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Digital Business Strategy Implementation: Investigating the Use of Managerial Actions by the Leadership Team

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Abstract

Incumbent business models are being challenged by technological developments, resulting in tension in these organizations. Thus, Leadership Teams (LT) need to execute Managerial Actions (MAs) which assist in Digital Business Strategy Implementation (DBSI). To explore these MAs in the context of the DBSI, we conducted seven in-depth case studies of Dutch incumbent firms across a diverse range of industries that were undertaking a DBSI. Five propositions were tested to identify the challenges that the LT encounters when using MAs in a DBSI, and their differences compared to a standard strategy implementation. All five propositions are supported, allowing us to form specific and practical recommendations for enabling the DBSI in various business contexts.

Keywords: Digital Business Strategy, Managerial Actions, Top Management Team

1. Introduction

It is widely accepted that incumbent organizations' business models are increasingly being challenged by technological developments from both new market entrants and existing competitors, and that Digital Transformation (DT) is the primary response to these threats (Bharadwaj et al., 2013; Vial, 2019). However, effectively undertaking Digital Business Strategy Implementation (DBSI) is often more complicated than devising it, resulting in 37% of business enhancements not being realized (Mankins & Steele, 2005) and a low overall rate of DT success (Correani et al., 2020). However, practitioner research identifies that the Leadership Teams (LT), consisting of all members of the LT along with the Chief Information Officer (CIO), Chief Technology Officer (CTO), and Chief Digital Officer (CDO) of incumbent firms are developing rapid responses, often in the form of digital business strategies to address these technological developments (Bonnet & Westerman, 2021; Chaniias et al., 2019).

The LT has a key role in devising and ensuring DBSI success through Managerial Actions (MAs) which are the efforts taken by the LT to effectively guide the DBSI (de Baat Doelman et al., 2021). MAs for standard strategy implementation are defined as unfolding (strategy sensemaking), coordinating (employee mobilization), communication (information dissemination), control and feedback (result monitoring), and development of Human Resources (HR) (incentives and policies), but have not been examined specifically in the context of DBSI (de Oliveira et al., 2019).

While there is research on the importance of MAs in effectively implementing standard strategy (de Baat Doelman et al., 2021), a comprehensive interpretation of the MAs required to guide DBSI remains elusive. Thus, this study is motivated by the need to determine how MAs can assist the LT in successfully undertaking DBSI. This is particularly important as DBSI is an intense form of organizational change as the organization is rapidly and simultaneously changing its organizational identity, business culture, and ways of working. This can often make DBSI more challenging compared to standard strategy implementations where there may be more time to adapt (Bughin et al., 2019; Wessel et al., 2021). Thus, this research is focused on addressing the following research question: What specific challenges does the LT encounter when undertaking DBSI through the use of MAs and how do these challenges differ from a standard strategy implementation?

Through a case study approach with seven Dutch incumbent firms, and contrasting their experiences with findings from existing standard strategy implementation literature, the current study explores how MAs relate to DBSI. Adopting a MA lens, we draw on prior strategy implementation research to assess the extent to which standard strategy implementation findings are relevant to DBSI. The research identifies that a significant portion of the existing findings about strategy implementation are relevant to DBSI but require

additional nuance and consideration due to the specific challenges of DBSI. We then use this to discuss the specific recommendations that can be adopted to address these nuances. Thus, the research contributes to an enhanced understanding of strategy execution research in the context of DBSI, providing a step toward the unification of strategy execution research with DT.

2. Theoretical Background

This research is grounded in the need to successfully embed the DBSI into the organization through the effective use of MAs. An analysis of the prior literature was performed to develop propositions on why MAs in a DBSI are more challenging than in a standard strategy implementation.

2.1 Digital Business Strategy Implementation

Strategic initiatives are often challenging due to execution issues, rather than issues surrounding the definition of the strategy (Sull et al., 2015). Specifically, the lack of consensus on an overarching strategy implementation model has been associated with the high failure rate of strategic initiatives (Sull et al., 2015). In short, the statement made 30 years ago that strategy without an implementation plan is nothing but a fantasy, still applies (Hambrick & Cannella Jr, 1989).

