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## MANAGEMENT | RESEARCH ARTICLE

# Balancing contradictory demands during the transition to a business model portfolio for sustainability

Terje Berntsen<sup>1\*</sup>, Tor Helge Aas<sup>1,2</sup> and John Arngrim Hunnes<sup>1</sup>

**Abstract:** While many firms manage multiple business models concurrently, little is known about how they successfully transition to a portfolio of business models and even less about how this process unfolds in the context of sustainability. In this qualitative in-depth case study, we focus on the transition from a single business model to a portfolio that includes novel sustainable business models and study how an organization manages contradicting demands during this process. Our findings suggest that the transition is a dynamic and iterative transformation process whereby managers navigate contradictory demands by using specific balancing mechanisms, which we identified as bridging and segmenting. We propose a novel model explaining the transition process and offer an understanding of how transitions towards sustainable business models can be navigated and potentially accelerated.

**Subjects:** Environmental Economics; Business, Management and Accounting; Industry & Industrial Studies

**Keywords:** business Model Portfolio; Contradictory Demands; Business Model Innovation; Sustainability; Ambidexterity; Transition

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## 1. Introduction

Confronted with rapidly changing environments, firms are required to adopt strategies and develop innovative business models (BMs) to overcome inertia and create competitive advantage (Markides, 2013; Smith et al., 2010; Tushman & O'Reilly, 1996). One of the most recent and impactful external changes is related to the rising demand for sustainable development in society, which presents a potentially fundamental transformation of the business environment. Faced with discontinuous change, firms need to manage both incremental and discontinuous innovation (Tushman & O'Reilly, 1996), balancing exploitation of the existing business with exploration of new possibilities (March, 1991), often across multiple and even conflicting BMs (Markides, 2013; Winterhalter et al., 2016). Balancing such contradictory and seemingly incompatible demands primarily resides as a management and strategic undertaking (Smith & Tushman, 2005) and has been the subject of proliferated attention (O'Reilly & Tushman, 2013), with long-standing roots in the strategy and management literature (cf. Duncan, 1976; Porter, 1996).

In the pursuit of firm-level transformation towards sustainability, many companies end up managing multiple BMs concurrently, exploiting an existing BM alongside new sustainability-oriented BMs (cf. Frishammar & Parida, 2019; Ringvold et al., 2022). Sustainable BMs (SBMs) have received considerable attention from researchers and practitioners, with the compelling potential to address sustainable development in society as well as being recognized as a potential source of competitive advantage and long-term profitability (Bocken & Geradts, 2020; Massa et al., 2017; Schaltegger et al., 2016). Managing multiple BMs as a portfolio within one company can be challenging (Markides, 2013), and is often referred to as a major source of strategic failure (Casadesus-Masanell & Tarziján, 2012). The implementation of a new SBM is considered inherently difficult in the first place (Geissdoerfer et al., 2018), combining it with an existing BM can be an uncertain endeavor (Ringvold et al., 2022) and presents yet another avenue for firms to manage on their path to sustainability, one that remains underexplored in the literature (Dentchev et al., 2018).

While BMs are commonly understood as the design and architecture of value creation, delivery and capture mechanisms of a firm, and pathway to generate profits (Teece, 2010), SBMs offer certain distinctions, incorporating environmental, social and economic value and a wide set of stakeholders (Bocken & Geradts, 2020). The adoption of multiple BMs within a company have been identified as an emergent trend (Li, 2020) and can be a valuable tool for businesses to exploit distinct resources, or to hedge against discontinuities (Casadesus-Masanell & Tarziján, 2012; Sabatier et al., 2010). BM portfolios can be regarded as integrated, leveraging interdependency of activities between BMs, or autonomous, having no interdependencies (Snihur & Tarzijan, 2018). In integrated BM portfolios, firms may combine multiple BMs in the same market or redeploy their resources and capabilities in similar markets to create synergies and reap the benefits of complementarity between the BMs (Sabatier et al., 2010). However, competing for resources or across markets internally may also produce challenges and create tensions. Correspondingly, having no interdependencies may lead to fewer challenges and an equally reduced ability to exploit synergies between the BMs (Markides & Oyon, 2010).

Furthermore, faced with fundamental changes in the business environment, firms need to overcome the structural and/or cultural inertia sustained from exploiting an existing BM to successfully explore new BMs (Tushman & O'Reilly, 1996). Consequently, transitioning from a single BM to a BM portfolio for sustainability may involve multiple contradictory demands. Firms may deal with these challenges through distinct management practices (Velu & Stiles, 2013; Visnjic et al., 2021) or by adopting various integration and separation strategies, as suggested in the ambidexterity literature (Markides, 2013).

Extant research offers rich insights into the processes and practices of firms managing multiple BMs; however, it yields limited understanding of how companies essentially transition from a single BM to a portfolio. This has encouraged recent calls for research on the management of organizational change during the transition to a BM portfolio, particularly within the context of

sustainability (Dentchev et al., 2018; Parida & Wincent, 2019; Visnjic et al., 2021). Thus, in this paper, we ask the following research question: *How does an organization manage contradictory demands during the transition from a single BM to a portfolio with SBMs?* We address this question by conducting an in-depth case study of a firm exploring novel SBMs alongside an existing mature BM.

The contribution of this paper is threefold. First, we highlight the underexplored process in which an established firm transition to a BM portfolio in a sustainability context, providing novel insights and empirical evidence for researchers and practitioners. Second, we extend the current literature by identifying and explaining novel BM balancing mechanisms. Third, by introducing a set of balancing mechanisms, we provide managers with important tools to navigate the transition process. The rest of this paper is organized with the background outlined in section 2, followed by the methodological approach in section 3, the findings in section 4 and the discussion in section 5.

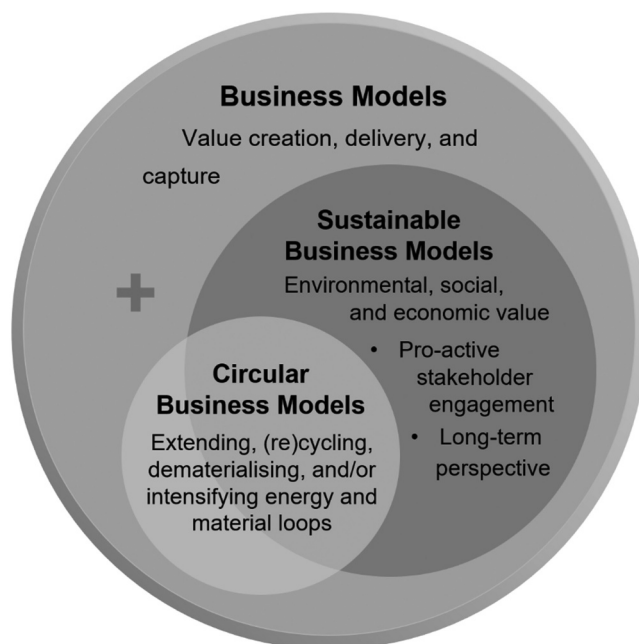
## 2. Background

### 2.1. BMs and BM portfolios

Research on BMs have expanded remarkably in the past two decades, from predominantly concentrating on technological value creation at the firm level to include a broad notion of value, extending towards the strategy domain (Wirtz et al., 2016). Despite some conceptual disagreement (cf. Massa et al., 2017), a definitional convergence of the BM construct appears to be centered around the “design or architecture of the value creation, delivery, and capture mechanisms” of a firm (Teece, 2010, p. 172) and can be viewed as an activity system (Zott et al., 2011).

