



The effect of dynamic capabilities on performance and digital business strategy



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Contents

3	Key conclusions
4	Introduction
5	Objectives
6	Research methodology
7	Main findings and their implications for practice
8	Conclusions, particularly lessons learned from the research
9	References and further reading
10	Acknowledgements

Key conclusions

- ▶ Business units with high dynamic capabilities (the ability to adapt internal and external competencies in response to rapidly changing environments) tend to achieve better business unit performance and higher levels of digital business strategy implementation.
- ▶ However, the implementation of a digital business strategy does not influence the impact of dynamic capabilities on business unit performance.
- ▶ The results hold regardless of the type of business unit (i.e., central function versus operational function) or the digital business strategy implementation level (i.e., high vs. low).
- ▶ A digital business strategy cannot solely focus on IT-related aspects but needs to cover a wider range of aspects, such as customer interaction, product innovativeness and process improvements.
- ▶ It is thus less the development of a digital business strategy but rather the enhancement of dynamic capabilities that promises successful performance.

Introduction

Digital technologies are disrupting many industries and modifying their competitive landscape. According to a study by MIT Sloan Management Review and Deloitte, nearly 90% of executives expect digitisation to disrupt their industry to a great or moderate extent. Only 44% of these executives say their organisations are adequately preparing for this disruption (Kane, Palmer, Phillips, Kiron, & Buckley, 2016). A McKinsey study by Bughin, LaBerge and Mellbye (2017) predicts that digital technologies are just beginning to penetrate organisations. Although some industries like retail and media/entertainment have gone through a digital transformation in recent years, the authors report that most industries are less than 40% digitized, on average. Companies that neglect, fail or refuse digitisation will pay the price in terms of underperformance (Bughin & Catlin, 2019). According to their data, the 20% of companies with no (or very low) digitisation levels report largely negative revenue and earnings growth (EBITDA growth of minus 8% per year in some cases).

To address the rising pressure digital technologies cause, we investigate how dynamic capabilities might help organisations overcome an industry's penetration and rising financial stress. More specifically, we study the effect of dynamic capabilities on the implementation of an organisation's digital business strategy and business unit performance as well as the effect of digital business strategy on the relationship between dynamic capabilities and business unit performance.

One promising answer for this rapid change is the implementation of a digital business strategy. A digital business strategy is seen as an "organisational strategy formulated and executed by leveraging digital resources to create differential value" (Bharadwaj, El Sawy, Pavlou, & Venkatraman, 2013, p. 472). Managers across multiple industries try to address the external environment and ensure the creation and capturing of value through a digital business strategy (Leischnig, Wöfl, Ivens, & Hein, 2017). In this way, managers prioritise the development and implementation of a digital business strategy to keep up with technological developments. Thus far, however, little is known about the effects and determinants of a digital business strategy.

Dynamic capabilities are seen as a "firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments" (Teece, Pisano & Shuen 1997, p.516). This underlines the concept's application in times of rapid change and turbulent environments. Dynamic capabilities might therefore turn out to be an important enabler of digitalisation as this can be classified as a type of rapid change. We, therefore, hypothesise those dynamic capabilities positively influence the implementation level of a digital business strategy.

While the effects of a digital business strategy are still an under-researched area, research on the effects of dynamic capabilities is at a more advanced stage. Their effect on performance, however, remains highly debated among scholars. While some argue for an indirect effect of dynamic capabilities on performance or find that it depends on the context whether dynamic capabilities have a direct effect, others do find a direct effect (e.g., Grafton, Lillis, & Widener 2010; Leischnig et al. 2017). Augier and Teece (2009) state that firms that lack dynamic capabilities will only be able to gain a competitive advantage for a short period. Other scholars find that firms that possess greater dynamic capabilities show better performance in the context of a more organic organisational structure and greater competitive intensity in the market (Wilden, Gudergan, Nielsen and Lings 2013).

To add evidence to this discussion, we use our research setting to test the hypothesis that dynamic capabilities positively influence business unit performance. Prior research has found indirect effects between a digital business strategy and performance. If an organisation has implemented a digital business strategy, its innovativeness is increased, which in turn increases market-based performance (Wunderlich & Beck, 2018). In addition, an indirect, positive effect of a digital business strategy has been found through the chain of effects starting from an implemented digital business strategy leading to increased market performance through increased market intelligence capability, increased value creation and value capturing capabilities (Leischnig et al. 2017). In line with the previous findings and the fact that digital business strategy affects performance indirectly, we argue that the level of implementation of a digital business strategy affects the dynamic capabilities of business unit performance.

Objectives

Based on the prior findings from the diverse fields, the project's main purpose is to understand the determinants as well as effects associated with the implementation of a digital business strategy. We, therefore, investigate the following research questions:

- ▶ How do dynamic capabilities influence the implementation of a digital business strategy?
- ▶ How do dynamic capabilities influence business unit performance?
- ▶ How does the implementation of a digital business strategy affect the relationship between dynamic capabilities and business unit performance?

Research methodology

We conducted a two-stage study of a large German automotive manufacturing firm. The company is one of the largest in the premium sector and is more than 100 years old. It is represented in more than 140 countries and produces more than half of its products outside of Germany. The yearly revenue has been nearly 100 billion Euros for the last years and the workforce remains constant at more than 100,000 employees. The company's digital business strategy was introduced two years before the data gathering process and was still in its infancy at the time of study

Data collection

To answer this research question, we used a two-stage approach. In the first stage, we conducted expert interviews with the strategy digitalisation team of our sample organisation. This helped us to understand the completeness of our measures. The team was accountable for formulating the organisation's current digital business strategy and was subsequently responsible for coordinating the implementation stage. We used standardised, open-ended face-to-face interviews to gain a better understanding of the construct digital business strategy and its affected performance factors. The final questions are shown in Table 1.