Until recently, the strategy implementation process has received scant attention, especially compared to the consideration devoted to strategy development (de Oliveira et al., 2019). Leadership is frequently cited as a factor that promotes strategy execution improvement (Sull et al., 2018). Furthermore, LT commitment increases the organization's competence in strategy execution (Hambrick & Cannella Jr, 1989). However, guidance is still required to assist leaders in overcoming the challenges in implementing MAs.

DBSI is increasingly used as a mechanism to enable the DT to effectively respond to technological and business model developments (Wessel et al., 2021). They are different to IT-enabled change as they focus on creating value through leveraging digital resources, extending across departments to become a component of the organization's overall strategy (Bharadwaj et al., 2013). DBSI, even more than corporate strategy implementations, experience challenges associated with their execution (Correani et al., 2020). Specifically, changes associated with a DBSI often require the business to balance competing priorities (Bughin et al., 2019) and also redefine the organization's identity (Wessel et al., 2021). This makes it a more intense, and often more challenging, version of transformation compared to a standard strategy implementation.

2.2 Managerial Actions

LT support is one of the most important factors in implementing a strategy effectively in an organization, where the actions of the managers, rather than just the strategy itself, have the true impact on the organization (Correani et al., 2020; Whittington, 1996). As such, an ineffective LT is a "silent killer" with respect to strategic implementation (Beer & Eisenstat, 2000). Strategy implementation research focuses on creating a set of actions that can operationalize the strategy. Specifically, it can be conceptualized in five dimensions: *unfolding of the strategy/strategic planning* translates the strategy into a set of goals and corresponding set of actions, which unifies efforts (de Oliveira et al., 2019); *coordination* focuses on the integration of senior and middle management to enable the effective mobilization of employees and the appointment of leaders to conduct the strategy implementation (de Oliveira et al., 2019); *communication* focuses on how the information about the strategy is disseminated to employees, and includes items such as objectives, goals, responsibilities, actions, and results; *control and feedback* compares the results to the goals and determines whether any changes to plan are needed (de Oliveira et al., 2019); and the *feedback and the development of HR policies and employee competencies* dimension focuses on the efforts by the people implementing the strategy alongside the HR department to jointly promote policies that are focused on the development of the competencies (de Oliveira et al., 2019). This is often challenging as managers are trained in planning, but not in execution (Hrebiniak, 2006).

2.1 Impact of Unfolding MA on DBSI

The first MA aims to make sense of the strategy. It is essential for the strategy's success to set the plan at the right level of detail as employees may have difficulties engaging with it if it is too vague (Sull et al., 2018). This challenge has resulted in practitioners often adopting frameworks like the Balanced Scorecard and, increasingly, Objectives and Key Results (OKRs), to divide abstract strategic objectives into more tangible objectives (Doerr, 2018). In the context of DT, it is crucial that the LT is actively involved in the sensemaking of the strategy (Kane et al., 2019) and that there are appropriate leadership structures to provide direction (Chanas et al., 2019). Additionally, it is important that the LT provides the organization with the "why" to enable the LT to understand the intent of the strategy and translate it into specific actions (Kane et al., 2019). DBSI has an intense focus on this as, in addition to being a strategy transformation, it is also a substantial shift in the organization's identity (Wessel et al., 2021), where a new set of capabilities and mindset are created

(Westerman et al., 2014). Thus, we posit that *Proposition 1: Due to the highly transformative nature of a DBSI, MAs that involve strategic planning activities are more challenging in a DBSI than in a standard strategy implementation.*

2.2.2 Impact of Coordinating MA on DBSI

The impact of the second MA is on mobilizing team members so that they can achieve the strategic objectives set out by the LT. Coordination activities are essential to the LT's strategic implementation as poor implementation is often associated with a failure of the overall strategy. Successful executives often spend as much time coordinating as they do on planning (Sull et al., 2015). Specifically, within the context of the DBSI, the LT should not delegate their responsibilities to the technologists in the firm and should focus on prioritizing the digital initiatives to business units to ensure that digital initiatives receive appropriate organizational attention. Furthermore, the LT should prioritize the digital initiatives to ensure that they receive appropriate organizational attention. This ensures that the DBSI becomes an enterprise and cross-functional endeavor which improves the digital capability of the organization instead of just being focused on technology adoption (Kane et al., 2019). In addition, it is important that the leaders adopt a sense of urgency for how the technology can improve the business, with regular cross-functional meetings and workshops across many levels of the organization (Chaniyas et al., 2019). This coordination requires significantly enhanced alignment to ensure the initiatives are understood in the context of their existing roles (Chaniyas et al., 2019). Thus we posit that *Proposition 2: Due to prioritization issues between business and DBSI initiatives, MAs that involve coordination activities are more challenging in a DBSI than in standard strategy implementation.*