Introducing the dimension of sustainability, SBMs additionally involve social and environmental value and expands from firm to the wider stakeholder and societal levels (Bocken & Geradts, 2020; Boons & Lüdeke-Freund, 2013) (see Figure 1). SBMs pertains to a wide range of archetypes (Bocken et al., 2014), and are often associated with circular BMs (Geissdoerfer et al., 2018), social enterprises (Santos et al., 2015) and product-service systems (PSSs) (Tukker, 2004). Stubbs and Cocklin (2008) introduced the *sustainability business model*, and found that organizations require distinct structural and cultural capabilities to implement SBMs. Understanding how firms develop and

Figure 1. Bms, SBMs and circular BMs (adapted from Geissdoerfer et al. (2018)).



implement SBMs has been a subject of extensive scholarly attention, cumulated into more than a decade of research on SBM innovation (cf. Bocken et al., 2014; Geissdoerfer et al., 2018).

Firms may implement SBMs through the development or acquisition of an entirely new BM, transformation of an existing, or diversification into multiple BMs (Geissdoerfer et al., 2018). BM diversification can be regarded as managing multiple BMs as a portfolio within one company, defined as engaging with at least two different ways of creating and/or capturing value, each with a distinct monetization mechanism (Aversa & Haefliger, 2017). Firms may adopt multiple BMs as a deliberate strategy to prevent new entrants, surpass competitors, diversify into new markets (Casadesus-Masanell & Tarziján, 2012) or, intertemporally, change from one BM to another (Khanagha et al., 2014). While many studies have addressed the development or change of an existing SBM (Geissdoerfer et al., 2018), little attention has been devoted towards BM diversification in the context of sustainability (Dentchev et al., 2018). In the more conventional field of BM research and management studies, a significant body of knowledge has developed on multiple BMs. This literature includes conceptualizations of BM diversification (Aversa et al., 2021), dual BMs (Markides & Charitou, 2004), parallel BMs (Velu & Stiles, 2013) and BM portfolios (Sabatier et al., 2010).

## **2.2. Managing multiple BMs**

Competing with multiple BMs can be challenging and requires distinct management and organizational capabilities (Aversa et al., 2021; Casadesus-Masanell & Tarziján, 2012). A key challenge involves dealing with the inherent paradoxical tensions sustained from managing strategic contractions (Smith, 2014; Smith & Tushman, 2005). Sabatier et al. (2010) found that organizations employ different strategies depending on the degree of interrelatedness between the BMs. Interrelatedness is a central piece in the management of multiple BMs, because it can determine the level of synergies and the severity of tensions between the BMs (Aversa et al., 2017; Demir & Angwin, 2021).

The primary solution to deal with these challenges has been to keep the BMs separate, allowing for a distinct strategy, culture and process to develop (Markides & Charitou, 2004). While efficient in limiting tensions, separation may adversely lead to limited synergies between BMs, calling for further integration or, rather, a balance between these seemingly contradictory demands (Markides & Oyon, 2010). Correspondingly, managing multiple and often conflicting BMs can be framed as an ambidexterity challenge (Markides, 2013; Winterhalter et al., 2016). Ambidexterity refers to an organization's ability to balance exploitation and exploration activities (March, 1991), defined as being "able to implement both incremental and revolutionary change" (Tushman & O'Reilly, 1996, p. 8). *Structural* ambidexterity refers to the simultaneous balance of exploration and exploitation activities in different organizational structures across the spatial dimension (Tushman & O'Reilly, 1996), whereas *sequential* ambidexterity deals with the temporal dimension, shifting between periods of exploitation and exploration (Duncan, 1976). *Contextual* ambidexterity involves individual employees' ability to balance exploitation and exploration across different contexts (Gibson & Birkinshaw, 2004).

Being ambidextrous and managing contradictions can be considered two sides of the same coin; however, one enables the other. When transitioning from a single BM to a portfolio, firms first need to learn how to manage contradictory demands; hence, we are interested in the process of becoming ambidextrous. While current studies provide valuable insight, there is little knowledge about how organizations successfully transition from a single BM to a portfolio (Visnjic et al., 2021), and even less about how this process unfolds in the context of sustainability (Dentchev et al., 2018; Parida & Wincent, 2019).

## **2.3. Transitioning to a BM portfolio for sustainability**

Global efforts to meet sustainable development goals have been considered insufficient and require the transformation of financial, economic and political systems (UN, 2020, p. 172). Fundamental changes in the business environment can be detrimental for firms caught in

a suboptimal equilibrium of existing exploitative efforts at the expense of explorative capacity (March, 1991). Understanding how firms overcome inertia and manage the transition to a BM portfolio for sustainability presents a particularly relevant yet poorly understood area.

Even in the conventional field of BM research, only a few studies have addressed the transition to a BM portfolio. Early research in this area proposed different integration and separation strategies (Markides & Charitou, 2004) and emphasized the importance of novel organizational practices (Markides & Oyon, 2010). Most studies have focused on managerial cognition (cf. Velu & Stiles, 2013). In a recent study, Ringvold et al. (2022) examined how an organization added a novel SBM to an already existing BM portfolio. However, research on how single-focus companies transition to a BM portfolio remains limited. Visnjic et al. (2021) found that firms could use simplified trade-off practices to manage emerging tensions during the transition process. They recommended further research into novel contexts, such as ambidextrous firms and those combining their commercial ventures with social ones. Other studies have suggested further work into the broader sustainability context, particularly the interactions between existing BMs and SBMs (Dentchev et al., 2018).

While research in the sustainability context remains underexplored, some studies have examined ambidexterity in organizations engaging with multiple BMs. Drawing on theories on discontinuity, Khanagha et al. (2014) examined strategy formation and structural alteration in an organization temporally engaging with multiple BMs, yet as an intermediary to transform existing BM. Winterhalter et al. (2016) was among the first to provide empirical evidence from ambidextrous firms, focusing on domain separation, and suggested further research into novel contexts facilitating contextual ambidexterity. Building on prior work, we concentrate on firms with a distinct strategy to purposely pursue and establish a BM portfolio and focus on the under-explored context of sustainability. To date, the literature lacks a comprehensive understanding about how this transition process unfolds.

### 3. Method

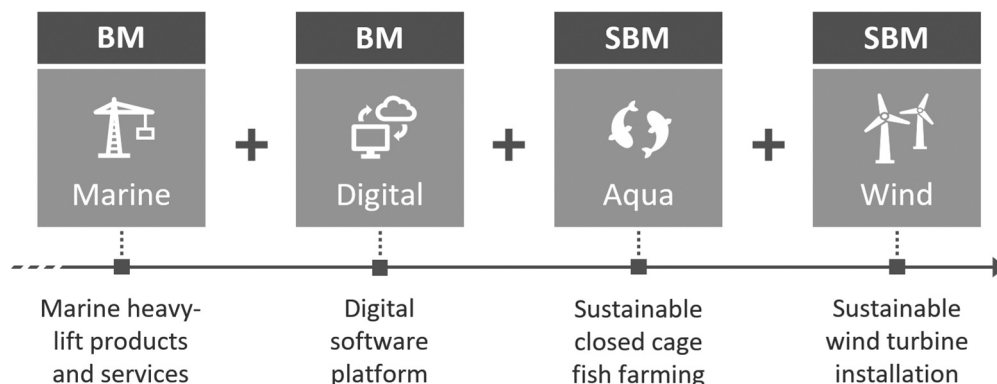
Considering the lack of empirical evidence and limited understanding of the transition process, a qualitative research method was selected. Following similar studies and adhering to the methodological rigor of established qualitative research (Corley & Gioia, 2004), we employed an inductive exploratory research design, based on an in-depth case study, holding multiple embedded units of analysis. Case studies are particularly useful for studying such contemporary phenomena in depth, especially when the boundaries between the context and the phenomenon are unclear (Yin, 2018). Our in-depth study, composed of retrospective and longitudinal data, enabled us to generate novel insights and provided opportunity to build theory about the transition to multiple BMs (Langley, 1999).