In the second stage, we carried out an online survey addressing all senior vice presidents and vice presidents. The overall response rate for the final survey was 38.1%, which means 191 fully completed and usable responses.

Measurement

We measured dynamic capabilities by an adapted version of the dynamic capabilities index developed by Wilden et al. (2013). This index comprises the following attributes or capacities – 1. Sensing and shaping opportunities 2. Seizing (mobilising your resources to capture value from those opportunities) and 3. Reconfiguring (creating, extending and modifying) your resource base.

Digital business strategy is measured by using questions created by Leisching et al. (2017), plus added questions based on our results of the interviews conducted.

Business unit performance is measured in terms of effectiveness as this was mentioned during the expert interviews as the key outcome of a digital business strategy. We used an adapted version of the effectiveness index created by Alper, Tjosvold and Law (2000).

Table 1: Expert interview questions

Question
How would you describe your organisations DBS?
What does implementing the DBS mean for you?
What are aspects of the DBS that are similar for all departments?
How would you measure the level of implementation of a DBS?
What performance factors are improved by a DBS?
How would you measure business unit performance in the light of the DBS?

Main findings and their implications for practice

Based on the expert interviews, we enriched the measurement tool for a digital business strategy. Our interviews revealed that digitisation is challenging, as one respondent indicated, "It is a relatively long and rocky road because it takes place right in the heart of the company. And I don't think that's anything that happens within a year." Results of our study show that a digital business strategy cannot solely focus on IT-related aspects but needs to cover a wider range. More specifically, a digital business strategy has to address aspects like customer interaction, product innovativeness, process improvements and supporting functions (i.e., data, IT landscape and HR/culture).

In addition, the expert interviews indicated that the main driver influenced by a digital business strategy is effective decision-making. This effectiveness is mainly related to data-driven decisions (e.g., better investing decisions, improved product portfolio management), as mentioned by one of the interviewees: "I think one of the great benefits of this whole digitisation strategy will be that we use this data. On the one hand to develop the right thing, to do the right thing also with regard to services and on the other hand to know when we are doing it and for whom we are doing it."

Our analysis shows that business units with higher dynamic capabilities had significantly higher digital business strategy implementation levels.

We also predicted that dynamic capabilities would have a positive effect on business unit performance by helping business units to adapt to changing circumstances and remain competitive. In line with this reasoning, we find that dynamic capabilities are indeed a significant driver for higher business unit performance.

For a digital business strategy to be successful, one manager remarked: "Then, maybe the openness to new things, so a kind of degree of innovation, the IT affinity, also potential fears, so if an area now has the feeling that it is being substituted by digitisation, then they will be reluctant to implement it."

We predicted that a digital business strategy would enhance the impact of dynamic capabilities on business unit performance. However, our results did not support this prediction. In an additional analysis, we find that our results hold regardless of the current level of digital business strategy or the type of daily work a business unit engages in (i.e., central function versus operating function).

Conclusions, particularly lessons learned from the research

This study investigated how dynamic capabilities influence both business unit performance and the implementation level of a digital business strategy and how a digital business strategy positively influences business unit performance. Our findings are important as digital developments concern researchers and practitioners across a diverse range of disciplines. While many practitioners have started different initiatives to address the digital developments in their industries, a profound knowledge regarding their effects and implementation has been lacking. The results of our study suggest the following implications for practice:

- ▶ Managers should be aware that dynamic capabilities are important, and it is, therefore, beneficial to invest in such capabilities by training employees accordingly. In addition, personal dynamic capabilities, such as openness to change, seizing new opportunities and an affinity to new technologies, should play an essential role in hiring and promotion decisions.
- ▶ Management must reduce resistance to digitisation. Communication of a digital strategy in terms of goals, expectations and consequences to an individual employee is essential to reap all benefits associated with digitisation and to foster the development of dynamic capabilities.
- ▶ The expectations from a digital business strategy should be modest. While our results show the relevance of dynamic capabilities, the role of a digital business strategy by itself does not influence performance. This is important in evaluating the process of digitisation in the short- and medium-term. Similar effects have been observed in the past during the implementation of ERP systems (e.g., Nicolaou 2004). It is thus less the development of a digital business strategy but rather the enhancement of dynamic capabilities that promises successful performance.

- ▶ Given the importance of dynamic capabilities for firms, it is helpful to develop clear measures for this. While we measure dynamic capabilities with constructs prior literature provides, it is essential to develop measures for employees and business units that are more approachable and easier to understand. With adequate and practical measures, management can better steer an organisation's dynamic capabilities

Despite these relevant lessons for managerial practice, our study is based on insights from one organisation, which is an important limitation. The automotive industry is currently undergoing drastic change with respect to digitisation. While we do not find a strong reason why our results would not hold in other organisations or industries in a similar phase, we believe it is a fruitful avenue for future research to examine the robustness of our findings across industries.

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Acknowledgements

This executive summary is based on a study that we conducted with the generous support of the CIMA General Charitable Trust.

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April 2022

ISBN 978-1-85971-914-5