2.2.3 Impact of Communication MA on DBSI

The third MA is focused on information dissemination. CEO communication is the most important factor in implementation, and communication is one of the biggest obstacles to success (Alexander, 1985; Mankins & Steele, 2005). The informal and formal strategies align the team and ensure that people are able to focus on critical targets, despite everyday pressures (Atkinson, 2006). Communication is essential to ensure shared understanding and commitment to the strategic direction (Noble, 1999). Conversely, poor communication makes achievement of the strategy extremely challenging as it becomes very difficult to define specific actions and create resource planning (Mankins & Steele, 2005). With respect to the DBSI, there is an enhanced focus on communication, as

organizational resistance tends to be high when significant changes are contemplated (Chaniyas et al., 2019). In addition, if the change is not communicated effectively, this can result in significant challenges relating to conflicting roles, responsibilities, and end goals (Fitzgerald et al., 2014). Thus, we posit that *Proposition 3: Due to the usual high resistance to change in DBSIs, MAs that involve communication activities are more challenging in a DBSI than in standard strategy implementation.*

2.2.4 Impact of Control and Feedback MAs on DBSI

The fourth MA relates to results monitoring. It is important that long-term goals are translated into short-term result targets and that results are benchmarked against business unit forecasts (Mankins & Steele, 2005) so achievements can be rewarded (Neilson et al., 2008). In addition, the external environment must be monitored so that any obstacles that arise can be addressed (Alexander, 1985). DBSI requires the organization to adopt an ongoing process of continuous change which considers that DT requires a thorough revision of activities, processes, and business models (Correani et al., 2020). This is also related to the experimentation culture in which leaders are required to think like innovators and provide space for employees to experiment, learn, adjust, and scale (Kane et al., 2019). In addition, DBSI is often a moving target without a foreseeable end, requiring flexibility and adaptability (Chaniyas et al., 2019). Thus, we posit that *Proposition 4: MAs that involve "control and feedback" activities in a DBSI are more concerned with business agility and rapid innovation than with the rather mechanistic control functions in standard strategy implementation.*

2.2.5 Impact of Development of Human Resource Policies and Employee Competencies MAs on DBSI

The final MA is focused on the development of HR policies and the competencies of employees. The capabilities of employees involved in the strategy implementation is often an obstacle to achieving strategic success. Often the issue is that managers and other employees are sufficiently trained in planning, but not in execution (Hrebiniak, 2006). Adapting HR policies such as wage structures and hiring criteria is one potential solution (Alexander, 1985). DT often requires significant revisions to HR policies and may even involve the creation of new positions e.g., a CDO (Haffke et al., 2016). In addition, these leaders are required to increase their digital understanding in order to be able to guide the organization through the necessary changes by being open minded, adaptable, and innovative, as well as continuously updating their knowledge to account for future developments (Kane et

al., 2019). Thus, we posit that *Proposition 5: In a DBSI, MAs that involve HR activities require a more radical revision of policies and employee competences than in standard strategy implementation due to the need for a digital literacy and mindset shift.*

3. Methodology

In the context of standard strategy implementation and DT, there is a lack of research on how to effectively undertake DBSI. A multiple case study approach was appropriate as this research explores how MAs can improve the DBSI (Campbell & Yin, 2018). Incumbent organizations were selected, as disruptions in their environment often urges them to explore DBSI. These organizations are established organizations that were financially successful, but to which the digital economy poses existential threats and provides game-changing opportunities (Bitzer et al., 2021). Unlike their digital-born peers, they have the difficult task of changing their organization, business model, and processes (Bitzer et al., 2021). Seven cases were selected, with each case relating to an organization undertaking DBSI. The selection criteria for the chosen organizations included: more than 500 employees, being in existence for more than 10 years, and currently being engaged in a DT.

Semi-structured interviews were used as they are an appropriate way to gather information from experts, balancing the need for rigor and consistency in responses with the need to adapt and collect rich information, where a nuanced description of phenomena is required (Trauth & Connor, 1991). For each case, three semi-structured interviews were conducted, the first being with a LT Digital Business Executive (i.e., CIO, CTO, CDO, or an executive who directly reported to the digital business executive). To verify the findings, a second interview was held with a person who represented a management function supporting the digital business executive. Finally, a third interview was conducted with an external consultant to validate the findings of the two interviews from an independent perspective.