#### 3.1. Research setting

We selected the case of a medium-sized company based out of Norway, with roots back to the mid-1960s, that recently went through a transition process to become more sustainable. The company employs around 70 people and has an annual revenue of approximately 400 MNOK. The case organization, which we call “MultiCorp”, was purposely selected for its revelatory potential to build theory and an unparalleled access to information-rich data (Eisenhardt & Graebner, 2007). The access was granted based on the lead author’s affiliation with the company, having previously held a minor role in a subsidiary and, more recently, the parent company. We declare this in full transparency and will elaborate on our measures to ensure objectivity and reliability of the results as we explain our analytical path in further detail.

Around four years prior to this study, MultiCorp was part of a large divestiture, where a majority of the company was sold to a competitor, leaving only a mature maritime business (Marine) behind. The Marine business has in turn been a profitable endeavor and positions the company as the market leader globally in this area. Following the transaction and in response to changes in

Figure 2. BM adoption in the case organization.



the business environment, MultiCorp adopted a strategy to leverage the strengths of its core business to strategically enter new and more sustainability-oriented markets. As a result, the company successfully transformed its organization from having only the one mature BM to successfully develop and manage multiple BMs as a portfolio within the company. This viaduct between the BMs becomes a balancing act of particular interest as it offers a window to study the very fabric of which such transitions unfold: on the one hand, maintaining an existing mature BM and exploiting a leading position in the market, while on the other, transitioning to new markets and exploring novel SBMs.

The Marine BM, focused on equipment sales and related services, can be described as a product-oriented BM according to Tukker's (2004) BM categorization. The second area can be explained as a sustainable aquaculture business (Aqua), leveraging circular principles for closed-cage fish farming, and the third as a renewable energy business, targeting wind turbine installation (Wind). Both areas correspond to individual PSS BMs, geared towards selling utilization. While PSSs are often considered SBMs in their own right, MultiCorp further demonstrates the sustainability element through distinct value propositions designed for creating positive environmental impact. The Aqua BM aims to reduce harm to marine life and the natural environment through waste collection and reduction of sea lice and disease by using a controlled environment. The Wind BM value proposition aims to reduce environmental impact in relation to installation of onshore wind turbines by significantly reducing degradation of natural terrain and emissions, compared to currently available solutions.

Additionally, a fourth business area exists, involving digital technology (Digital), offering a software-as-a-service (SaaS) BM to the oil and gas industry. This business area can be considered a subsidiary where MultiCorp holds the majority share. Digital was MultiCorp's first addition to the BM portfolio, briefly followed by the organic expansion into Aqua and Wind (Figure 2). By addition, we refer to the commencement of activities pertaining to each BM, and the subsequent activities as the exploitation and/or exploration of the BMs.

### 3.2. Data collection

To increase our understanding of the transition to multiple BMs, we focused on the series of events after the divestiture, up until the implementation of the first BM, covering a period of approximately four years. We relied on retrospective and longitudinal data obtained from multiple sources of evidence (Langley, 1999) to capture the full breadth and depth of the case (Stake, 1995) and to allow for triangulation (Yin, 2018). This included collection of qualitative data from interviews over a 12-month period, on-site observations spanning 26 months and document collection over 26 months (Table 1). We identified and assigned four embedded units of analysis, corresponding to the Marine, Digital, Aqua and Wind BMs.

**Table 1. Data sources**

<b>Data</b>	<b>Quantity</b>	<b>Duration</b>	<b>Informants/ source</b>	<b>Collected</b>
Semi-structured interviews	13 interviews	66 minutes (average)	Interim CEO (CEO) * Executive Vice President (EVP)*, Chairman of the board (COB) Sustainability Manager (SM) Sales Director (SD) R&D Manager (RDM) Sr. Manager Supply Chain (MSC) Sr. Manager Aquaculture (MA) Managing Director (MD), Digital General Manager (GM), Marine QA Manager, Marine (QAM)	October 2021   October 2022
Observations	18 workshops	2–3 hours/ workshop	Core team: CEO, EVP, consultant Intermittent resources: SD, SM, MD, technical managers, consultancy firm, board members.	March 2021   May 2023
Documents	600 + pages	NA	Marine strategy document External strategy report Wind strategy document Investor presentation Customer presentation Annual reports 2018–2021* Stock exchange announcements (5)	November 2020   January 2023

\* Longitudinal data

Considering the transition process primarily resides as a management and strategic undertaking, our main source of information was the management team, together with key resources from each business area, distributed across top, senior and mid-level managers. Data collection was upheld until we reached theoretical saturation (Eisenhardt, 1989).

### 3.2.1. Interviews

We conducted 13 semi-structured in-person interviews in three rounds. Initial informants were identified through meetings with the executive management team, followed by the subsequent enrolment of informants through snowballing during interviews (see Table 1 for an overview of informants). We followed an interview protocol in each round, covering the themes related to our research question. During the interviews, we were careful in not influencing the informants in any particular direction, neither by the questions raised nor the affiliation of the lead author, permitting the informants to elaborate outside the themes and allowing for new themes to emerge (Gioia et al., 2012). The questions were structured according to the temporal development in the case organization attained from our preliminary investigation of documents. We initially inquired about



the informants' retrospective account of the process following the divestiture, progressively developing our line of inquiry to present day, providing live insight. Considering the instrumental role of top management, we arranged for the interim CEO and EVP to be interviewed two times, one year apart, providing longitudinal data, to account for the *in vivo* development. All interviews were audio-recorded and transcribed verbatim.

### 3.2.2. Observation

Provided our exceptional access, we could engage in direct observation of 18 workshops, mainly relating to the Aqua and Wind BMs. A core team of participants was present in all workshops, supported by intermittent resources, as specified in Table 1. The workshop process was largely driven by external consultants and documented using the lead author's observational notes, supplemented by the consultancy firm's documents detailing the workshop process and outcomes. Hence, our extensive observational dataset, covering 122 pages, includes both the researchers' account and the consultancy firm's description of the process and related outcomes, allowing for increased validity. The data provided us with deep insight into the inner workings of the organization and was used to extend and contextualize our archival data, complement our interview data and allowed for triangulation.

### 3.2.3. Documents

The third source of information was obtained from collecting documents related to our specific theme and time of interest. By documents, we refer to *archival data*, such as annual financial reporting from the four-year transition period, and *documentation*, such as strategy plans and details directly related to our research question. The data includes more than 600 pages, in the form of reports, plans and presentations (see Table 1 for an overview). Given the extensive access, our emphasis in collecting the data did not lie on the quantity but rather the quality and centrality towards the topic at hand (Yin, 2018). We focused on documents that would shed light on temporal development and complement our otherwise extensive data set.

