



Only senior managers lead business model innovation, or do they? Levels of management and dynamic capability deployment

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ABSTRACT

Previous research has provided valuable insights into the connection between market-driving strategies, business model innovation, and dynamic capabilities. However, several open questions remain. In this abductive study of a leading medical devices manufacturer, we investigate the roles various employees play in market-driving firms. We focus on how senior and middle managers as well as non-managers contribute to a firm's sensing, seizing, and reconfiguring to drive business model changes towards digital servitization and customer centricity. Our primary contributions lie in filling the knowledge gap in understanding the role employees at different levels of management play in market-driving strategies, as enacted through dynamic capability deployment, to support BMI. Second, we advance knowledge by stressing that a sole focus on senior managers provides an incomplete understanding of how firms engage in market-driving strategies.

1. Introduction

Research on market driving has highlighted the importance of proactively shaping markets (Gavetti, Helfat, & Marengo, 2017; Randhawa, Wilden, & Akaka, 2022) instead of purely responding to exogenous changes (Lamore, Berkowitz, & Farrington, 2013). That is, market-driving firms focus on educating customers to “learn” what they want (Carpenter, Glazer, & Nakamoto, 2001), thus focusing on customers' latent needs (Hills & Sarin, 2003), and on rewriting the rules of the game (Furr & Eisenhardt, 2021). Implementing such market-driving strategies often requires adjustments to the firm's underlying business model, leading to business model innovation (BMI) (Randhawa, Wilden, & Gudergan, 2021). Correspondingly, research has investigated the processes that underlie both market-driving strategies and BMI, with a particular focus on dynamic capabilities (DCs) – aimed at sensing and seizing opportunities and reconfiguring resources (Wilden, Gudergan, Akaka, Averdung, & Teichert, 2019) – involving various employees (Teece, 2007). Despite valuable insights gained into deciphering the connection between market-driving strategies, BMI, and dynamic capabilities, several open questions remain.

Critically, much research on market driving has looked at firm-level

phenomena (e.g., Chen, Li, & Evans, 2012; Humphreys & Carpenter, 2018; Maciel & Fischer, 2020). For example, we have learned that firms' DC deployment differs for market-driven versus market-driving firms when supporting BMI (Randhawa et al., 2021). However, we know considerably less about the roles various employees play in market-driving firms (Stathakopoulos, Kottikas, Theodorakis, & Kottika, 2019). Whereas we know that both senior and middle managers matter for the successful implementation of market-driving strategies (Heyden, Wilden, & Wise, 2020), whether non-managers play a role is not clear. Importantly, we do not understand *how* the three levels of management matter and which differing roles senior, middle, and non-managers play in market-driving firms.

Further, whereas market-driving strategies shape a firm's approach to value creation and appropriation within the market (Kara, Spillan, & DeShields Jr, 2005), their realization rests on BMI (Schindehutte, Morris, & Kocak, 2008). BMI, and thus DC deployment, is typically initiated by senior managers (Helfat & Peteraf, 2015). Therefore, research has paid attention to the role of this level of management in firm-level BMI and DC deployment. For example, senior managers initiate and shape the exploitation of market opportunities (Ambrosini, Bowman, & Collier, 2009; Dixon, Meyer, & Day, 2010) and their dynamic

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managerial capabilities (DMCs) characterize this deployment (Helfat & Peteraf, 2009). However, there is scarce DC literature investigating the contribution of middle and non-managers (Ridder, Bruns, & Spier, 2006; Taylor & Helfat, 2009). So far, only a few publications explore the interaction of senior and middle managers in DC deployment (Altintas, Ambrosini, & Gudergan, 2022; Peters, Gudergan, & Booth, 2019) and only limited research highlights non-managerial contributions to DC deployment (Salvato & Vassolo, 2018). However, it is important to understand more fully their varying contributions because implementation of a market-driving orientation does not rest exclusively on senior managers (Stathakopoulos et al., 2019) and other levels of management within the firm contribute to the DC deployment that ultimately enables BMI.

The overall scope of this study is encompassed within the broader body of literature linking market orientation (Jaworski, Kohli, & Sahay, 2000), DCs (e.g. Suddaby, Coraiola, Harvey, & Foster, 2020), and BMI (e.g., Randhawa et al., 2021). We attempt to fill the identified gaps by addressing the following research question: How do contributions to DC deployment in market-driving firms differ between senior, middle, and non-managers in their sensing, seizing, and reconfiguring? To develop a theory suited to the process-character of this both theoretically and empirically under-researched phenomenon, we employ a longitudinal case study (Eisenhardt, 1989b) in combination with an abductive research design (Dubois & Gadde, 2002). The abductive design is suitable as our research refines theory and draws on empirical data to clarify the contributions that senior, middle, and non-managers make to DC deployment in market-driving firms. In this way, this research draws on both preliminary theoretical reasoning and our empirical findings. We investigate a B2B medical devices firm, whose market-driving strategy led the market's predominant pure B2B model to be changed towards a B2C customer-centric model, ultimately re-designing the industry's value proposition by changing the industry's product- and R&D-focused orientation to a service and customer-focused approach, paving the way for several digital service innovations.

The primary contribution of this study is to fill the knowledge gap in understanding the role employees at different levels of management play in market-driving strategies, as enacted through DCs, to support BMI. To do so, our findings first establish BMI as a crucial component of a B2B firm's market-driving strategy to influence customer preferences and re-design the industry's value proposition (Hills & Sarin, 2003; Humphreys, 2010; Nenonen & Storbacka, 2020). That is, to better understand how market-driving strategies lead to firms changing markets, we need to understand how BMI functions as a means for realizing such change. We further substantiate the important role of DC deployment in enabling such market driving through producing novel BMs. In turn, this illuminates the organizational capabilities that firms require to benefit from their market-driving strategies (Randhawa et al., 2021).

Second and importantly, we advance knowledge by stressing that a sole focus on senior managers provides an incomplete understanding of how firms engage in market-driving strategies. While we know that senior managers may take on different roles (Heyden et al., 2020), we stress and clarify the important and complementary roles of middle managers and non-managers in deploying DCs to support BMI in market-driving firms. Importantly, adding nuance to previous work on classifying middle managers into distinct and stable roles (Floyd & Lane, 2000; Floyd & Wooldridge, 1992, 1994; Wooldridge & Floyd, 1990), we find that middle managers change roles depending on the source of market-driving behavior and BMI.

Third, and stemming from our empirical context, we advance digital servitization literature by clarifying how manufacturing firms' transformation towards business models that are more customer centric and digitally enabled is driven by senior managers as well as middle and non-managers who contribute variously to the three DC processes of sensing, seizing, and reconfiguring. This responds to Coreynen et al.'s (2020, p. 265) conclusion that “little is known about what drives firms towards ... digital servitization” and that “to fully understand firms' strategic

transition towards digital servitization, both [dynamic capabilities and their environment] should be considered.”

2. Theoretical background

2.1. Market-driving strategies

Previous research has placed significant emphasis on firms being market-oriented to create value for customers and stakeholders (Herhausen, 2016). Market orientation can be more or less reactive or proactive (in regard to dealing with customers) and more or less market-driven or market-driving (with respect to all relevant market stakeholders and changing market conditions) (Jaworski et al., 2000; Wilden, Devinney, & Dowling, 2016). Such a market orientation shapes a firm's approach to value creation and appropriation within the market (Kara et al., 2005), and thus its BM (Schindehutte et al., 2008).

Much of marketing and management research has focused on searching for, and thus passively responding to opportunities for value creation, rather than actively driving and shaping markets (Gavetti et al., 2017). For example, market orientation research had an initial market-driven focus, based on the firm's understanding of, and reaction to, the preferences and behaviors of customers within a given market. This reflects a reactive effort as market structures and market behaviors are accepted as a given; notwithstanding that they change exogenously (Jaworski et al., 2000; Jaworski & Kohli, 1993).

In contrast, more recent research has emphasized the need to improve our understanding of market-driving strategies (Day, 2023), including shaping markets, which “rather than being fixed and stable, markets are ‘plastic’ (eco)systems capable of both holding and changing shape” (Baker & Nenonen, 2020, p. 240). Market-driving strategies are aimed at proactively changing market structures and behaviors of market actors to improve their own competitiveness. In other words, market-driving strategies focus on changing competitive conditions, for example, through introducing new offerings into (new or existing) markets or even by creating entirely new markets. These strategies involve the interactions of multiple actors. The interactions, in turn, lead to changes in the make up and behaviors of actors – including managers and employees – as well as the overall value creation and capture by relevant actors (Nenonen, Storbacka, & Windahl, 2019).

2.2. Dynamic capabilities

Research on market-driving strategies has taken a capability view to understand actors' strategic efforts to shape markets (Randhawa, Wilden, & Gudergan, 2018). Previous research has argued for the importance of market orientation guiding DC deployment (Wilden, Gudergan, & Lings, 2019). In line with early market orientation research, DCs, which have mainly been portrayed as enabling firms to deal with environmental turbulence, have also largely been investigated as means to respond to such turbulence rather than to create it (Day, 2011; Schilke, Hu, & Helfat, 2018). Greenley, Hooley, and Saunders (2004), however, highlighted the active role of DCs by emphasizing their importance in shaping new markets. Accordingly, DCs do not just enable firms to respond to changes in markets but they can also support them in shaping markets (Maghzi, Lin, Pfarrer, Gudergan, & Wilden, 2023; Teece, 2007; Wilden, Akaka, Karpen, & Hohberger, 2017; Jung, Mallon, & Wilden, 2023).