The interviews focused on the MAs that enable the DBSI. The interviews commenced by asking interviewees to analyze their level of digital maturity by examining a DT Maturity Framework (Gökalp & Martinez, 2021). This enabled the interviewers to better interpret the information provided by the interviewees and analyze the data. The interviewees were then guided to analyze the five MAs and prompted to identify whether they experienced any challenges in DBSI for each MA. Probing questions were asked to understand the reasons behind each challenge, along with the associated recommendation. More generally, the strength of the findings was gauged by obtaining

evidence and examples. Information identified in prior interviews was discussed with the external consultant, whose view was used to further validate the items identified by the prior interviews.

Table 1. Overview of interview partners

CID ⁽¹⁾	Sector	Description ⁽²⁾	Digital Business Exec ⁽³⁾
A (3)	Natural Resources & Energy	Response to energy transition (2020)	Program Manager Digital (CIO direct)
B (3)	Storage	End to end data supply chain (2015)	CIO (in LT)
C (3)	Public Service	Customer service through agile (2019)	Program Director IT & Data (LT -1)
D (3)	Natural Resources & Energy	Data driven business decisions and asset optimization (2016)	CIO/ CTO/ CDO (in LT)
E (3)	Banking	Better integration with physical touchpoints (2007)	Manager IT payments (CIO direct)
F (2*)	Retail	Omni-channel experience (2017)	CIO (in LT)
G (3)	Performance Mgmt.	Digital experience for interaction (2015)	CIO (in LT)
1.# of interviews, 2. Year in which first initiatives of a DBSI took place, 3. Reporting relationship to LT *Consultant assigned to the DBSI 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 each interview, the data were transcribed, with MAs used as seed categories for the initial phase of data reduction. The data were displayed using NVivo software by consolidating the data into tabular form and creating a hierarchy of nodes. The hierarchy was discussed among the researchers, and the MAs were further divided into the relevant challenges. Conclusions were then drawn by analyzing the causal flows and patterns that were occurring between the MAs and challenges in a DBSI context, compared to extant research on standard strategy implementation. Although theoretical saturation was achieved after the sixth case, a subsequent case was conducted to further validate the

nuances and linkages (Guest et al., 2006). Validity of the interviews was further enhanced through the use of a multiple case study approach (Gehman et al., 2018).

4. Findings

The cases revealed that there are significant challenges associated with implementing a DBS which require nuanced examination in a DBSI context.

4.1 Unfolding of the Strategy/Strategic Planning

4.1.1 Challenge 1: Understanding Business Value

The data indicate that the LT often experiences challenges when developing specific actions which form part of the DBSI. Furthermore, these are intensified in a DBSI compared to standard strategy implementation, where stakeholders of the DBSI do not understand the business value of initiatives.

The importance of clarifying the business value of the DBS becomes evident when comparing Cases A and B. In Case B the business value is properly explained to all the relevant business units and specific explanations are provided on their roles. In contrast, in Case A, the business value is not explained clearly, *“People afraid to lose their job because of digitalization are the most important people to convince to embrace digital. For example, instead of having to handle invoices themselves, they can use Robotic Process Automation and focus on more strategic tasks.”* [B1] Interviewee B2 confirms that clearly explaining the business value of digital solutions is important as, *“The beautiful thing about our LT communication is that they explain the business value to the individual business units which makes it easier to understand and lead my team through this.”* Thus, the team members below the LT can align on business value.

However, in Case A, the manager and the LT express differing perceptions of how well the LT explained the changes. The LT believes that, *“We have a clear digital ambition and we have developed new business capabilities for our people in the organization in order to realize the digital ambition.”* However, talking to non-LT members offers a different insight, highlighting, *“Some digital initiatives are formulated and imposed by the LT, but we want a more business-unit specific explanation on how to apply those initiatives to our jobs. We need somebody to specifically explain what the digital ambition means for us, and not only what the high-level goals are.”*