### 3.3. Data analysis

We began our analysis whilst collecting the data, proceeding in four stages, systematically moving from raw data to meaningful concepts, themes, aggregate dimensions and theoretical interpretation whilst simultaneously being open to new emerging themes (Gioia et al., 2012; Glaser et al., 1967). In the first stage, we arranged the data into thick descriptive chronological stories for each unit of analysis to assess the data and account for variable temporal embeddedness (Langley, 1999). This insight assisted in our next step, upon which we arranged the data into meaningful categories of first-order concepts (Gioia et al., 2012). We grouped the raw data into meaning units reflecting the actions, events and mechanisms pertaining to each unit of analysis, labelled using short descriptions or *in vivo* codes. For instance, when an informant explained that “We focused all our attention on what we were doing ... and because of that we didn't stop to think different”, we grouped it with similar statements under “institutionalized rigor hampering progress”. During this stage, we remained close to the data, alternating between data collection and coding. In the next stage, we began distilling our first-order categories into more abstract second-order themes, going back and forward between the data and the literature, focusing on nascent concepts in the literature that seemed poorly understood (Gioia et al., 2012). In the fourth and final stage, we sought to translate our second-order themes into an aggregate dimension. During data collection and analysis, the lead author remained close to the data, while the other researchers maintained analytical distance, facilitating both closeness and distance, to aid discovery of theory and to increase the reliability of the results (Gioia et al., 2010).

## 4. Findings

We report our findings first by outlining the temporal development at MultiCorp, followed by our analysis and insight into the management of contradictory demands during the transition process, whereby we uncover and explain distinct BM balancing mechanisms.

#### **4.1. Transitioning to a BM portfolio for sustainability**

The path upon which MultiCorp began its transition to a BM portfolio was conceived in the midst of a rather enduring asset sale transaction, which began in early 2018 and was formally effectuated in mid-2019, then disputed before reaching settlement in early 2021. After having sold the majority of assets, MultiCorp had only the mature Marine business intact and some additional administrative and engineering resources based out of two separate locations. These resources would later become the main group at MultiCorp, responsible for developing the SBMs (hereafter referred to as the focal organization). Hence, a certain degree of structural separation was evident from day one.

Marine had a long history of operating on its own, even before the transaction, further institutionalizing the degree of separation. The QAM from Marine explained that:

We have always been us, in [former MultiCorp] we were on the side, we have always been our own unit, with little synergies to the others. Always been standing on our own two feet, and always been doing well financially.

Separation became further evident in the formal structure, where Marine was organized as a separate entity, with its own board and brand name under MultiCorp. After years of successfully exploiting an existing business and becoming the market leader, Marine developed its own culture and processes. A member of the Marine organization explained, *“I would almost say that we are the same company that we were 20 years ago. It is a bit slow, and very conservative here.”* BM activities were typically associated with that of exploitative behavior, geared towards maintaining the status quo, focusing on incremental refinement such as expanding the service business to complement temporally declining product sales.

A new strategy was launched in the spring of 2019, targeting sustainable ocean-based industries. Documents from the time indicate that the new direction was a result of fundamental changes in the business environment, as the COB explained: *“The strategy was launched when green was very hot, everybody was talking green. The potential consequence was a fundamental shift in everything, that everything moves away from fossil.”*

Around the same time, MultiCorp acquired a majority stake in a technology company, which in turn became Digital. The newly founded software company was brought in as a subsidiary of MultiCorp, with its own board and brand name, similar to Marine, with the exception of sharing office space with the focal organization. While formally separated by company structure, efforts to bring Digital and Marine closer were made, resulting in the allocation of Digital as a sub-supplier to Marine. During this time, Digital was mostly engaged in developing a software platform and aligning partnerships with key stakeholders to build their SaaS BM. Thus, largely concerned with exploratory activities, a sharp contrast to Marine.

Activities related to Aqua BM started shortly after the transaction was effectuated in mid-2019. Market opportunities for a *“fully closed production technology improving fish welfare, production economics and environmental impact”*, were identified in an external strategy report. The strategy was to leverage existing resources to develop a sustainable closed-cage fish farming technology by expanding organically. Consequently, Aqua was separated into a new business area with dedicated resources. In this early phase, Aqua comprised more or less of a product manager, supported by shared domain functions from the focal organization, and a dotted line to Digital, assigned as a sub-supplier. However, interaction was limited, and separation particularly evident, as the MA explained,

I have never experienced such a distance between the administration and the engineering department. At that time, and later also. I am used to being included as an engineer, with

extensive experience, usually involved in strategy processes, and usually involved in decision processes. That I am not here.

Around one year after the transaction, MultiCorp was approached by a potential customer in search of new technology for land-based wind turbine installation, which sparked the commencement of activities related to Wind. Similar to Aqua, MultiCorp arranged Wind as a new business under the focal organization by separating resources and segmenting activities relevant for exploring the new BM. Initial attempts to create a relation between Wind and Marine were made, without particular success. The GM of Marine explained, “[Wind] was a very clearly defined project, where they didn’t need much from us, so to say”. Efforts to bring Wind and Digital closer were also initiated, resulting in the allocation of Digital as a sub-supplier, similar to the arrangement with Aqua and Marine.

In the spring of 2021, a new strategy process was initiated for Aqua through a series of workshops extending across three months in an effort to “... build up a software-as-a-service (SaaS) business model to complement the [Aqua] product”, as the workshop document stated. The intent was to create a shared offering from Aqua and Digital. Accordingly, the interrelation between the two would need to change from that of a preferred sub-supplier to lean more heavily on integration between the BMs. Despite initial attempts to further integrate the two BMs, the outcome remained unchanged, as the MD of Digital explained, “We participated in one of those, call it brainstorming studies, on what [MultiCorp] could do on the aqua side. We were involved, without getting anything particular out of it”.

In the spring of 2022, tensions between Digital and Marine were increasing due to the nature of their relation. Marine was under the impression that Digital was forced upon them by management, while Digital had sense of not being included, treated as a regular third party. Consequently, initiatives to improve cooperation began, resulting in a positive change, as the CEO explained, “There has been a positive development, we have broken that in, so to say”. Albeit having a positive effect, the main difference was not overwhelming and represented more or less an adjustment of the existing level of interrelation, as the CEO further clarified: “Previously they were only involved when [Marine] had the project, and was in need of a sub supplier. Now they are involved earlier in the case process and know a bit more about it”.

During the same period, adjustments were also made between Wind and Marine. MultiCorp was looking to expand Wind from onshore to offshore, seeking to reconnect the BMs once more. A Marine strategy document from the time stated that “Offshore Wind is a business where [Marine] can utilize/modify existing [Marine] technology towards a dominant solution for Offshore Wind”. This time, integration seemed improved and well under way, as the EVP explained: “We have potential synergies within logistics and the wind market ... we include them [Marine] in all our presentations when we talk about wind. Now we have also incorporated [products from Marine] into our 3D model”. Mutually, Marine had also made some adjustments, as the EVP further explained, “When [GM] talks to [customer name] or someone else, he tags us and helps us get in”, leveraging market complementarities.