The process of deploying DCs involves three processes: (1) sensing and shaping opportunities and threats, (2) seizing opportunities, and (3) reconfiguring capabilities (Teece, 2007). *Sensing* an opportunity, in general, reflects the firm's ability to scan, create, learn, and interpret information (Teece, 2007). The process is important as it promotes strategic change (Gelhard, Von Delft, & Gudergan, 2016). It involves searching and exploring across markets and technologies (Teece, 2007) and entails learning about customers, markets, and competitors. Ultimately, sensing aims to create value (Teece, Pisano, & Shuen, 1997).

When the firm senses an opportunity to provide value—whether unprecedented or conventional, it then needs to seize the opportunity by developing new processes, products, or services. To *seize* the opportunity, the firm needs to evaluate and specify existing and emerging capabilities, BMs and investment decisions (Teece, 2007; Wilden, Gudergan, Nielsen, & Lings, 2013) and mobilize resources (Teece, 2012). *Reconfiguring* and implementing new BMs involves adapting or redesigning operational capabilities or building completely new ones (Teece, 2007).

DC deployment has mostly been examined at the firm level (Pitelis & Teece, 2018),

focused on producing corporate- or business-level strategic change (Fredrich, Gudergan, & Bouuncken, 2022). This focus is not surprising as a capability represents first and foremost a firm-level capacity in form of a “high-level routine (or collection of routines) that, together with its implementing input flows, confers upon an organization’s management a set of decision options for producing significant outputs of a particular type” (Winter, 2003, p. 991). However, this definition, together with the understanding that enacting routines requires the involvement of individuals (Nelson & Winter, 1982), highlights the importance of managers in exercising (dynamic) capabilities. Besides, “individual-level elements, such as choices, agency, characteristics, cognitions, and abilities, are an important building block for understanding collective phenomena such as routines and capabilities” (Felin, Foss, Heimeriks, & Madsen, 2012, p. 1362).

In line, Teece (2012) has argued that DC deployment is based on the individual skills and knowledge that employees possess, which is reinforced by research that indicates the performances of employees at all levels can characterize this deployment (Levinthal & Rerup, 2006; Wilden et al., 2016). Whereas we understand that both ostensive and performative aspects at various levels matter in DC deployment (Biesenthal, Gudergan, & Ambrosini, 2019), it has mostly been examined involving senior managers (Felin & Foss, 2006), with very little focus on middle managers and non-managers (Shao, 2019). For example, informal interactions between managers of all levels shape the enactment of routines and thus matter to capability deployment (Felin et al., 2012). While especially the ostensive aspects of routines, such as formal learning systems, matter for capability deployment, the performative aspects cannot be left unconsidered (Biesenthal et al., 2019).

The rather narrow focus in much previous research on senior managers, however, neglects “the creativity of lower level employees” (Adler & Obstfeld, 2007; Salvato & Vassolo, 2018, p. 3) and the influence of others in sensing and shaping opportunities (McGrath & MacMillan, 2000). Few exceptions in DC research specifically emphasize the role of others than senior managers: For instance, teams of frontline employees and middle managers are argued to be part of DC deployment (Nonaka, Hirose, & Takeda, 2016). Similarly, the interaction of senior and middle managers is reasoned to produce beneficial knowledge for DC deployment (Altintas et al., 2022; Peters et al., 2019). Some literature even finds that firms can outperform their competitors if they find a new source of action, namely middle and non-managers (Salvato & Vassolo, 2018).

In our context, we define senior managers as managers who have the responsibilities to set and change firm-level strategies. Middle managers have responsibilities to implement firm-level strategies and design and manage operational strategies. Both senior and middle managers would commonly have supervisory duties, but do not necessarily have to supervise others. We delineate non-managers as employees who are not designated as senior or middle manager and have no supervision authority nor perform performance evaluations of others within their firm (Wilden, Lin, Hohberger, & Randhawa, 2023).

2.3. Dynamic capabilities and business model innovation

Teece (2018, p. 40) highlights that the “crafting, refinement, implementation, and transformation of business models are outputs of

high-order (dynamic) capabilities... , which are underpinned by organizational routines and managerial skills.” The BM defines the content, structure and governance of transactions made to create value by exploiting opportunities (Amit & Zott, 2012). More specifically, a BM defines value creation, value proposition, and value capture components and embedded activities (Clauss, 2017). BMI changes one or more of these components (Clauss, 2017). Change could include adding new activities, connecting activities in a new way, or changing who performs what activity (Amit & Zott, 2012). BMI might be needed due to changing market conditions (Ferreira, Proença, Spencer, & Cova, 2013) and even more so for market-driving firms that shape new market conditions. For instance, for firms that engage in digital servitization, their BMI concerns elements of both servitization and digitalization (Favoretto, Mendes, Oliveira, Cauchick-Miguel, & Coreynen, 2022).

The relationship between DCs and BMs and ultimately BMI is complex (Teece, 2018). To innovate a BM, a first step requires firms to sense or create an opportunity through identifying unmet customer needs and/or new technologies (Maghzi et al., 2023). Then, they need to evaluate their existing and alternative BM architectures to enable, for example, digital servitization through seizing (Teece, 2007). Greater DCs allows management to consider BMs that entail more radical shifts of resources or activities (Teece, 2018). Implementing a changed or new BM requires reconfiguration of a firm’s capabilities to beget creation and exchange of unmatched value (Wollersheim & Heimeriks, 2016).

All sensing, seizing and reconfiguring activities have been found to be especially important for successful BMI (Teece, 2018; Witschel, Baumann, & Voigt, 2022). However, the impact of the three DC processes on BMI may depend on firm-internal factors such as structure, culture, and leadership. For example, an open culture built on experimentation and learning strengthens the positive relationship between DCs and BMI. Further, a less formalized structure opens up creativity, leading to effective seizing in the context of BMI (Witschel et al., 2022).

3. Methodology

Applying an abductive approach, this research draws on data about a market-driving B2B firm in the medical devices sector. This approach is appropriate for the following reasons. First, the research aims to refine theory but not to build an entirely new theory like an inductive approach would. Second, unlike a deductive approach, the research does not test hypotheses but instead sets out to refine theorizing. Therefore, drawing on existing literature on the role of DC deployment in BMI, the research draws on empirical data to clarify the contributions that senior, middle, and non-managers make to DC deployment in a market-driving B2B firm. In this way, our abductive data analyses approach systematically combines existing theorizing on DC deployment with empirical case evidence, enabling the extension of current theoretical understanding (Dubois & Gadde, 2002). Moving back and forth between theory and empirical evidence enhanced the interpretive utility of our research (Eisenhardt & Graebner, 2007).

3.1. Case setting

We needed data for a lengthy period to offer deep insights into how senior, middle, and non-managers’ contributions to BMI and market-driving efforts occurred over time. This pointed to adopting a historical approach to study DC deployment, which allowed us to draw “... extensively on historical data, methods, and knowledge, embedding organizing and organizations in their socio-historical context to generate historically informed theoretical narratives” (Maclean, Harvey, & Clegg, 2016, p. 609, p. 609). We also note that historical analysis is becoming more prominent in management (Bansal, Smith, & Vaara, 2018) and B2B marketing research (e.g., Sihvonon, Luoma, & Falk, 2021).

We followed Eisenhardt’s (1989b, p. 537) recommendation and chose a case firm where the focal phenomenon is “transparently

observable.” To be able to investigate market-driving processes we needed a firm that not only had the potential to create market change, due to its past innovation and market leadership and performance, but also exercised such strategies. Consequently, this research draws on data from an Australian B2B biotechnology firm (‘Medtech’), which designs, manufactures, and sells medical devices and implants. Importantly, one member of our research team had relevant access to and deep insights into this firm.

Active for more than four decades, the firm is the leader in its market, having changed the market's rules of the game through its innovations. Today, it offers health improvement products and impairment support. It sells its products primarily through intermediaries, which are healthcare providers that sell and install the medical devices to end-users. With its history and position as a leading medical devices manufacturer in the global market, it offers products and more recently services. Medtech shifted its focus from selling products towards providing service-based customer solutions, with digital technologies now undergirding much of these solutions.

As per 2022, it sells in over 180 countries, with a direct presence in over 30 countries and a global workforce of close to 4500 employees. Its annual sales revenue exceeds USD 1 billion (a 10% increase compared to 2021). With a current market size of USD 1.65 billion, projected to grow annually by about 5.5% to USD 2.5 billion in 2030, Medtech is the market leader among four players: it has a 60% market share of sales, which is more than three times larger than its nearest competitor, and analysts report it has ‘mouth-watering’ margins.