The LT must have a strong vision. Interviewee B1 explains, *“As leadership you have to have a strong digital vision and explain it to the organization, otherwise they will not believe you. Even, zeros and ones are more important than our core business!”*. However,

more importantly, *“...not only the CIO must be able to answer those questions, but all of the members of the LT must have basic knowledge about digital in order to answer those questions.”* Hence, all LT members should have a clear vision of a DBSI, understand what the digital means, and be able to explain it. *“B is doing a good job in involving users of new systems as when new systems are produced, operators are involved in building and communicating this throughout the organization. This is like free internal advertising for the digital initiative and creates a shared understanding of the digital.”* [B2] Furthermore, the key part of improving DBSI is not explaining the technology, but its business value *“Technology is not the problem in our digital change initiatives as it is more challenging to get the people that have to use the IT to really understand the business value of the tool.”* [B2]

Often DBSI possess a highly transformative nature that changes the firm's business models and ways of working. Thus, it is essential to continually emphasize the business value. Specifically, the organization can achieve this by translating the DBSI initiative into concrete steps instead of just setting high-level goals. In addition, the LT needs to create support by tailoring explanations of digital initiatives to the specific business units.

4.1.2. Challenge 2: Culture

This section highlights the reason the employee culture in a firm can represent a challenge to the change needed to undertake a DBSI. In Cases A and B, the businesses are in an industry where change is inherently slow, *“The culture of the traditional oil transportation business is very slow, and, therefore, implementing changes fast is hard”* [A1]. Interviewee B1 supports A1's claim by stating that, *“The biggest inhibitors of change for an organization are in the operations. In our industry, where safety is the most important factor, people in operations are very careful making changes to their business processes because of this.”* Thus, this is an important challenge to overcome as, *“Culture is the most important factor for success for accelerating innovation.”* [B1]

Culture also can improve the level of innovation in a company as, *“Culture is the most important factor for success in accelerating innovation. Therefore, we continuously explain why technology can make our business even safer. Everybody knows that a robot has fewer safety issues than a human. Thus, people in operations must first understand the business value of technology.”* [B1] While creating a culture in which the firm can explore technological developments can be a challenging task for LTs, when people in the organization understand the business value of the DBS and support the change required for it, the new culture

can actually assist in successfully undertaking the DBSI, and it can even accelerate the change.

4.2 Coordination

4.2.1 Challenge 3: Prioritizing Job Tasks

The study indicates that the LT experience impacts at operational and management levels as people find it hard to prioritize their “normal” job tasks with the DBS initiatives. F1 emphasizes this issue, “*Although our executives know and understand digital, we still have a lot of physical stores. These stores feel that the DBSI is a lower priority. However, that does not mean they are not capable of it. When COVID-19 forced us to close the stores, we swiftly adopted all the digital tools we already had but were not using. Now, with COVID-19 ebbing away, the LT must keep communicating the business value of digital.*” Thus, explaining the business value is paramount to solving prioritization issues.

Successfully executing the DBSI requires creating a sense of urgency for the DBS. Specifically, “*it is very important that a sense of urgency exists to actively change the core business to a digital one.*” [D3] One novel way to do this is by creating substantial incentives for employees, “*We reward people for correctly processing data through bonuses. For example, a data scientist went through pump operation data and found that the pumps had started too soon, which resulted in higher operating expenses because parts broke quickly. The data scientist was rewarded for finding this and the pump operators saved money. The operators have even attached a live score board to the dressing room wall!*” [B1] Another technique that helps to create support for the DBS initiative is the “*... use [of] gamification for operational employees to entice them to use data in their jobs. Then, people have fun in using the digital tools.*” [B1] When problems persist in the DBSI, change agents can help employees understand and adhere to the initiative.

4.2.3 Challenge 4: Alignment Between Corporate and Business Units

The data show that misalignment between the corporate vision and business units can be a challenging factor for LTs in coordinating the DBSI, “*Top management and middle-level management have different time horizons. The LT is thinking in 3 to 5 years, whilst middle-level management is focused on the short term and current year targets and sees digital as a lower priority.*” [D1] Another point of view that strengthens this argument is provided by interviewee B3, “*For the individual, there is not always a business case. For example, producing a digital twin does not add any value for the individual and the business unit. Only when corporate HQ decides to sell it does it*

become valuable. So, a lot of people still think: ‘Okay, what is in it for me?’”