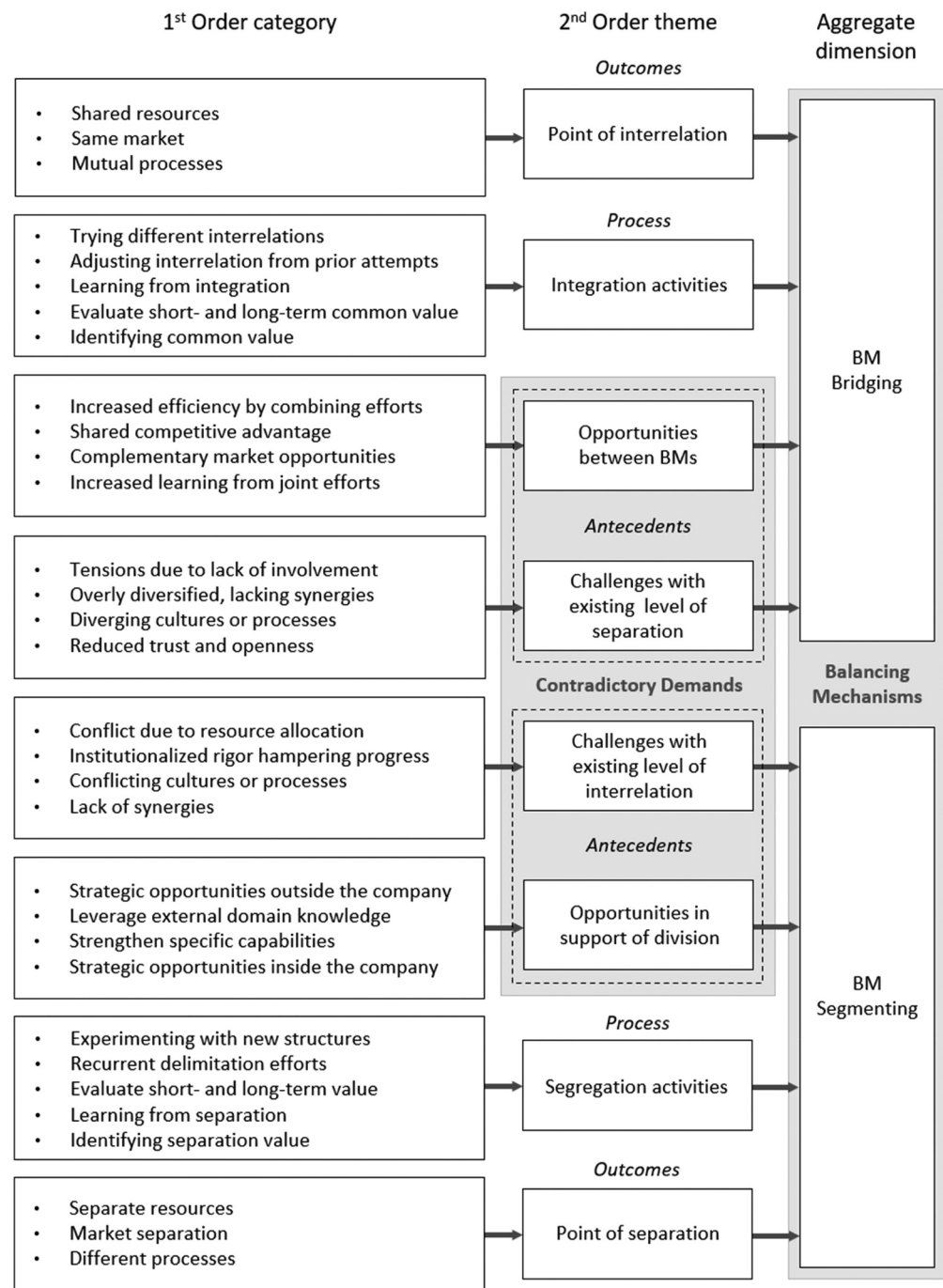
In other instances, adjustments to the level of separation were made, such as during the introduction of Digital’s BM. Albeit being implemented in early 2023, upon securing the first contract, Digital’s BM was introduced to the market more than one year earlier upon entering into a joint venture with two companies. Separating Digital’s BM in an external joint venture was considered necessary, as the CEO explained, “We believed that sitting together with [two companies], in a joint venture was probably the only way we would get it commercialized”.

#### **4.2. Managing contradictory demands**

Our findings suggest that the transition to a BM portfolio revolves not only around the separation of exploitation and exploration activities but rather about the configuration of the interrelation

between the BMs, through iterative adjustments, to balance multiple contradictory demands. We discovered that the outcome of these activities did not always result in a particular state and form of integration nor separation. In contrast, we found that the management of the transition to a BM portfolio for sustainability is rather a dynamic and iterative transformation process whereby managers navigate contradicting demands using specific balancing mechanisms. We consider these mechanisms as activities, which we identified as *BM bridging* and *BM segmenting* in our analysis (hereafter referred to as bridging and segmenting) (see Figure 3 for data structure).

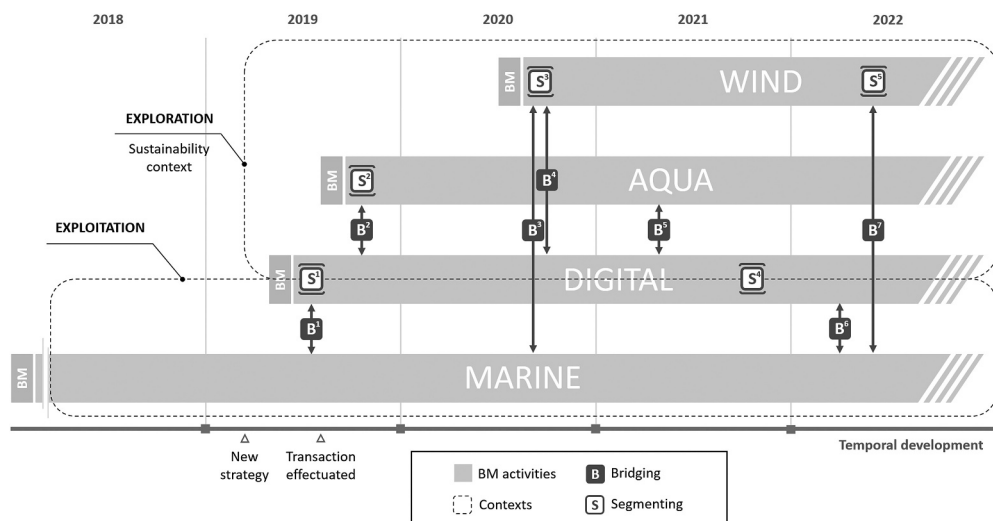
**Figure 3. Data structure.**



Our analysis revealed that bridging and segmenting was initiated in response to contradictory demands, acting as mechanisms to balance the potential benefits against the adverse negative effects of contradicting logics within and between the BMs. Thus, we consider contradictory demands, conceived from multiple contradicting logics, as the antecedents of bridging and segmenting (Figure 3: second-order themes). Based on our findings, we refer to bridging as the bidirectional activity of pursuing and/or constructing an interrelation between two BMs and segmenting as the activity of demarcating and/or allocating a separate area within a BM. Correspondingly, a number of bridging and segmenting activities were identified in the case

Table 2. Summary of main bridging and segmenting activities at MultiCorp		
ID	Activity	Time period
S <sup>1</sup>	Segmenting Digital as an entity under MultiCorp	Q2 2019
S <sup>2</sup>	Segmenting Aqua as a business area under MultiCorp	Q3 2019
S <sup>3</sup>	Segmenting Wind as a business area under MultiCorp	Q2-Q3 2020
S <sup>4</sup>	Segmenting Digital upon entering a separate joint venture	Q4 2021
S <sup>5</sup>	Segmenting new area under wind during strategy process	Q2 2022
B <sup>1</sup>	Bridge Digital as an internal sub-supplier for Marine	Q2 2019
B <sup>2</sup>	Bridge Digital as an internal sub-supplier for Aqua	Q3 2019
B <sup>3</sup>	Effort to bridge Wind with Marine	Q2-Q3 2020
B <sup>4</sup>	Bridging Digital as an internal sub-supplier for Wind	Q2-Q3 2020
B <sup>5</sup>	Efforts to bridge Aqua and Digital during a strategy process	Q2-Q3 2021
B <sup>6</sup>	Bridging Digital and Marine due to increased tensions	Q2 2022
B <sup>7</sup>	Bridging Marine and wind in relation to a strategy process	Q2 2022

Figure 4. Bridging and segmenting activities during the transition to a BM portfolio.



organization (illustrated in Figure 4 and summarized in Table 2). During the transition process, all new BMs involved initial bridging and segmenting activities ( $B^{1-4}$ ,  $S^{1-3}$ ), followed by iterative adjustments. We found that bridging subsequently occurred together with segmenting as well as in isolation ( $B^{5-6}$ ), which was also found to be true for segmenting ( $S^4$ ).