Medtech is appropriate for this study for several reasons. First, Medtech underwent major change episodes that allow analyzing employees' contributions over a period of over ten years. The firm regularly introduced new products and has lately also engaged in building its own service business. It has been named most innovative company by several awarding institutions on multiple occasions. Second, Medtech is a technology firm that has innovation at its heart and invests heavily in R&D. According to industry data, Medtech operates in a fast-paced and rapidly changing environment. The firm has launched remote capabilities for customers to engage with products and services digitally. This is relevant for our research, as Medtech engaged in servitization and digitalization as two BMIs (Favoretto et al., 2022). Servitization concerns the provision of customer-centric solutions (Storbacka, 2011; Tuli, Kohli, & Bharadwaj, 2007), and digitalization shapes how firms provide these solutions (e.g. Kowalkowski, Witell, & Gustafsson, 2013) and how they construct their business model accordingly (Tronvoll, Sklyar, Sörhammar, & Kowalkowski, 2020; Verhoef & Bijmolt, 2019). The necessary changes to the firm's BM due to this convergence of servitization and digitalization are complex and firm-wide (Paschou, Rapacini, Adrodegari, & Saccani, 2020; Sjödin, Parida, Kohtamäki, & Wincent, 2020). In its efforts to servitize, Medtech has initiated major strategic changes, including a shift from a product-centered towards a customer-centric BM and has undergone digital transformation. Besides, Medtech's middle and non-managers played significant roles in driving strategic change as opposed to all changes being initiated from the top.

3.2. Data collection

Data were collected through individual interviews or accessed through secondary data sources. In our interviews, we followed an interview guide (Castillo-Montoya, 2016), see Appendix 1 and Appendix 2. The following criteria were used to identify and recruit key informants from within Medtech: they had to be knowledgeable about the strategic changes that had occurred in the firm over the past 15 years (at the point of data collection to ensure they could provide data covering the period of over ten years) and able to express their actions, thoughts and intentions accordingly (Gioia, Corley, & Hamilton, 2013). Based on the first-round interviews, respondents were asked to nominate colleagues who would be able to provide additional insights. Their eligibility was checked, and those identified as knowledgeable employees

proceeded. This procedure enabled access to an otherwise hidden population (Baltar & Brunet, 2012; Noy, 2008) and increased the informant pool (Baltar & Brunet, 2012). The interviewees were briefed about our research and assured anonymity and confidentiality. Interviewing via video allowed us to conduct visual meetings (Shuy, 2003), and interpretation of the data was enriched drawing on visual cues (Fielding & Thomas, 2008). All interviews were recorded with permission and took on average one hour. Overall, 32 senior, middle managers and non-

Table 1
Interviewees.

Status	Position	Department	Direct Reports
Senior Manager	Vice President	Information Technology	40–50*
Senior Manager	Vice President	Manufacturing	80–100
Senior Manager	Vice President	Manufacturing	58
Senior Manager	Vice President	Marketing	9
Senior Manager	Vice President	Marketing	9
Senior Manager	Vice President	Marketing	3
Senior Manager	Vice President	Marketing	5
Senior Manager	Vice President	Research and Development	11
Senior Manager	Vice President	Research and Development	0**
Senior Manager	Vice President	Services	5
Middle Manager	Senior Business Controller	Finance	7
Middle Manager	Director	Manufacturing	4
Middle Manager	Director	Marketing	4
Middle Manager	Director	Marketing	3
Middle Manager	Director	Services	3
Middle Manager	Director	Research and Development	12
Middle Manager	Director	Research and Development	8
Non-Manager	Product Manager	Human Resources	0
Non-Manager	Senior Product Manager	Marketing	0
Non-Manager	Communications Manager	Marketing	0
Non-Manager	Events Coordinator	Marketing	0
Non-Manager	Executive Assistant	Marketing	0
Non-Manager	Senior Product Manager	Marketing	0
Non-Manager	Senior Product Manager	Marketing	0
Non-Manager	Product Manager	Marketing	0
Non-Manager	Product Manager	Marketing	0
Non-Manager	Senior Project Manager	Research and Development	0
Non-Manager	Senior Engineer	Research and Development	0
Non-Manager	Senior Engineer	Research and Development	0
Non-Manager	Delivery Manager	Research and Development	0
Non-Manager	Project Manager	Research and Development	0
Non-Manager	Process Lead	Services	0

* Responsible for sub-contractors.

** Newly created position, at the time of data collection in the process of hiring multiple direct reports.

managers working across several departments were interviewed (see Table 1).

Interviewees included ten senior managers, who provided an overview of Medtech's strategic direction and changes and of middle and non-managers' contributions to the changes, seven middle managers, who described how they and non-managers were involved in changes. Lastly, 15 non-managers reported about the contributions they made to Medtech's changes. The interviewees belonged to different departments but mostly came from Marketing, R&D, and Services. Altogether, 14 employees were interviewed in Marketing, nine in R&D, three in Services, three in Manufacturing, and one employee each in Information Technology, Finance, and Human Resources. Most interviewees came from Marketing as that department underwent enormous transformations due to the customer-centric change. Many interviewees also were part of the R&D department, concerned with the digital transformation. Three interviewees belonged to the Service department, which was by far not as large as other departments and had only been created during the change towards customer centricity. Manufacturing employees added valuable insights as they were close to the products; however, theoretical saturation occurred after speaking to three employees. Three employees, one each from Information Technology, Finance, and Human Resources, were chosen to broaden the functional scope.

After reviewing the interviews, several participants were approached once again for follow-up questions. These questions took place in the form of another interview or, where appropriate, via email. This stage of our research allowed us to clarify any remaining questions and confirm or disconfirm preliminary findings. The last stage involved a comparison of our data with secondary data and our preliminary theoretical understanding for triangulation purposes (see Table 2). Drawing on multiple sources enhanced the reliability and validity of the research (Fusch, Fusch, & Ness, 2018; Lindgreen, Hingley, Stavros, & Westberg, 2009), and supported data saturation (Fusch & Ness, 2015).

3.3. Data coding and analysis

Given our aim to link phenomena not related to each other hithero (Reichertz, 2007), we analyzed our data following abductive research principles (Dubois & Gadde, 2002). In line with this logic, we compiled constructs from existing literature to break “free from the constraints

Table 2
Secondary data sources.^a

Policies	Other sources
Global Code of Conduct	Code of Business Ethics
Whistle-blower Protection Policy	Annual reports* and strategy overviews
Continuous Disclosure Policy	Social media profiles*
Trading Policy	Firm website*
Performance Evaluation of Board and Key Executives Policy	News clippings*
Risk Management Policy	Job descriptions
Shareholder Communications Policy	Media interviews*
Diversity Policy	Internet searches*
Share Ownership Policy	Awards
Clawback Policy	Environmental, Social and Governance Report
Environmental Policy	Summits and public meetings
Workplace Gender Equality Report	Scientific publications*
Corporate Governance Statement	Awards and sponsorships
	Presentation of financial results 2016–2020
	Diverse webcasts
	Investor presentations
	Corporate presentations

^a The majority of data sources relate explicitly to Medtech and their reference to the medical devices market they operate in. Sources marked with an * include those that relate explicitly to Medtech and, in addition, also non-Medtech ones

associated with taking a single paradigmatic stance, and [...] to produce new understandings with multiparadigmatic theories” (Aarikka-Stenroos & Jaakkola, 2012). As an outcome of our review of relevant literature, we derived an initial understanding of the roles of senior, middle, and non-managers in market-driving strategies, DCs, and BMI. Before analyzing the data, we established an overarching impression of the interviews (Mayring, 2004). Next, we assessed this reasoning in comparison to our empirical data and iterated between data and theory to ground emergent themes in existing research (Eisenhardt, 1989a). We discovered narratives of market-driving strategies (Herhausen, 2016), as well as of BMI and DCs (Foss & Saebi, 2017).

Figs. 1-3 illustrate our data coding. In line with longitudinal case study analysis logic (Eisenhardt, 1989a), we used insights from each informant to (dis)confirm inferences drawn from the others. When multiple respondents described the concepts studied in the case organization, this indicated a collective understanding beyond an individual's specific beliefs and interpretations. Patterns of regularity in the data then led to first-level themes, which were subsequently aggregated into theoretical constructs. That is, we applied content analysis to our data (Yin, 2003) applying the Gioia method to define first-order concepts and second-order themes that then lead to identifying aggregated constructs (Gioia et al., 2013). Through constant comparison of different extracts, the data were further coded at a higher level, which led to second-order themes that remained relatively abstract. Through further comparison, we achieved aggregate dimensions that were limited in numbers (Langley & Abdallah, 2011).

Subsequently, we deduced linkages between the constructs to form our final theoretical understanding, highlighting how market driving and DC deployment relate to BMI. Table 3 provides the data structure showing our coding of the core theoretical concepts, together with our case findings and illustrative evidence. To strengthen trustworthiness of our data analysis, all researchers reviewed this process. Finally, the interview data were triangulated with available secondary data on the organization, the industry context, and market driving outcomes (Table 2). We shared our results with informants to verify agreement with our interpretations. This analysis process allowed us to establish a detailed understanding of the phenomena and to improve the internal validity of our findings (Yin, 2003).

Accordingly, throughout our data collection and analysis processes we leveraged the advantages that a single case study design offers (e.g., empirically-rich, context-specific, etc.) but also emphasized measures overcoming the limitation that this design entails to ensure the trustworthiness of our interpretations and findings (Storbacka, 2011): one member of our research team had relevant pre-understanding about and deep insights into the case firm which ensured reliability in (de)coding of data within-context; to counteract potential biases in data analyses, we triangulated multiple sources of evidence in producing a credible representation of the data; and our findings ought to be transferrable given the purposefully selected case that is illustrative of market-driving firms, the triangulation of multiple data sources, and the iterative approach to interpreting data in consideration of our preliminary theorizing.