A typical response to these challenges is ensuring that the right people are supporting the vision of the LT for the DBSI. Interviewee B3 suggests: “*Ensure the right people support you where the Digital Team has direct access to the LT. This sends a message to the organization that without digital, operations do not exist. The next step is that digital solutions define the operations.*” Another response to reduce the misalignment between the corporate vision and business units is to ensure that the DBS is aligned with the overall business vision: “*We translate our digital vision for the upcoming 3 to 5 years into short-term business goals.*” [D1] Another way to respond to these challenges “*...is to have partnerships with start-ups, have joint ventures, do outsourcing, or undertake corporate venturing in order to have more digital competencies in our firm.*” [D1]

4.3 Proposition 3: Communication

4.3.1 Challenge 5: Shared Understanding

The data shows that often the DBS is misinterpreted by employees which subsequently creates an inconsistent message of what the DBSI is, inhibiting the creation of a shared understanding.

Interviewee F1 describes the challenge in creating a shared understanding, and the many issues that often result, “*Often, there are a lot of different interpretations that arise when undertaking DBSI. For example, in one country, they interpreted that the store employees were only allowed to use the mobile register if five people were waiting in line for the normal cash register. This is nonsense because the mobile register should be used all the time to obtain customer data.*” Similarly, “*Communication is difficult if managers are not communicating consistently throughout their teams and thus the organization. As a LT, you can communicate as much as you want, but still no change will happen.*” [G1] Thus, hierarchical layers and inconsistency of communication may result in the misinterpretation throughout the organization, which results in people not accurately adhering to the initiative because they do not know exactly what it is meant to achieve.

A typical response is to think carefully about whom to communicate to and why. Failing to do so will create misinterpretation of the DBS. Interviewee D2 explains, “*When communicating about the digital strategy, it is important to conceptualize the difference between the IT and digital strategy. In the past, we focused on communicating about this to the wrong people because we were focusing on the IT community and the senior leadership instead of the functional owners in the middle-level management. Now, we have changed that.*

We also call our digital strategy, 'the digital business strategy'. In addition, we communicate that the IT community is an enabler for the business to become digital."

Another response that is mentioned in all the Cases is to demonstrate the effectiveness of digital solutions while simultaneously explaining what that would mean for the specific business unit, *"We use flagship projects of successful digital initiatives to show to the rest of the organization what success looks like. Other projects can learn from that"* [A3]. The use of branding to foster a positive attitude toward the DT is highlighted by interviewee G2, *"Almost all our merchandise has zeros and ones with little hearts on it to show the passion that G has to use technology in the core of our business."*

4.4 Proposition 4: Control and Feedback

4.4.1 Challenge 6: Agile Enterprise

There are challenges between different functional divisions where, *"We call the our DBSI agile, but I think it is still sort of hybrid considering our traditional way of working. The digital inherently takes care of possible new ideas, but the problem is not with the mindset of the product owners, but with the business side who has not changed to agile."* In addition, in alignment with the agile delivery concepts, quickly testing results with the customer to receive swift feedback and possibly modify a firm's product or service is critical. In this regard, Interviewee E1 explains, *"It is important to go to the customer as soon as possible as it often takes a long time to reach the customer, and it is sometimes too late to do something valuable with the feedback."*

Furthermore, an essential response to these challenges to successfully execute a DBSI is coupling one's DBSI to the general business strategy of the firm. Interviewee D1 explains, *"In annual country updates, we oblige the top managers to connect their DBSI update to the strategy updates. When we were in a prior digital transformation phase, there were only Excel sheets with a lot of numbers, but now this also has a qualitative information. This ensures that the digital roadmap becomes more insightful. By doing this, you see that more ownership arises as the business units really do incorporate the DBSI goals in their general strategy practices."*

4.4.2 Challenge 7: Operational Backbone and Digital Service Platform

Creating the proper operational (IT) backbone to supports a firm's ambitions regarding its DBSI may be challenging. As explained by Interviewee D1, traditional firms, too, may face this issue, *"Quite a few country subsidiaries are struggling with legacy platforms. This will really take many years to clear this*

out. Therefore, it is challenging to implement agile operating procedures in those places, although people already want it." Remarkably, D2 adds to this that although the LT might have managed all the MAs' dimensions correctly, the firm's DBSI might still stagnate due to legacy technology problems, *"The legacy mindset has already created a big hurdle in our technology. Our technology is so fragile because for so many years it has not been upgraded. Normally, I downplay this challenge but with us, the technology plays an important challenge. We have technology infrastructure that has had no investments for 20 years. This happens all because of not having the right leadership that understands the importance of this."*