We also observed bridging and segmenting on a more granular level, present in the fine-grained management of the transition to a BM portfolio, whereby managers continuously evaluated and decided which resources to include or exclude and how to structure the BM activities. This was particularly perceptible in our observational notes from the wind workshops:

Management seems very conscious with regards to whom they include and who they do not, the same goes for the flow of information. The divide is very noticeable in terms of who they chose to involve at any given time.

During the interviews, we asked the EVP about this particular observation, which further substantiated our findings and explained that: “*We try to involve and inform those that we believe are capable of managing the information, whilst at the same time achieving our mission, the vision, and purpose of our company*”.

Albeit being observed at different levels, the balancing mechanisms were not different as such and followed essentially the same process. Rather, it was from the outcome of these activities that we derived such distinction. The overarching bridging and segmenting activities, summarized in Table 2, had more profound outcomes, such as structural changes between the BMs ( $S_4$ ,  $B_1$ ), whereas the other were more subtle and somewhat more frequent than the former. In the next two sections, we report and explain our findings related to the balancing mechanisms, outlining the antecedents, process, and outcomes of bridging and segmenting.

### 4.3. Bridging

#### 4.3.1. Antecedents

Bridging was initiated either in response to challenges with the existing level of separation or to leverage opportunities between BMs. We identified a wide range of challenges that resulted in bridging. Tensions from lack of involvement were frequently addressed by the informants, the same could be said for the lack of trust and openness, which was identified as distinct sources of bridging, particularly among structurally separated entities. The MA reminisced an event prior to the initial bridging between Aqua and Digital and explained that “*Then I let them clearly know; before I start telling [members of Digital] or anyone else lots of sensitive stuff from [MultiCorp], I need to know that it will not end up in the wrong place*”. We also found diverging cultures and processes antecedents of bridging, as demonstrated by the insertion of new hires from Digital into the SBMs, as the CEO explained,

They have been excellent bridge builders, as they do not bring the same history with them. It’s been very important to bring them into the development projects, so that they become a part of [Wind] ... and so that they become a part of [Aqua].

Being overly diversified and potentially losing the advantages of operating a BM portfolio was also identified as an antecedent of bridging. The CEO explained, “*We consider spreading out a real danger. We are active in aqua and in wind, we are active within oil and gas, with what we are doing in digital, and we are active in a cyclic market*”. Correspondingly, the EVP described how bridging was used to overcome such challenges: “*It was a deliberate diversification strategy, and we use the software competency, specifically the capabilities from [Digital] across*”. This was also supported by our observational notes, which stated, “*The software platform is considered a synergy across BMs*”.

In contrast to the mentioned challenges, we also found opportunities between BMs antecedents of bridging. These originated either from market complementarities, such as taking advantage of common market opportunities (B<sup>7</sup>), and/or creating a competitive advantage, or from resource complementarities, leveraging increased learning and efficiency. An example of the latter was the use of centralized resources, as the EVP explained, *“The products become complementary on several competency areas, but necessarily not on the product specialists. There are a few resources which are product specialists, and we then try to use the other resources across”*.

#### 4.3.2. Process

The process of bridging was not straightforward and involved iterative cycles of trial and error. We found that managers would try different interrelationships and adjust from past experiences as learning progressed, as exemplified by the CEO:

We are doing some attempts again now, as we see that there are some overlapping interests, particularly in wind. We see that we have perhaps matured a bit more now, to achieve a closer cooperation, but then again still far apart.

A central part of bridging was to identify the appropriate level of integration that would create a proportionally acceptable value distribution between the BMs. Our observational notes from a strategy workshop state that *“Managers evaluate common value between BMs from a long-term and short-term perspective, albeit the latter seem to prevail in most instances”*. During the same workshop informants explained that *“A key challenge is that [Marine] and [Digital] have a short-term perspective while [the SBMs] have a long-term perspective”*. Furthermore, our observational notes revealed that *“reconciling value between conventional BMs and SBMs appears to be difficult as the conception of value may be fundamentally different”*. This can be further illustrated by the MD of Digital, when asked about sustainability in their business: *“I don’t believe in that ... we think only about the money, so anything else needs to come as a consequence of that.”* Bearing this in mind the divergence in value becomes further evident from a strategy document where Digital was deeply embedded in the value propositions of both Aqua and Wind.

Our findings revealed that bridging occurs in a learning cycle, whereby managers iteratively experiment with different ways to balance contradictory demands and build the necessary competency to manage multiple BMs. The importance of learning and competency development during the transition process was expressed by the EVP:

I believe that we will become an organization with a great deal of competency to run business, run different business areas ... I am very conscious about where we will be in one year, will be very different [from now].

#### 4.3.3. Outcomes

Bridging resulted either in one or more interrelations between BMs, or no change. These points of interrelation were identified as: sharing resources, operating within the same market, and adopting mutual processes. Market complementarities were identified between Wind and Marine (B<sup>7</sup>), as well as between Digital and the two SBMs (B<sup>5</sup>). Digital also engaged in bridging through the allocation of shared resources, particularly towards the SBMs, as the MSC explained: *“With regards to [Digital], we are one team, both on Aqua and Wind ... we work in close collaboration”*. The adoption of common processes was seen in specific contexts, such as sustainability, as the CEO clarified:

Many of the actions we take to stand out as a sustainable company also affect [Marine], as an example, which lives a bit on its own. Now we are doing everything that has to do with

ESG, not only environmental, but also governance and social, together, with a common plan, and common action points.

During interviews we asked the informants if they considered the businesses to be closer or further apart, when comparing the initial configuration of the BMs to present-day. Despite the considerable amount of bridging identified, most informants considered the BMs to be further apart, particularly with regards to the SBMs. Thus, after the initial formation, subsequent bridging appeared to be less successful, rather it seemed that segmenting was more fruitful.

#### 4.4. Segmenting

##### 4.4.1. Antecedents

We found that segmenting commenced either as a result of challenges with the existing level of interrelation or by leveraging opportunities in support of division. Among the challenges, we discovered that conflicts related to resource allocation encouraged segmenting, as explained by the SM: *“We have seen that separating this [resources], because everyone was involved in everything, that it is just fine not to include everyone ... because there have been so much discussion and challenges”*. The conflict between short-term growth over long-term survival is one example of these challenges. This was particularly evident between Digital and the two SBMs, as the MD at Digital explained: *“People get frustrated because it takes so long time. This is also the reason why some have quit, they do not see the vision and strategy behind it.”* Another antecedent was institutionalized rigor hampering progress. Correspondingly, we found that conflicting cultures or processes could lead to segmenting, as exemplified by Digital’s MD:

We try to keep an arm’s length distance, both with regards to IT systems and all that, because we do not wish to be pulled in, so we have our own systems for everything. It’s about efficiency, we are not interested in all that bureaucracy.

We also found that the lack of synergies could lead to segmenting, as the EVP explained: *“In the end we may end up not being one group at all, either by spinning off or separating something. This has to do with lack of synergies”*.