4. Findings

4.1. Outcome: Change market driven by Medtech's BMI

For decades the predominant BM in the healthcare devices market within which Medtech competed was built around selling hardware devices to medical practitioners who acted as intermediaries between the manufacturers and the end users (i.e., patients). Medtech went through two change episodes in their market-driving behavior, which comprised establishing customer centricity in the firm and introducing digital services targeted at end-users, resulting in BMI at Medtech, changing the dominant BM in the industry. In the following, we explain how Medtech deployed DCs to achieve this BMI and how senior, middle,

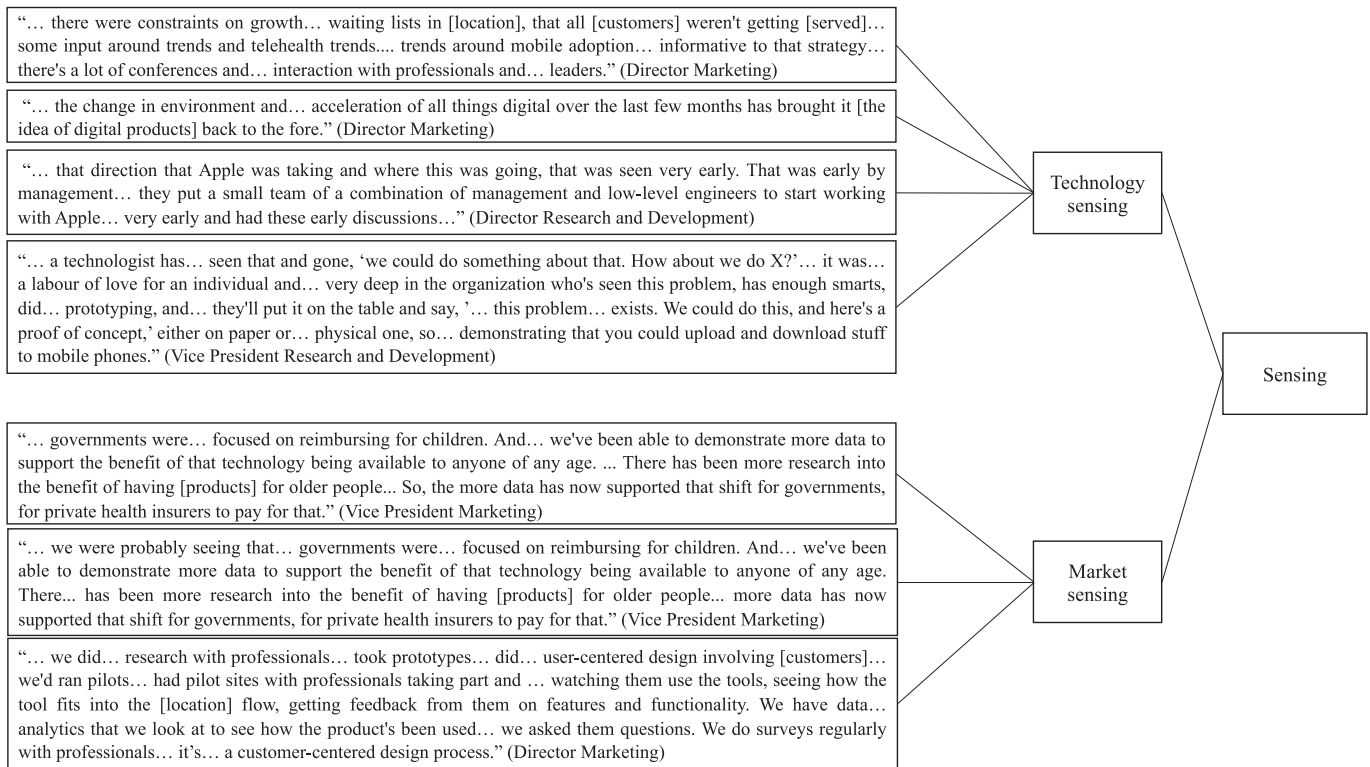


Fig. 1. Coding scheme sensing.

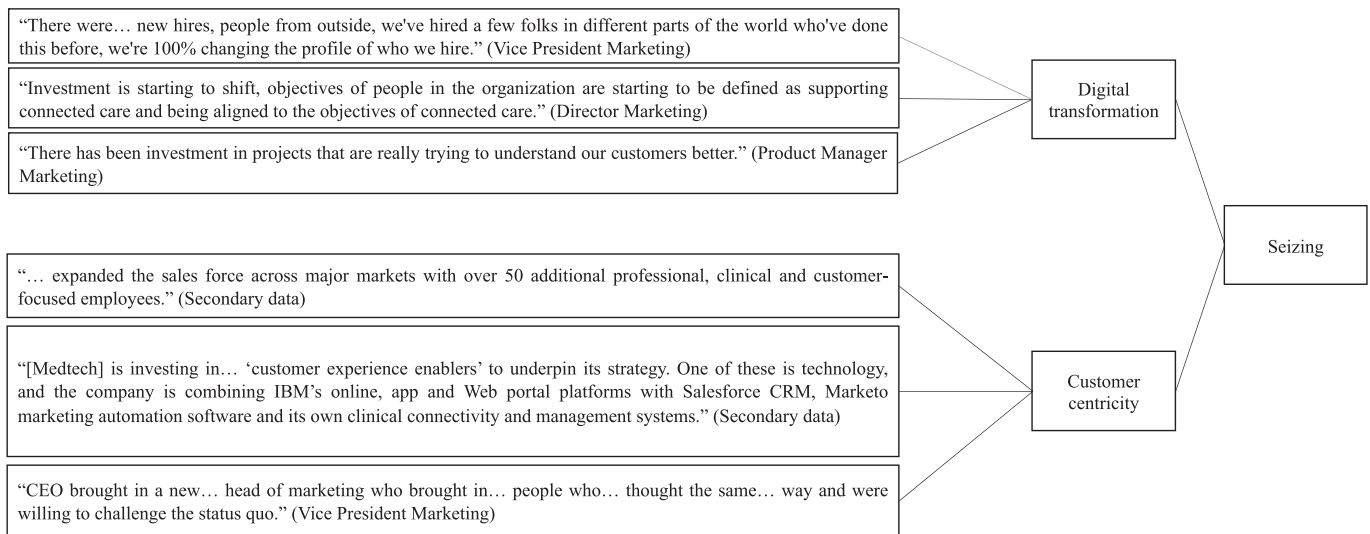


Fig. 2. Coding scheme seizing.

and non-managers contributed to producing changes with a particular focus on sensing, seizing, and reconfiguring. Fig. 4 provides a timeline of events.

Medtech's BM was initially transaction-oriented and internally focused. Annual reports show Medtech's positioning was based on putting its three hardware products first and accentuating their technological advantages compared to competitors' offerings. In this way, Medtech implemented a technology-driven value proposition without clear consideration of customer needs. Taking this product-centric approach, Medtech's portfolio included products around medical devices. Its products were unique and not easily imitable, giving Medtech immense confidence in their technology. The marketing department

solely represented a "support function" to sales, and.

"the assumption was that the minds in R&D would design fabulous products... and then the regions would be responsible for selling it" (Vice President Marketing).

This misalignment with its value proposition meant that marketing was not enabled to put the customer first:

"this company, it was a company that produces widgets and sold the widgets. There was no strategic thinking behind why we're doing what we're doing. Who are we serving? Who is our customer?" (Vice President Marketing).

Medtech's value proposition was targeted at healthcare specialists (intermediaries to the end-user), convincing them by being the market

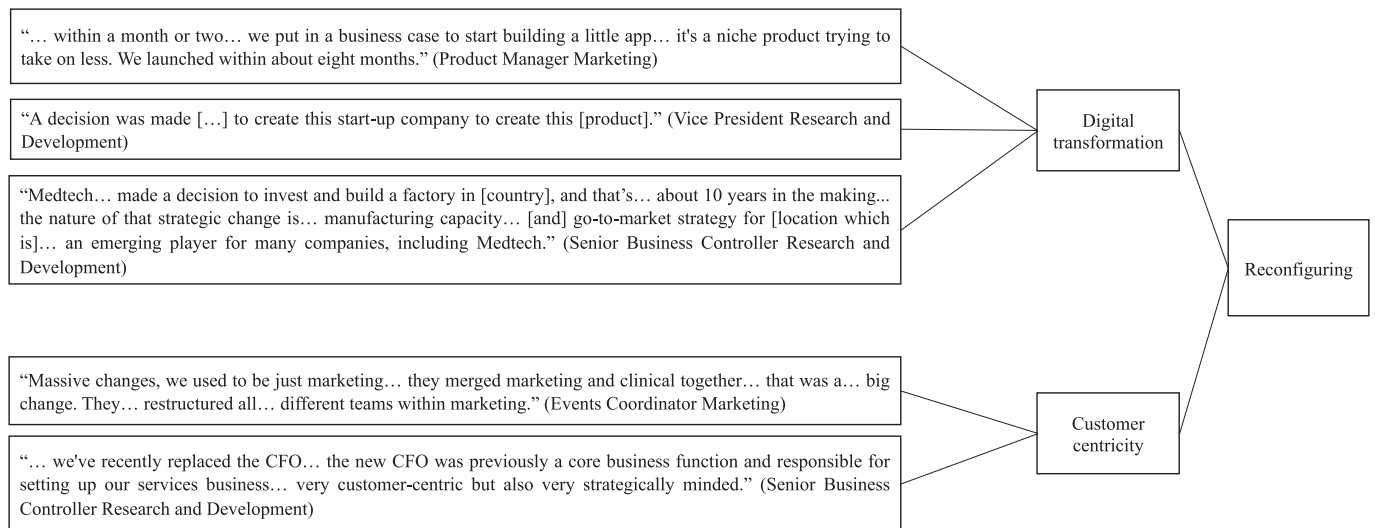


Fig. 3. Coding scheme reconfiguring.

leader in technology and quality. Since the product was distributed through intermediaries, Medtech depended on them to capture value and learn from the market. Medtech did not have much competition, which ensured greater value capture. The value configuration was focused on internal R&D and selling through intermediaries (which were considered to be the primary ‘customers’), interactions with end-users were very limited and any feedback was biased by the intermediaries. In this way, Medtech's original BM enabled value capture through selling hardware and devices, without supporting services. Using Lightfoot et al.'s (2013) servitization categorization, the extent of service integration was basic, focusing on after-sales support.