Typical responses to these challenges logically ensure that a firm's operational IT backbone is up to date and working correctly. Interviewee B3 explains, *"B really realizes that improving the IT backbone is very important before starting to explore what new technologies might be interesting for the business. I think they made very good progression in that aspect, and now they are exploring a lot of little experiments to see what works for them, which is good. However, it is important, that at a certain point, the LT support these initiatives centrally to rapidly standardize and implement this worldwide."* Interviewee B1 offers another possible solution, *"Corporate venturing can be a very good way to get your IT backbone in order."*

4.5 Proposition 5: Development of Human Resources Policies and Employee Competencies

4.5.1 Challenge 8: Digital Literacy and Mindset

The findings show that firms who do not align their HR policies well with the new DBSI might experience significant challenges. In addition, it is important to have an adequate level of digital literacy at all levels in the organization. Interviewee D1 explains, *"Attracting digital native capabilities into your human resources is very difficult. This is because we are not in a very attractive industry where young people want to work. This is a serious issue."* Another interviewee explains that their firm has the functional capabilities to accelerate their DBSI, but the problem is with the people who have to handle those programs and systems, *"Our firm is already capable of processing invoices of customers with blockchain. However, we are not yet doing it because the people that should supervise this process do not know how to use these kinds of digital innovative processes."* [B1] Frequently, it is not only the employees who lack digital savviness, but also the top managers in the LT, and it is essential to address such situations promptly, *"In light of our DBSI, we recently changed some LT members from people with*

absolutely no clue about digital to people who have a grounded basic knowledge of digital. Luckily now, increasingly more people are understanding that digital is the new normal, and that is really important.” [F2]

Thus, typical responses to these challenges start, as seen with other challenges, with a LT board that has a well-defined vision of the DBSI approach and board members who all know what digital means. Specifically, the LT should have a basic knowledge of digital to be able to explain complications when they occur. A specific response is to focus on training people to acquire the necessary digital literacy. Interviewee B1 explains, *“Our HR director has an online dashboard where he can see where there are skills of employees and vacant roles. Real-time performance management decisions are made using this data. In addition, badges are provided to people who have completed certain digital trainings.”* Another interesting approach to these challenges is provided by interviewee B2, *“We are good in planning our learning cycles. An example is when a new project starts, one of the first items is to set goals like ‘X percentage of our users must have completed X percentage of certain HR trainings’.”* Thus, it can be concluded that a strong collaboration between HR and DBSI planning is a very important factor in executing the DBS successfully.

Interviewee G2 explains another way to foster this collaboration, *“We ensure that certain trainings are very clearly connected to strategic goals in our DBS and that it is clear for people how those trainings are helping employees to contribute to those strategic goals, and that it is clear what the business value for the firm is.”* Another interesting way to respond to HR challenges is provided by interviewee D1: *“We collaborate with other parties or start-ups to be able to build enough advanced data analytics capabilities. Furthermore, we are in touch with temporary employment firms that could provide us with young digital talent.”*

5. Discussion

The study’s findings support all five propositions, indicating that implementing a DBSI is, on several dimensions, more challenging than standard strategy implementation. Although no real contradictions were found with the standard strategy implementation literature (de Oliveira et al., 2019), the findings surrounding propositions 1, 2, 3, and 5 demonstrate important nuances. In addition, the findings surrounding proposition 4 indicate that an extension of the strategy implementation literature is necessary for a DBSI.

Table 2. Summary of Contributions

Hypothesis	Challenges
Unfolding: Due to the highly transformative nature of a DBSI, MAs that involve strategic planning activities are more challenging.	1. Understanding Business Value 2. Culture
Coordination: Due to prioritization issues between business and DBS initiatives, MAs that involve coordination activities are more challenging in a DBSI than in standard strategy implementation.	3. Prioritizing Job Tasks 4. Alignment Corporate Versus Business Unit
Communication: Due to the usual high resistance to change in DBSIs, MAs that involve communication activities are more challenging in a DBSI than in standard strategy implementation.	5. Shared Understanding
Control and Feedback: MAs that involve “control and feedback” activities in a DBSI are more concerned with business agility and rapid innovation than with mechanistic control functions in standard strategy implementation.	6. Agile Enterprise 7. Operational Backbone and Digital Service Platform
HR: In a DBSI, MAs that involve human resources activities require a more radical revision of policies and employee competences than in standard strategy implementation due to the need for a digital literacy and mindset shift.	8. Digital Literacy and Mindset