Segmenting was also initiated in response to opportunities that supported division, such as exploiting strategic opportunities outside the company ( $S^4$ ), or by leveraging external domain knowledge, as the EVP explained: *“We require partners, or someone who has leverage in the new business areas ... who has domain knowledge, and have what we lack.”* In contrast, segmenting was also initiated to strengthen specific internal capabilities. Marine, for instance, created a separate innovation lab to improve its core capabilities. The QAM clarified that *“[Marine] develop the engineers to become more practical by having an innovation lab.”* Another benefit of maintaining Marine separate was the ability to exploit strategic opportunities inside the company, as the GM of Marine explained: *“I think it is a great strategy, if you can maintain [Marine] as sort of a cash cow whilst working on building up these two new babies”*. This strategy was also evident from the annual reports which describe Marine as the *“main revenue and cash-generating business”*, and revealed mostly growing annual revenues and profit margins throughout the transition process.

##### 4.4.2. Process

We found that segmenting often involved recurrent delimitation efforts aimed at creating separation. Our observational notes from the Aqua workshops stated that *“Management employs a variable degree of separation, based on what works best”*. Particularly the fit between short-term and long-term value perspectives seemed to be an integral part of the process, as our observational notes further detail. From a strategy workshop we learned that *“The appropriate level of separation is determined by the perceived value of separation, contradicted by the opposing logic, such as reducing synergies between BMs.”*



We found that managers would experiment with new structures based on past experiences. The CEO explained that establishing a separate joint venture was proposed also for other BMs: “*What we are trying, particularly for such as [Wind], is that we look at similar models as [Digital’s joint venture]*”. Our findings show that segmenting occurs within a learning cycle whereby managers iteratively adjust the level of separation based on past experiences. Learning and competency development plays an important role in managing the transition to a BM portfolio, as the CEO explained:

It is difficult to sit here 3–4 years down the line and grasp some of the choices that were taken back then, because we were on a completely different planet. So, a lot of this learning is what we are trying to take in now.

Correspondingly, during a strategy workshop informants explained how MultiCorp had recently developed a strategy for integrating and separating new business areas and corresponding BMs, based on prior experience, and that it was recently put into practice during a new acquisition. Our document data further substantiated these findings, and showed that the strategic focus, initially inclined towards exploiting joint efforts between BMs, was recently leaning more heavily towards a segmented structure, leveraging joint ventures, acquisitions, and partnerships to create competitive advantages. As we probed deeper into the document data and liaised with informants, we discovered that the change in strategy was rather two-fold. As initially identified, the company had switched focus towards further separation, however, for core areas the need for further integration was emphasized. This change in strategy was caused by the limited value attained from the level of interrelation, promoting a more comprehensive approach to both bridging and segmenting, after having gained more experience and competency.

#### 4.4.3. Outcomes

The outcome of segmenting was either that of creating one or more points of separation or no change. These points of separation were identified as the allocation of separate resources, segregation of markets, and implementation of separate processes. Market separation was evident for  $S^4$  and  $S^5$ , and resources separation for  $S^2$  and  $S^3$ , as the MSC explained: “*We have people who only work with aqua and people who only work with [Wind].*” Furthermore, our findings showed that segmenting led to implementation of individual processes, particularly for the more structurally separated BMs, such as Marine.

## 5. Discussion

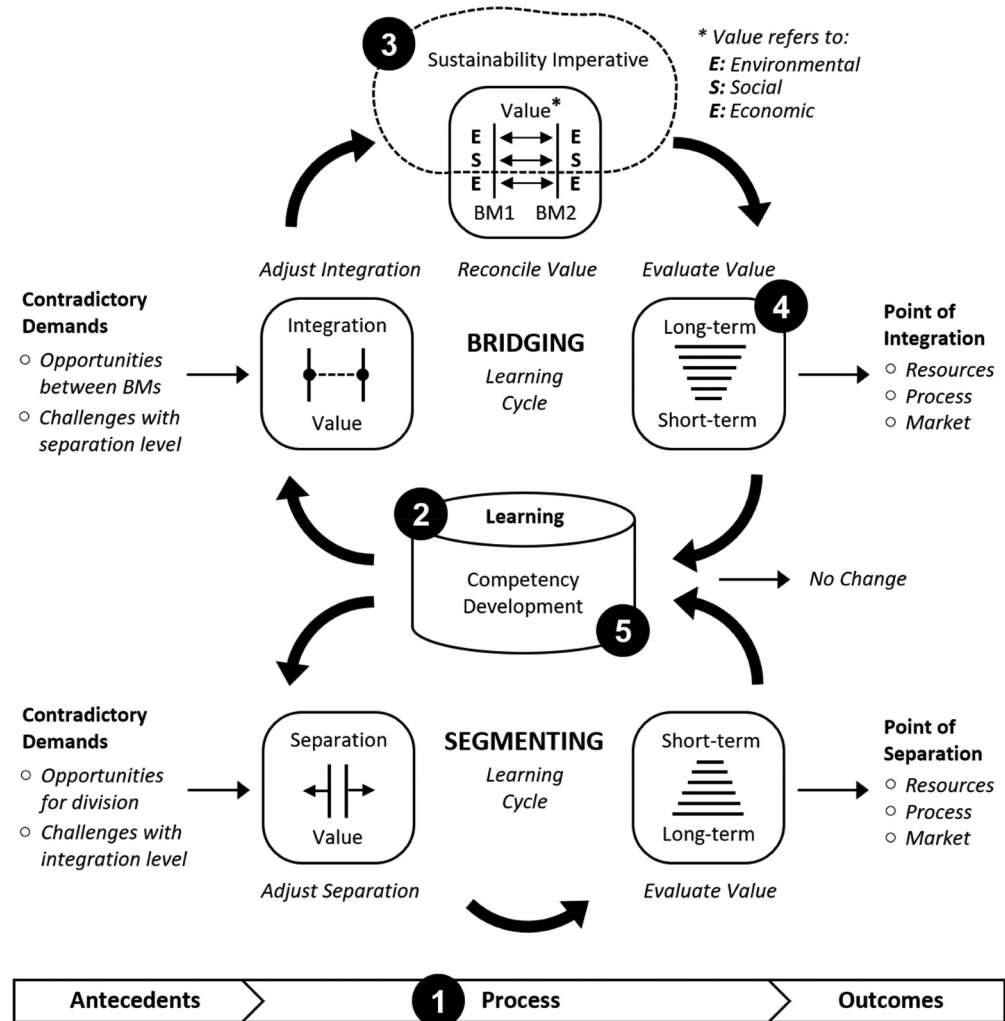
Our findings reveal hitherto unexplored mechanisms that explain how single BM firms learn to manage multiple BMs during the transition to a BM portfolio for sustainability. Based on these findings, we propose a conceptual model outlining the antecedents, process and outcomes of bridging and segmenting (Figure 5).

### 5.1. Theoretical contributions

Our findings revealed a broad range of contradictory demands within the case organization, originating from challenges between exploitation and exploration activities, and other conflicting logics within and between the BMs. By other, we refer to opposing logics stemming from opportunities, such as BM synergies, contradicted by challenges imposed by the level of interrelation between the BMs. While the existing literature provides insight into various challenges and opportunities that may reside within BM portfolios, efforts remain dispersed, focusing either on the supply side (Wang & Habibulla, 2021) or the demand side perspectives (Sohl et al., 2020). Building upon this foundation, our research goes beyond the existing literature by examining the broad assortment of contradictory demands to identify the practices under which they are dealt with, as we unearth the process of bridging and segmenting.