The first innovation to its BM was Medtech's effort to widen and improve its value proposition and to become more customer centric to realize the Vice President Services' intent to “leverage the annuity value of our customer base”. The value configuration accordingly was reformulated, focusing on the end-user, and increasing customer (i.e., end-user) centricity. The firm then saw opportunities in the digital space, initially prompted by end-user feedback and observations of trends around mobile adoption. With this change, Medtech aimed to shift away from the market's focus on hardware, and instead servitize by offering e-health and telemedicine solutions in addition to its core medical devices, targeted directly at the end-user. The change resulted in a digital approach to the firm's services and internal processes emphasizing a solution focus.

Ultimately, as an outcome of these two change episodes, Medtech as the market leader drove market change by introducing a new dominant value proposition, changing its value organizations, and how value was captured in the market. This market change was achieved through Medtech changing from a pure manufacturing-based BM with products targeted at intermediaries (i.e., health specialists) towards a digital servitization BM (i.e., defining the end-user as the ultimate beneficiary and creating and delivering unprecedented value through service-based solutions). Medtech's thinking shifted towards “not just selling products but making available digital type of solutions to customers” (Director R&D), emphasizing not only the use of digital channels but also the notion of creating and delivering value to end-users. This new value capture was enabled by creating a Medtech end-user community, enabling direct feedback provision. Specifically, Medtech introduced direct to end-user online support, thus replacing the end-user's need to travel to the original intermediary (i.e., healthcare intermediary). These services ranged from simple online tutorials, to developing new medical devices enabling remote access to allow tailored product customizations through remote control, which required investing in developing companion software applications for end-users.

Accordingly, treating services at Medtech changed from ‘basic’ to ‘advanced’ (Lightfoot, Baines, & Smart, 2013), as independent new service solutions were offered to the end-user. It now adopts a hybrid approach combining product- and service-based solution offerings instead of pursuing a focus solely on products or service (Kowalkowski, Windahl, Kindström, & Gebauer, 2015). This allowed the firm to build on its position as being the historic market leader for 30 years. That position was challenged as Medtech's market share had decreased towards 60%. The new digital service-based solutions consequently produced 25% of the sales revenue. Medtech still engages in R&D to develop new technologies that can underpin solutions that offer unique value to its customers, but as the Vice President Marketing points out, this vision of being a company that is digitally servitized “sits largely within marketing.” The Vice President R&D indicated that now Medtech has “the technical capability to be very connected with what's going on in somebody's [health], and that can be useful as a service in a number of ways.” To find the most valuable customers, Medtech deepened its understanding of its customers, taking a “going direct-to-the-consumer” approach, whereas they used to go through intermediaries and professionals (Vice President Marketing). Medtech now captures value differently than 15 years ago. Rather than being product-centric and transaction-focused, Medtech generates revenue through providing digitally enabled service-based solutions to customers that are designed to represent value-in-use (Kleinaltenkamp, Plewa, Gudergan, Karpen, & Chen, 2017). Medtech's refined BM also reflects a more nuanced understanding of its market-shaping orientation:

“[Marketing evolved] to be much more of a strategic driver. So, I think we're accepting that we can't be solely driven by technology and sales, that there has to be a strategic vision in the middle” (Vice President Marketing).

The following sections highlight similarities and differences between how senior, middle, and non-managers affect the BMI in the predominantly internally driven change to customer centricity and the externally driven digital transformation.

4.2. Employee contributions at different levels of management to DC deployment

We found similarities but also differences between how the firm deployed DCs and how employees (i.e., senior managers, middle managers, and non-managers) contributed to DC deployment. Specifically, we uncovered similarities and differences between how employees at different levels of management affected BMI in the internally induced change to become customer centric and the externally induced digital transformation. Tables 3 and 4 provide a summary overview.

Table 3
Contribution to DC deployment in customer centricity.

Sensing	Seizing	Reconfiguring
<p>Senior managers</p> <ul style="list-style-type: none"> - Observe customers (increase of power, increased expectations) - Observe marketplace, governments - Work with academic partners - Get together with key opinion leaders to share thinking about future - Identify need for engagement survey to capture non-managerial feedback - Consult non-managers to help explain outcomes of survey 	<ul style="list-style-type: none"> - Approve funding - Investments in making products and services more accessible - Decision to invest and build factory in Asia - Hire external firm to run data analysis - Get agreement at executive-team level - Decision to do engagement survey - Establish four strategic pillars and code of conduct serving the purpose of customer centricity 	<ul style="list-style-type: none"> - Change of staff with more customer centric minds - Increase of cross-functional collaboration - Hold town halls and answer every employee question - Check in regularly to make sure the right stakeholders were involved and included - Share roadblocks/barriers, lessons learned, opportunities uncovered by middle managers with other parts of business - Communicate shared philosophy of having aligned goals and processes - Help changing structure
<p>Middle managers</p> <ul style="list-style-type: none"> - Push for customer centricity and put pressure on senior managers - Communicate, network, interact with employees - Send out managers into field to observe what happens at front line - Identify target customer (s) 	<ul style="list-style-type: none"> - Decisions that are within their scope, budget, timing - Train employees, onboard new skills - Go (internal) fundraising 	<ul style="list-style-type: none"> - Cascade and make strategy tangible and relevant to function - Establish a new unit - Influence customers that they are cared for life - Take teams through set deck to make understand strategy - Change employee goals (e.g., shift of Public Relations strategy from going after anywhere to going after specific markets with adult segment penetration) - Oversee and facilitate efforts to move towards a common system - Merge new product industrialization team and process engineering team - Change of management structure: from technical-based to matrix-style structure - Weekly reviews of projects - Encourage colleagues to see and feel customer experience - Discover and mitigate risk in product
<p>Non-managers</p> <ul style="list-style-type: none"> - Input through survey - Report need to involve customer - Analysts confirm need for change, observe internal statistics - Give advice and consulting to middle managers on customer data - Interpret customer feedback - Run best practice competitions (e.g., quarterly call on social media) - Run brainstorming sessions 		<ul style="list-style-type: none"> - Initiative to make sure customer is part of culture - Do surveys with customers - Change of non-managerial jobs towards integrating customers - Develop process blueprints to have common definition of processes - Build better analytical tools to collect customer feedback - Produce platform where data can be shared and used - Improve Customer Relationship Management

Table 3 (continued)

Sensing	Seizing	Reconfiguring
<ul style="list-style-type: none"> - Do research, talk to peers, come up with things to propose to upper management with relation to survey - Identify needs with different lens 		<ul style="list-style-type: none"> system - Build automated dashboards to communicate complaints - Rebuild all websites to make easier for elderly customers - Involved in focus groups - Sit in on meetings and give opinion about brand - Develop new Salesforce account - Educate employees about customers, create learning opportunities, bring in customers to talk to employees - Centralize Information Technology systems and departments (e.g., Human Resources)

4.2.1. Sensing

The first change to its BM logic was Medtech's effort to become more customer centric, which required a rethinking of its marketing department to realize the Vice President Services' intent to "leverage the annuity value of our customer base." This change was sensed and initiated by senior managers. While middle and non-managers were able to provide input in the sensing process by refining the identified opportunity, senior managers took the initiative through directly engaging, for example, with the marketplace, relevant governments, work with academic partners, and organize events with key opinion leaders to share thinking about the future, ultimately to shape this emerging opportunity.

Following this, middle managers took the lead in refining the opportunity. While increased customer centricity was the objective, Medtech was unclear about who its customers actually were. According to the Vice President Services, after a year of executive meetings and research, the Head of Business Development asserted that essentially the customer is the end-user and not the intermediary. This realization arose internally from a sense that the customer was becoming more powerful in Medtech's environment. However, it became clear that competitors also "increased their focus on the customer", and this reaction by competitors reinforced Medtech's customer-centricity initiative (Vice President Marketing). Consequently, middle managers communicated, networked, interacted with employees internally, but also sent other middle managers out into field to observe what happens at front line.

The second change, digital servitization, was not sensed by senior managers, but rather resulted as an outcome of the increased customer centricity, which allowed synthesizing insights from customers, other firms operating in the market, and the industry, with middle and non-managers focusing specifically on leveraging their relationships with peers:

"Once that partnership started to take place, then I think there was sharing of knowledge about what direction we're going in technology-wise and how we could benefit from that. And so, we ultimately saw the benefit of that wireless streaming technology." (Senior Product Manager Marketing).

Middle managers shaped the opportunity by collecting insights through relationships with external stakeholders, access to forums with upper management, building a case and creating a vision for involvement in digital rehabilitation, and observing mobile and telehealth trends via conferences, and interactions with customers and industry leaders.

