT.
Cognitive Participation	Prioritizing the Digital Endeavors	Prioritizing digital business endeavors requires leadership to take an active role in implementing the initiatives. Also, business cases must be adapted to allow for cases to be validated to ensure the solution solves a problem the customer wants.
	Creating Alignment between the Corporate, the Business Unit, and the Individual	The key mechanism for ensuring alignment is through the use of product owners who verify that the different areas of the business are aligned on value. They often also use OKRs as an alignment mechanism.
	Ensuring an Organizational Shared Understanding of Digital	There is a need to merge the DBS and the IT strategy such that DBS increasingly becomes a part of the normal organizational strategy and that the aims of the DBS are recognized to support the organization’s aims.

Collective Action	Creating a Team-Based Strategic Mindset Culture	Different pipelines can be used to develop digital ideas. The first is to set up external innovation and corporate venturing teams to create the ideas in isolation before transfer. Alternatively, if developed internally, the action is to focus on small modules that can be linked together.
Reflexive Monitoring	Creating an Agile Enterprise Feedback Culture	Creating a feedback culture assists in ensuring the organization interacts with the customer and the internal incentives support this. This assists in informing the next cycle of DT Normalization.
	Developing an Operational Backbone and Digital Service Platform	An operational backbone enables future iterations of the cycle to develop a platform that is able to flexibly adapt as requirements change in the future.
<b>Table 3. Managerial Action support for DT Normalization</b>		

## Discussion

Our results show that specific dimensions of MAs are relevant for consideration when implementing a DBS and that there are direct links between the execution of a DBS and the embedding of the DT in the organization. We integrate prior research on DT and strategic execution research to contribute theoretical and practical insights in terms of the specific DMDs that embody the requirements needed to execute the DBS and embed the DT into the organization, thereby enhancing DT success. DMDs are thus components of MAs that can be used by practitioners in DBS execution and DT Normalization.

The current study contributes to strategic execution and DT research in three areas. Firstly, we identify that DMDs specifically facilitate the execution of the DBS and DT Normalization. Prior research identified five MAs that facilitate the effective execution of strategy and that DBS is a difficult, distinctive, and dominant part of an organization’s overall strategy (Correani et al., 2020; de Oliveira et al., 2019). The current study extends this by confirming that all MAs identified in the strategy execution literature are relevant in the context of a DBS execution. This corresponds with the concept that a DBS is a component, and often a dominant one, of the overall organizational strategy (Bharadwaj et al., 2013). Furthermore, the findings specify the eight DMDs, the digital dimensions of the MAs, that are especially relevant in the context of a DBS execution. This corresponds with the understanding that DBS is a distinctive and difficult component of the organization’s overall strategy and MAs do not address that full complexity associated with DBS execution (Correani et al., 2020). The DMDs provide a contribution to the strategic execution research by identifying that certain types of strategies require nuanced MAs.

Secondly, this study provides guidance, in the form of DMDs, on the specific skills that leaders must master to effectively execute the DBS. While previous literature has focused on the role of digital leaders, there is growing recognition that all leaders must have digital skills to effectively execute the DBS (Hanelt et al., 2021). This is well articulated by D2 who states that *“Most firms in traditional industries where leaders view IT as only infrastructure do not have digital-savvy leaders. This is challenging because all members of the top management team should be able to answer all questions related to the digital business strategy.”* Recent research has identified that all leaders must possess the digital skills of DT awareness, DT acceleration, and DT harmonization, but notes that these must be made more tangible in order for leaders to learn them (Hanelt et al., 2021). Our findings expand this by identifying the tangible DMDs that leaders must master in order to become digitally savvy. Interestingly, most of these skills relate to a dispersion of leadership to the team and the rapid alignment among teams, where the teams are the creators of agile micro strategies in the organization, rather than the leadership team. This provides support for frameworks like OKRs (Doerr, 2018), where the team is the driver of value and the unit at which experimentation should be encouraged, as well as the extension of alignment beyond Business-IT alignment (Venkatraman et al., 1993) to alignment across a triad of digital, business, and IT strategy.

Finally, the findings significantly contribute to the DT Normalization literature by linking the specific MAs and DMDs to the specific ways in which they support DT. DT Normalization is in its infancy, and to date has largely focused on describing the phenomenon and its stages (Carroll et al., 2021). The study also has implications for practitioners as it identifies how the eight DMDs link to each of the four DT Normalization stages, as well as how these foster the creation of additional cycles. Specifically, the findings show that coherence can be supported by two DMDs. Together these DMDs create awareness that the organization is about to begin a new iteration of the DT Normalization cycle and also provide the motivation to commence the iteration. The next stage of the cycle is focused on ensuring that the initiatives are prioritized and aligned within the organization and the overall business intent. Collective action is supported by using the DMDs to ensure that even as the teams perform their tasks, they keep in mind the value outcomes that they are attempting to achieve. The final stage is supported by the need to create a culture that provides the foundation for the next iteration of the DT Normalization cycle by identifying the feedback that needs to be addressed whilst also constructing the platform that is able to be further developed in future iterations. Leaders in the organization can utilize these DMDs at the appropriate stages in the cycle to further enhance DT success in their organization.

### **Limitations**

Notwithstanding the research's theoretical and practical contributions, this study is not without limitations. Firstly, this study was exploratory in nature and based on expert interviewees within the selected cases, which reduces the generalizability of the study. Although digital executives and consultants shared their experiences, the research cannot claim to represent complete coverage of the subject matter, or all components of the DBS or DT Normalization process. Furthermore, as this was exploratory research, the findings and links require further testing in other sectors, and with other types of companies, before they can be generalized. Specifically, some respondents indicated that the degree of digital maturity affects the MAs adopted; however, the sample size prohibits the study from drawing any significant patterns.

Secondly, the subjective nature of the questions asked, the theoretical concepts used to guide the interviews, and the choice of coding categories resulted in biases being introduced by both the participants and the researchers. The researchers encourage future research to validate the proposed findings and linkages. Additionally, it is noted that this research does not represent a longitudinal study and therefore does not explicitly address the evolution of the organization's strategy, DBS, and DT Normalization. Further research can provide additional insights into how these components change over time. Finally, further research should focus on creating a more comprehensive process model of DT Normalization, including elements such as partnerships.

### **Conclusion**

DTs are expected to increase as a response to intensifying digital opportunities and threats. This study contributes significantly to the DBS execution literature, as existing literature on strategy execution undervalues the complexity inherent in executing a DBS, which is a dominant, difficult, and distinctive part of an organization's strategy. Contributions include identifying specific DMDs that enables the DBS to effectively execute the strategy, and identifying the pathways from the DBS execution to DT Normalization through the implementation of these actions. The Strategy as Practice literature is focused on the actions that individuals and managers can take to facilitate the execution of the DBS. Our findings also contribute to the literature on MAs, and the body of strategy execution more generally, by validating the high-level strategy actions and also detailing the nuances that are relevant from a DBS perspective. The findings provide specific guidance on the MAs needed in the context of DT, and how managers can specifically impact DT success. This research provides motivation for scholars to further examine, develop, and explore how the MAs can be used in the context of DT Normalization.

### **Acknowledgements**

We would like to express our gratitude to Accenture for their willingness to collaborate with us on this research. Their assistance with gathering the data and assessing the practical implications was invaluable.



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