We recommend that managers undertake the following actions to address these challenges:

Tailored explanation of business value

Our results identified that often DBSI possesses a highly transformative character that changes firms’ business models and ways of working. However, if stakeholders receive tasks from the LT without being receiving a thorough understanding of the business value, it is likely that minimal improvement will be achieved. This challenge can be overcome by creating a clear understanding before distributing the tasks, creating a culture of support and even an acceleration of the change. There are three ways this can be achieved: (1) provide specific examples of what the change will mean, tailored and delivered to each target group; (2) showcase effectiveness of the digital solutions through

flagship projects, short videos, and workshops; and (3) appoint dedicated change agents across the business.

Visionary leadership

The LT should have a clear vision of how DT will add value to the business while regularly communicating this message. The challenge is that leaders often do not understand how the strategic ambitions can be enabled by digital and how technology can redefine the business. A LT with a strong vision demonstrates positivity and strength. People who are afraid of losing their job should be shown the value of digital in enhancing their career path along with the value of the organization. In addition, a strong vision creates urgency throughout the whole organization. This can be accomplished in two ways: (1) use a leitmotif, a form of storytelling in which a visual message is consistently communicated through a variety of channels; and (2) align the LT to ensure that the entire LT really understands the DBSI.

Digital Literacy

It is important that everyone in the LT has at least basic digital literacy, and training is provided for all in the organization to acquire digital literacy. The challenge is that a member of the LT without basic digital literacy does not demonstrate the urgency for technology toward the organization. Thus, it is extremely important that there is digital literacy in the leadership team across all members, along with the rest of the organization. This can be achieved by (1) training in digital literacy which is focused on improving the level of digital understanding across the entire organization. This training should be aligned to the goals of the organization to ensure that people feel it is valuable, rather than an obligation; (2) plan learning cycles to ensure that employees have acquired specific skills before starting the project; (3) manage performance by investing in real-time performance dashboards; and (4) acquire alternative resources (including digital talent) through corporate ventures, outsourcing, and headhunting.

Change Management

Maximum value is unlocked in the process of DBSI through making people advocates of the change, creating support for the strategy and stimulating ownership. The challenge has been identified that there are prioritization issues between "regular" job responsibilities and the resources required to establish the digital initiative. This misalignment between the

corporate vision and the business unit is detrimental to change. The recommendation is to take people along on the journey to ensure that they feel as though their interests and those of the organization are aligned. This can be achieved by (1) involving lower levels of the organization in the process to foster the acceptance of the change; (2) involve advocates of the change (ensure that the people in the key positions are involved and are advocates of the change); and (3) embrace a mindset open to change through interventions like substantial incentives and incorporating gamification.

Agile Leadership

The key to successful standardized and scaled digital initiatives is to achieve a culture of experimentation and innovation in which people can fail and learn quickly where multidisciplinary teams can focus on developing quick pilots. The challenge is that silo-based organizations often focus on minimizing errors which inhibits innovative ideas. The recommendation is to develop a more agile organization that enables concepts such as self-organizing teams. This can be achieved by (1) experimenting and innovating with short feedback loops; (2) tolerating errors and helping people learn from them; (3) having multidisciplinary teams in which every team member can make a decision; and (4) having a strong IT backbone established before scaling up digital experiments.

As with any other study, the study entails some limitations. Specifically, the study focused on the MAs of top managers in a DBSI, not the full organization. In addition, this study uses the conceptualization of de Oliveira et al. (2019) as a theoretical lens. A potentially fruitful avenue for future research could be the study of the DBSI process within the same company to research the DBSI in even more depth. Lastly, due to Covid-19, all interviews were held using video conferencing which inhibited us collecting observational data at the offices of the organizations.

6. Conclusion

The research contribution is threefold. Firstly, this study examines the MAs for LTs in DBSI. Secondly, the findings can be used by practitioners when undertaking a DBSI. Anticipating the problems that can occur during a DBSI formulation can help to shape DT successfully. Thirdly, since the findings demonstrate that strategy implementation is not entirely the same as a DBSI, the study provides recommendations for further exploration in the strategy implementation field.

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