In relation to the senior managers' move towards customer centricity, non-managers acted predominantly as providing feedback rather than shaping new initiatives. They shared their observations with middle

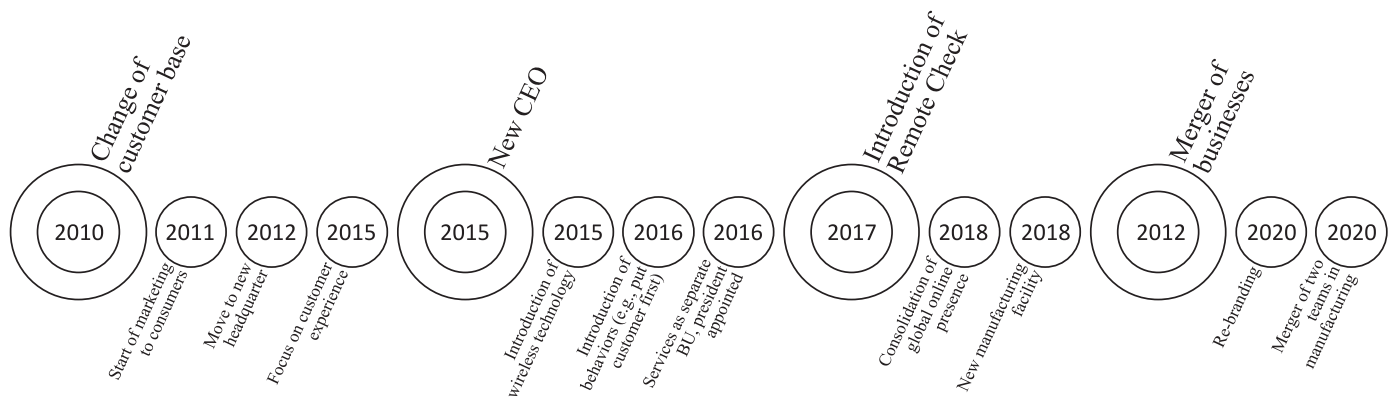


Fig. 4. Timeline of events

managers, who then further pushed for implementing customer centricity with senior managers. Non-managers were especially consulted and needed for interpretation of insights during the process of sensing. Through advocating for customer needs and owning various products, non-managerial, customer-facing employees now had a special place in Medtech where their opinion was valued for making the right decisions. Non-managers built on this higher internal standing by providing input through surveys, organizing brainstorming sessions, running best practice competitions, and supporting more informed decision making through providing internal data to decision makers.

However, non-managers struggled to find an ear with senior managers in attempts to proactively drive changes to Medtech's BM and in the market, when it was not in response to external market forces. Proof in point, Medtech endeavored a change that initially failed due to its source. It involved the development of new service-based solutions that combined different products into one. The idea came from non-managers pushing for such a service solution:

"So, this engineer had this idea. And I didn't come up with the idea, but I embraced the idea because I could see it would make life easier for the [customer]. So, I lobbied for it. And I was running the product development program at the time, so I had a reasonable amount of say." (Vice President Research and Development).

The driving force was at ground level with electrical engineers who were very passionate about developing this service solution. However, their ideas were rejected by senior managers as "the powers that be basically said, 'That's not what we do, and nobody would want that. It doesn't work'" (Senior Product Manager Marketing). Although he approved of the idea and gave his support, the Vice President Research and Development also found it difficult to get approval for the idea:

"But the senior executives thought it was for a small segment of the market, not a big segment, and so I found it difficult to get approval for this new product on our product plan until our competitors released a similar product. And then suddenly, everybody said, 'We have to have one too'." (Vice President Research and Development).

Thus, at the early stages, the product was not realized such that there was no change in the market, much to the regret of the Senior Product Manager Marketing who had to watch the competition subsequently introduce this exact solution. In view of these competitors' actions, there was another push by middle managers to convince senior managers that this new service-based solution made sense, which according to the Product Manager Research and Development drew the following response: "you know that thing that you kept talking to me about, we better do something about that." Ultimately, the service was a huge success.

4.2.2. Seizing

Following through with their sensed opportunity, senior managers shaped this opportunity by establishing the framework for future customer-centric behavior. That is, they introduced a code of conduct,

which puts the customer at the center, expects employees to understand their behavior and actions through the end-users' eyes, factors in end-user needs in decision making, and brings the end-user's voice into the conversations. Senior managers then provided the avenue for employees to produce changes by making targeted investments to make products and services more accessible to customers and working with an external firm to provide big data analytics insights on customers' product usage. Further, through senior managers allocating required resources, Medtech's marketing department, which interfaces with customers, was ultimately reconfigured and expanded, and gained in importance. The Vice President Services shared that "there was a lot of internal drive" behind the shift of the marketing department that led to Medtech's increase in customer services.

Finally, senior managers concluded that a more digital approach opened new opportunities, thus acknowledged that to make the digital servitization work, the firm and all its staff had to truly embrace all things digital. Therefore, Medtech's senior managers refined the use of existent capabilities, invested in more digital expertise, and leveraged a digital CRM system, which further drove customer centricity. The Vice President Manufacturing highlighted that the focus of integrating customer centricity and digital transformation was that:

"with the customer-focus approach, it then did become less about the technology, but more about using technology, not just for technology's sake, but really to reach the customer."

Our data further provide the interesting insight that middle managers pushed actively for the seizing of this opportunity triggered by senior managers; that is, they worked proactively to implement the customer centricity desired by senior managers. However, middle managers appeared more passive, when it came to shape detailed strategic initiatives for the digital space. Here, they focused on championing non-managers and securing budgets, rather than developing their own ideas. Middle managers saw their role primarily as facilitators by providing training to non-managers who then made recommendations and interpreted relevant data. Consequently, middle managers established a new internal decision-making culture, which represented a shift away from what was part of Medtech's culture over the previous 15 or so years when non-managers were less involved in decision making and more likely to just follow what a superior said. Debates used to be rare and if attempted, non-managers needed a lot of courage to make their point. To do so, in terms of seizing they focused on advocating for an agile working style that ultimately enabled the change towards customer centricity. Middle managers were able to decide quickly, while decision making in the internally induced change took longer. In fact, middle managers made changes possible through their relationship with external parties. Especially in the case of digital servitization, middle managers' input was often required as senior managers at times lacked a deep understanding of digital technologies. Without direct access to relevant staff internally and external stakeholders, middle managers enabled access to information senior managers required (Heaton &

Table 4
Contribution to DC deployment in digital transformation.

Sensing	Seizing	Reconfiguring
<p>Senior managers</p> <ul style="list-style-type: none"> - Observing of direction Apple took - Paying attention to non-managerial feedback 	<ul style="list-style-type: none"> - Decision making - Decision to invest in technology - Decided to hire digital staff - Investment shifts towards connected care 	
<p>Middle managers</p> <ul style="list-style-type: none"> - Partnerships with external stakeholders - Access to forums with upper management - Building case and vision for involvement in rehabilitation - Observing mobile and telehealth trend via conferences, interaction with customers, industry leaders 	<ul style="list-style-type: none"> - Decisions about research relationships - Representing customer-facing groups - Communication (wide reach in firm) - Quick decision making - Recommendations - “Smuggled” budget to build pilot, and launched before anyone realized; then secured budget to build something more substantial - Seek investment and getting approval - Influence product design investments 	<ul style="list-style-type: none"> - Work with external partner - Raise concerns - Combine knowledge with researchers - Diffuse and synthesize information - Set direction for stakeholder collaboration - Generate evidence, influence stakeholders to back pilot, ensure budget - Do demos of app to broaden stakeholder buy-in - Onboard cybersecurity capabilities - Bring in external consultants - Act as buffer to understand changes as they come through and the impact on team - Feedback to upper levels how changes have been adopted
<p>Non-managers</p> <ul style="list-style-type: none"> - Daily calls from customers, suppliers - Technologists first to see need for change 		<ul style="list-style-type: none"> - Involved in tactics - Commission research - Work with external partner - Build app, testing it - Come up with name and feature set of app - Replace Information Technology system with a new one (60 systems linked to it) - Understand, raise, and help manage concerns - Combine firm knowledge with researchers - Engage in process automation (automate manual tasks), e.g., entering orders - Customer acquisition through Facebook and website - Implement new system for portfolio project management

Teecce, 2013). Interestingly, they also “smuggled” budget to build and launch a pilot, ultimately then officially securing budget to build something more substantial.

In contrast to the contributions by senior and middle managers, there was no evidence about non-managers adding to the seizing process (Tables 3 and 4). The lack of involvement in such activities by non-managers may be attributed to their cognitive limitations and

differential access to information in comparison to upper levels of management. Instead of non-managers, middle and senior managers were taking on seizing activities. More specifically, in the shift towards customer centricity, senior managers were primarily responsible for seizing the opportunity, whereas in the case of digital transformation, middle managers were in charge. The latter change required more technical, specialist knowledge, which the senior managers lacked. To compensate for this, middle managers stepped in. Yet, senior managers benefitted from their social capital, such as having relationships with important customers, resulting in senior managers' seizing activities during the change to customer centricity.

4.2.3. Reconfiguring

Senior managers' involvement in reconfiguring during both change episodes was less compared to sensing and seizing. Their focus here was on delegating authority to middle and non-managers as well as advocating and improving communication flows. That is, they held town halls, ensured that the right stakeholders were involved and included, shared roadblocks and lessons learned uncovered by middle managers with other parts of the business, as well as communicated the new shared philosophy of having aligned goals and processes.

The investments made by senior managers to seize the opportunities led the organizational structure at Medtech to comprise new customer-focused functions, as well as an agile model that provided middle and non-managers with more decision-making authority during reconfiguring, moving:

“to a more matrix-style structure [with] two resource managers who are just responsible each for about 15 resources who are a pool of resources that can then get pulled onto any project.” (Director Manufacturing).

The new agile structure enabled Medtech to further refine its customer solutions as it sought to reshape the markets that it serves. In doing so, Medtech rewarded especially its non-managerial employees for behaviors that put the customer at the center. For example, an award is given every year:

“to someone who had an idea that satisfied an unmet customer need, and they pursued that idea all the way from the idea into an implementation and a product that later was successful in helping meet that unmet need.” (Vice President R&D).

This encouraged non-managers to drive initiatives and shape their implementation. Among these important initiatives were the initiation and implementation of additional digital channels, such as developing a remote digital solution. So, the specific strategic initiatives in reconfiguring were the task of non-managers who worked closely with external partners, built digital solutions, and were given great freedom in implementing the externally induced change.

Given that the digital servitization was triggered based on external customer feedback, interestingly when it comes to reconfiguring, the Vice President Services believes it is:

“easier to contribute when that view comes from outside”... if you can make those decisions on the basis of external inputs, especially coming from the customer, it's a much better process.”

The Director Marketing agreed that change coming from external sources carried more weight and the Vice President Manufacturing posited that:

“if there is a change in the market, that would be a big catalyst of changing the direction of the company. ... external usually is taken more seriously [and] the reaction time to change externally is quicker than an internal change. ... people will challenge you less on a change of strategy based on technology or something that is a customer trend than if it's someone internally.”

During reconfiguring, middle managers served predominantly as connecting senior managers with non-managerial employees:

“I think the middle management just their job is to really— is a push and pull. They need to cascade and make the strategy that comes from the exec tangible and relevant to their function, also at the same time pushing their teams to execute.... But also, I guess, to contribute back to the business, how

those changes have or haven't been adopted or what kind of feedback can you get from those changes.” (Vice President Marketing).

During the digital servitization, middle managers engaged in DC deployment as relationship builders with external stakeholders, connectors, and knowledge combiners, an observation confirmed in works pointing to middle managers acting as connectors (Taylor & Helfat, 2009) and knowledge integrators (Kenney & Gudergan, 2006). They were engaged in setting the direction, working with external partners, and diffusing and synthesizing information. They furthermore enabled quick decision making and reconfiguration of capabilities, echoing prior understanding that middle managers enable fast implementation (Heaton & Teece, 2013). In summary, in reconfiguring.

“the middle management just their job is to really– is a push and pull. They need to cascade and make the strategy that comes from the exec tangible and relevant to their function, also at the same time pushing their teams to execute. But also, I guess, to contribute back to the business, how those changes have or haven't been adopted or what kind of feedback can you get from those changes.” (Director Manufacturing).

This view was also supported by the Vice President Global Market Access and Health Economics:

“[Middle managers] primary responsibility is being responsible for people's development. Now they just have somebody who's caring about them and their development, and so we're seeing people a lot more engaged that they're getting opportunities to work on things that they're interested in or want future skill, up-skilling in. Most middle management role, is in a way to be a buffer to understand the strategic changes and developments that are happening, initiatives as they come through. To understand the impact of that on the team, and then to work through change management of those impacts in the team.”

Middle and non-managers' involvement in reconfiguring is exemplified by middle managers establishing a new service unit and non-managers living an organizational culture that prioritizes customers. Once seized, customer centricity began to be implemented within Medtech through cultural change, increasing customer interaction, job changes, and developing usability experience. Non-managers played a vital part in Medtech's reconfiguring activities by engaging in the above, whereas middle managers took on the role of boundary spanners, explaining change, training employees, and establishing a new service unit.

It is noteworthy that due to the technical nature of the digital transformation, senior managers were less involved in the reconfiguring processes in this change episode. It appears that senior managers did not possess the skills to actively drive the required implementation of the change, and thus the required reconfigurations. In fact, senior managers were reported to not play any part in those activities. Instead, middle, and non-managers drove activities such as onboarding new digital capabilities, distributing information, building, and testing applications, and working with external partners. On the other hand, senior managers were closely involved in the change towards customer centricity, which aligned with their available human capital. This is in line with research finding that reconfiguring depends on the capabilities of senior executives, for example, on cooperation, influencing skills, building trust, and lowering resistance (Helfat & Peteraf, 2015).

5. Discussion and contributions

This study set out to explore how employees contribute to market-driving strategies. Specifically, it sought to clarify whether senior, middle, and non-managers' contributions to DC deployment in market-driving firms differ during sensing, seizing, and reconfiguring. We make several contributions to previous research.

First, our research builds on and advances the market orientation literature (e.g., Jaworski, Kohli, & Sahay, 2000; Schweitzer, Malek, & Sarin, 2023) by establishing BMI as a crucial element of a B2B firm's market-driving strategy and corroborating the central role of DC deployment in making this market-driving strategy happen. We illuminate that the process through which a firm can engage in market-driving

behavior rests on fostering BMI through deployment of its DCs. Hence, market-driving firms cannot just rely on innovations in technology but benefit from shifting their focus towards BMI which relies on sensing, seizing and reconfiguring complex, but innovative, systemic solutions (Gassmann & Schweitzer, 2014). This clarifies the organizational capabilities that firms need to possess and draw on to leverage their market-driving orientation.

Second, our primary contribution lies in improving our understanding of which role employees at the three levels of management play in market-driving strategies, enacted through DC deployment that fosters BMI (e.g., Breuer & Lüdeke-Freund, 2017; Giesen, Riddleberger, Christner, & Bell, 2010). Existing literature has argued that change and innovation is more likely to be successful if initiated (i.e., sensing) by middle managers and implemented (i.e., reconfiguration) by senior managers (Heyden, Fourné, Koene, Werkman, & Ansari, 2017). We have further learned that middle and non-managers are mostly involved in reconfiguring (Baškarada & Koronios, 2018; By, 2005) and to some extent in sensing processes (Heaton & Teece, 2013; Seifert, 2015) but less so in seizing processes. Seizing is assumed to mostly be performed by senior managers, although some literature posits that it would be beneficial to involve middle managers (Heaton & Teece, 2013). Our findings demonstrate that employees' involvement in DC deployment during market driving is more complex and depends on the respective DC process and whether the initiated change stems from internal versus external sources. That is, in addition to senior managers, both middle and non-managers have pivotal roles in enacting a firm's market-driving strategies through deploying DCs to achieve BMI. However, while we know that senior managers may take on different roles – where they may act as advisor, judge, or guardian (Heyden et al., 2020), what roles middle managers and non-managers have in this DC deployment remains unclear.

Specifically, focusing on middle managers, we observe some important variations in their behavior. Consequently, we provide nuance to previous research on middle managers, considering the distinctive roles that middle managers take on. Specifically, we find that their roles are not stable but rather are enacted subject to certain situational factors. Floyd and Wooldridge (Floyd & Lane, 2000; Floyd & Wooldridge, 1992, 1994; Wooldridge & Floyd, 1990) suggest that middle managers differ in their degree of strategic involvement along two dimensions: action and cognition. Based on their “sandwiched” position between senior managers and non-managers, middle managers can take actions that have both upward and downward implications for DC deployment that fosters market-driving BMI. Upward influence may provide senior managers with a better understanding of organizational realities, including revised understanding about BMI opportunities (Burgelman, 1983; Wooldridge & Floyd, 1990). The downward influence of middle management lies in organizational alignment (Burgelman, 1994; Floyd & Wooldridge, 1997). The second dimension, cognition, assesses to which extent middle managers alter the organization's strategy (Currie & Procter, 2005), accordingly affect market-driving BMI through DC deployment given integrative or divergent tasks. Integration reflects middle managers' efforts to co-ordinate dissimilar activities to support a coherent direction and thereby has an aligning influence on DC deployment, while the opposite is true for divergent strategies. The combination of the action and cognition dimensions results in four types of middle managers involvement in DC deployment (Floyd & Wooldridge, 1992): championing alternatives (upward/divergent), facilitating adaptability (downward/divergent), synthesizing information (upward/integration), and implementing deliberate strategy (downward/integration).

As outlined, we found that middle managers pushed actively for opportunity refinement (shaping) and seizing them when the opportunity was initiated internally by senior managers, thus mostly managing downward. They sensed and shaped additional complementary opportunities to fully realize customer centricity, ensuring that reconfiguring was efficient, and thus ultimately implementing senior management's

vision and strategies. On the other hand, middle managers appeared considerably more passive when it came to shaping strategic initiatives for the digital servitization, which were initiated based on external customer feedback. Here, they focused on championing for non-managers' initiatives and their shaping of opportunities, for example, by securing budgets, and did not focus on shaping their own ideas. This behavior indicates that middle managers engage in both integration and divergent strategic behavior when the market-driving strategy was initiated by senior managers, through championing alternatives and implementing deliberate strategy. On the other hand, in the case of externally-initiated market shaping initiatives, they interpreted their role more reactively by engaging in limited search for additional strategic initiatives beyond current deliberate strategies but managed up to support non-managers (upward/integration) (Floyd & Wooldridge, 1992; Wooldridge & Floyd, 1990). This indicates that middle managers may change their roles in DC deployment depending on the source of change. This provides theoretical nuance to previous understanding about middle managers in DC deployment.

Focusing on non-managers, they have access to knowledge through customer contact, establish and maintain relationships, see new ways to solve problems and create unprecedented value through novel solutions, and represent customers' interests. In line with our findings, research has uncovered that non-managers in customer-centric firms play the role of knowledge brokers, relational partners, creative problem solvers, and customer advocates (Palmatier, Moorman, & Lee, 2019), with their contributions tied to their compliance with organizational procedures and values, and reward mechanisms (Gudergan & Lings, 2010). From the above findings, we conclude that reconfiguring within the digital transformation happened at all levels, leading middle and non-managers to engage in implementing this externally induced change.

Overall, the insights that we have produced about the different contributions that middle and non-managers make to, and roles that they play in, the sensing, seizing and reconfiguring to produce BMI in market-driving firms echo, and provide nuance to, Gassmann & Schweitzer's (2014b) view that *"The art of managing the fuzzy front end [in BMI] is not the art of dictating what everyone has to do at what time. Nor is it the art of letting chaos reign. It is the art of identifying and understanding contradictory and complementary forces, supportive and counterproductive influences, and of providing the necessary framework, resources, and conditions to cope with these forces and influences."*

Finally, given our empirical context we also advance the digital servitization literature. We thereby respond to Paschou et al. (2020, p. 278) who call "for future research endeavours to extend the scope of investigation into digital servitization", and Coreynen et al. (2020, p. 265) who indicate that "little is known about what drives firms towards ... digital servitization" and that "to fully understand firms' strategic transition towards digital servitization, both [dynamic capabilities and their environment] should be considered." In line with Warner & Wäger (2019), our findings confirm that DC deployment enables BMI in a firm's digital transformation efforts. Furthermore, by explicitly recognizing digital servitization as an outcome of a market-driving strategies, we provide clarity about the market-orientation concept in this domain. Importantly, in synthesizing BMI and DC literatures in this setting, we further offer nuanced understanding by revealing that market-driving digital servitization is pushed, and enabled, by senior managers as well as middle and non-managers who contribute variously to the three DC processes of sensing, seizing, and reconfiguring in the face of internally versus externally induced changes. By recognizing the different roles that employees at these three levels of management take on in fostering a firm's digital servitization efforts, our findings extend the work of Simonsson & Agarwal (2021) who have underlined the need to consider employee-level inputs in these efforts and to go beyond firm-level investigations. Accordingly, while existing literature stresses already that the digital servitization journey involves firms melding customer centric and digital transformations, our findings further advance this literature by unpacking how employees at various

management levels are involved in driving this change through contributing to the firm's DC deployment.

6. Limitations and managerial implications

This study is subject to several limitations, which may provide impetus for future research. First, our insights are derived from analyzing market-driving strategies within the context of a longitudinal, in-depth case of one B2B firm active in the medical devices industry. Future research could thus draw on additional cases and add quantitative data to confirm or disconfirm the study's findings and further advance understanding about employees' contributions to internally and externally induced changes in DC deployment. Second, although our research process sought to limit biases through applying interview guidelines and ensuring the presence of two researchers in each interview, future research could complement this research through other methods, such as surveys or focus groups. Third, while we demonstrate how market-driving digital servitization is facilitated through the contributions that employees at various management levels make to DC deployment, we essentially focus on examining the impact that DC deployment has on BMI. Future research could further expand this research by including an analysis of the impact of such BMI (here digital servitization) on firm performance, growth, survival, or financial performance to assess whether performance implications (i.e., relative quality of the BMI underlying the digital servitization) are dependent on the type of employees involved in the DC deployment. In this vein, further research could also clarify the roles of employees at the three levels of management in DC deployment in market-driving firms by moving beyond the firms' boundaries to understand changes and dependencies at different levels within the firms' ecosystem (Kalubanga & Gudergan, 2022). Fourth, in addition to the roles that senior, middle and non-managers play in DC deployment, this deployment can also be influenced by members of the firms' board (Huynh, Wilden, & Gudergan, 2022). Hence, further research may clarify how members of the board influence market-driving strategies. Especially, research can unpack how the social capital, human capital and cognition (Adner & Helfat, 2003) of not only a firm's senior, middle and non-managers but also its board members condition DC deployment in market-driving efforts.

Despite these shortcomings, our findings provide important implications to managerial practice. Importantly, market-driving firms cannot rely solely on their upper echelon to engage in BMI that can change markets. While firms may foster change in their BMs and markets based on their senior managers' ideas, changes often are triggered through both internal and external sources. This has two implications. First, for a firm to effectively engage in market-driving strategies, they may require sensing new developments (e.g., changes in customer behaviors, technological advances) that occur outside the firm, as an input to (re)shaping markets. Second, a firm cannot not solely rely on its senior managers to lead BMI in its market-driving efforts but must involve middle and non-managers. In fine-tuning the involvement of middle and non-managers, a firm can benefit from distinguishing the sources or drivers of change (i.e., internal versus external) and processes that enable BMI (i.e., sensing, seizing, and reconfiguring). Especially, when senior managers initiate and push changes, middle managers can be empowered to take on a role within which they champion alternatives and implement innovations to the firm's BM. Whereas, in market-shaping efforts that rest on external stimuli middle managers are more reactive, engaging in limited efforts to go beyond prescribed BMIs, though support non-managers. Overall, firms benefit from recognizing the pivotal roles of senior and especially middle managers in driving change in markets. While senior managers may contribute to sensing, firms benefit from them leading seizing efforts (i.e., to determine the most fitting BMI to empower middle managers and ultimately drive change in a market). Then, middle managers contribute to all three DC processes and firms can profit from leveraging their important boundary spanning role in recognition of the sources of change that motivate BMI

and market-driving efforts. Finally, although non-managers do not have a direct say in determining the most fitting BMI, they make important indirect contributions. Firms should especially involve them in sensing new developments (e.g., potential latent customer needs) and in reconfiguring BMs to realize innovations (e.g., digital solutions). With these managerial implications, we can stress that market-driving firms that put attention solely to senior managers to lead and implement BMI may neglect the necessary contributions that middle and non-managers make.

Data availability

The authors do not have permission to share data.

Appendix 1

Semi-structured interview guide for non-managerial employees.

1. Introduction

- Welcome & personal introduction
- Participant's introduction
 - a. To get started, would you please describe your current position? For example, what are your main responsibilities? What does not belong to your tasks?
 - b. How long have you worked in your current position?

A) Strategic change and organizational factors

- What is the last big change you remember in your company? Can you tell me more about this change? For example,
 - a. How did it come about?
 - b. Were you or some of your colleagues (who are not managers) involved?
 - c. Was it difficult for you to play a role?
- Can you describe how you or your colleagues contribute to change initiatives when this is not part of your job?
- What do you think does it take for the company to be successful?
- In your opinion, has your company established a climate where you can communicate openly with those above you? *If interviewee points into this direction, for example,*

- a) *Can you communicate without fear of reprisal?*
- b) *Are processes established that allow you to have your say, to suggest improvements, etc.?*

- If you discover that you lack knowledge in a certain area, how is your reaction? For example, do you collaborate; do you ask your colleagues?
- To what extent, if so, have you been involved in management meetings?

B) Conclusion and Feedback (10 min)

- Feedback, clarification, and summary of main issues
- Clarification of additional aspects
- Answering of any questions that respondent might have
- Thank participant and explanation of next steps

Appendix 2

Semi-structured interview guide for managers.

A) Introduction

- Welcome & personal introduction
- Participant's introduction
 - a. To get started, would you please describe your current position? What are your main responsibilities?
 - b. How long have you worked in your current position?

B) Strategic change

- What was the last significant strategic change in your company?
- Did this require major changes to your operations? *Dependent on answer, what aspects where changed? How would you judge the quality of your operations now compared to that of your competitors? Is your company much better? So, did this help grow revenue or reduce costs in your company?*
- *Also, dependent on answers, do you have formal procedures, protocols and/or systems to drive changes to your operations?*
- *Then, dependent on answer, so is it easy or difficult for your and other managers to use these systems and to make a difference? Can you explain how you and your fellow managers go about when having to initiate and implement changes to operations?*
- *Do staff who are not in managerial roles also contribute? ... if so, what do they do?*

C) Organizational factors

- What do you think may prevent non-managers from driving change initiatives and communicating ideas, such as innovations, to their managers?
- Do you motivate your broader staff to assist in coming up with the best ways to change operations? If so, how do you do this? *(For example, through formal/informal rewards for engaging)*
- Do you run any internal idea competitions, such as internal crowd-sourcing campaigns, to drive change internally?
 - a. If so, what have your experiences been?
 - b. If not, have you considered it? Why did you decide against it?
 - c. What are possible hurdles?
- Can you tell me about any change initiatives that were initiated by staff who were not in managerial roles?
- d. How did it come about?
- e. Were there any hurdles they had to deal with?
- f. What was the impact?

- When your staff provides such inputs, how does this fit into the systems and protocols that you and your fellow managers use?
- How do social capital, human capital and cognition of staff influence changes? What effect do they have?

C) Conclusion and Feedback

- Feedback, clarification, and summary of main issues
- Clarification of additional aspects
- Answering of any questions that respondent might have
- Thank participant and explanation of next steps

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