Our study provides novel insights into the opportunities and challenges that give rise to bridging and those that lead to segmenting (Figure 5). These findings show that bridging and segmenting

**Figure 5. Conceptual model of the antecedents, process and outcomes of bridging and segmenting (numbers 1 to 5 correspond to propositions).**



was initiated only when the conceived value of one logic exceeded that of the opposing logic. For instance, when an opportunity for integrating two BMs was perceived to be of greater value than the adverse challenges, bridging was seen as a viable course of action. Hence, we refer to “value” as an abstract metric of measurement upon which managers need to determine, evaluate and measure, to successfully manage the transition to a BM portfolio.

The conceptual model (Figure 5) demonstrates how bridging and segmenting occur within an iterative cycle, whereby managers adjust and evaluate the level of integration or separation. While recent studies have emphasized importance of understanding the interactions between BMs (Ringvold et al., 2022; Visnjic et al., 2021), the literature have lacked a comprehensive understanding of how this process unfolds. In this study, we explain the BM dynamics by unveiling the instrumental role of bridging and segmenting in achieving the appropriate level of interrelation. We show that bridging and segmenting is a complex process, originating from multiple contradictory demands, takes different forms, and serves several purposes. Our findings resonate with the broader literature on strategic paradoxes, which propose differentiation and integration practices to manage dualities (Smith, 2014), and uphold that complex BMs, such as ambidextrous organizations (Tushman & O’Reilly, 1996), require distinct integration and separation mechanisms (Smith et al., 2010). Thus, we posit that:

**P1:** Bridging and segmenting are integral mechanisms for understanding how firms balance contradictory demands during the transition from a single BM to a portfolio.

Furthermore, our findings suggest the mechanisms serve dual purposes: firstly, as a means to effectively balance contradictory demands, secondly, to facilitate the necessary learning and competency development required to manage the transition to multiple BMs. Bridging and segmenting often involve iterative cycles of learning and competency development (Figure 5). These cycles enable managers to experiment with different levels of integration and separation, learn from the outcomes, and make informed decisions about the appropriate level of interrelation. Recent studies have highlighted the need for knowledge commons (Snihur & Tarzijan, 2018), and the role of experimentation (Visnjic et al., 2021). Our study demonstrates how this process unfolds through bridging and segmenting. Consequently, we propose that:

**P2:** Bridging and segmenting are essential for achieving the learning and competency development needed to manage the transition from single BM to a portfolio.

While other studies have pointed towards sustainability as a possible determinant of structural interventions within SBMs (van Bommel, 2018) and BM portfolios (Ringvold et al., 2022), our analysis revealed that the antecedents of bridging and segmenting were not inherently linked to sustainability matters, rather it was during the process of bridging and segmenting that sustainability emerged as a central challenge. In essence, when managers and organizations addressed contradictory demands, a new set of challenges emerged, particularly with regards to bridging. While segmenting primarily involves value considerations specific to individual BMs, bridging requires reconciliation of value between two different BMs. This process becomes increasingly challenging when bridging occurs between conventional BMs and SBMs. The crux in this challenge lies in the fundamental disparity in the determination of value between these two types of BMs (Figure 5). Bridging necessitates finding common ground, aligning value and objectives of the SBM with that of the conventional BM. This endeavor is intricate and demanding because it involves more than operational adjustments, it entails a profound shift in the underlying principles that guide value creation, delivery, and capture. Hence, we posit that:

**P3:** Bridging is significantly more challenging than segmenting, due to the complexity involved in reconciling divergent value conceptions, particularly when bridging occurs between conventional BMs and SBMs.

The sustainability imperative extends further into the evaluation of value, which encompasses both short-term and long-term value considerations (Figure 5). SBMs, by nature, hold a long-term perspective (Bocken et al., 2014), which in turn may represent a significant contrast to conventional BMs. The complexity inherent in these divergent value perspectives further compounds the difficulty in achieving equilibrium. This echoes prior research on BM portfolios which highlight the complexity of managing multiple BMs (Casadesus-Masanell & Tarzijan, 2012; Markides & Oyon, 2010; Snihur & Tarzijan, 2018). To overcome such challenges, firms must devise strategies capable of bridging the gap between short-term and long-term value perspectives. For instance, within the case organization, a central strategy was to maintain one profitable BM (Marine) in place, in order to extend the value perspective for other BMs. In light of these findings, we propose that:

**P4:** Navigating the transition to a BM portfolio for sustainability requires strategies aimed at resolving divergent temporal value perspectives between conventional BMs and SBMs.

However, firms may not have the necessary competency to formulate such strategies, due to lack of experience with more than one BM. Our study builds upon prior research which explain different strategies for managing multiple BMs based on a number of variables, such as market properties, risks and interdependencies between BMs (Markides & Charitou, 2004; Sabatier et al., 2010). In contrast to studies that aim to explain and prescribe specific strategies our findings highlight the

importance of trial-and-error-based learning in determining the optimal strategy. Companies are heterogeneous, each with their unique cultures, processes and people, which in turn requires firm-specific answers. This became particularly evident in the case organization, which changed strategy based on what they had learned from bridging and segmenting. Thus, our research complements the strategy literature by providing practical guidance, and demonstrates how bridging and segmenting can assist managers in developing firm-specific strategies. Hence, we posit that:

**P5:** Bridging and segmenting can serve as a vehicle for developing the firm-specific strategies needed to effectively manage multiple BMs.

In summary, our findings demonstrate the significance of bridging and segmenting in managing the transition to a BM portfolio. By proposing bridging and segmenting as distinct BM balancing mechanisms, our study contributes to the understanding of how organizations navigate contradictory demands, and foster learning and competency development, during the transition from a single BM to a portfolio with SBMs. However, our findings do not explain the complete picture; we offer only a piece of the puzzle. By identifying and describing the balancing mechanisms outlined in our study, we extend the current literature and prepare the ground for further work.

### **5.2. Managerial implications**

This study also makes some important contributions to practice. By shedding light on the under-explored process, we provide managers with novel insight on how an organization balances contradictory demands during the transition to a BM portfolio for sustainability. Our findings highlight the importance for managers to understand and evaluate the distribution of value, both within and between BMs. This is particularly relevant for bridging, which was found to be significantly more challenging than segmenting. Although bridging holds the potential for substantial benefits, it places a greater demand on managers, especially within the context of sustainability. The emergence of sustainability as a formidable challenge during bridging highlights the need for organizations to navigate not only the operational intricacies but also the value-driven disparities that exist between these distinct realms of business.

Our study highlights two major gaps that managers need to address in order to successfully achieve bridging between SBMs and conventional BMs. First, the importance of reconciling divergent value conceptions, and the need for managers to find common ground between the BMs. Second, the gap between short-term and long-term value perspectives. Many firms may suffer from short-termism with regards to the evaluation and realization of economic value. Our research highlights the importance of developing strategies capable of overcoming these contrasting temporal value perspectives. Our findings demonstrate how managers and organizations develop their strategy over time, through bridging and segmenting. We explain the dynamics of learning and competency development within this context, and show how managers can foster continuous improvement, adaptability, and strategic decision-making.

### **5.3. Limitations and future research**

While our research provides guidance for researchers and practitioners to better understand the management of the transition to a BM portfolio for sustainability, our study also has some limitations. Provided the explorative nature of this study, multiple avenues for future research remain. Further conceptual work is required to explain the wider theoretical foundations under which the balancing mechanisms reside. Considering our study is limited to a single case, a better understanding of the broader use of bridging and segmenting in other firms and other contexts warrants further investigation.

Future empirical studies could also benefit from investigating further the micro-foundations of bridging and segmenting, particularly the element of learning, such as the transfer of knowledge and skills between BMs. Additionally, provided our narrow scope of inquiry, scholars could look into other processes in which bridging and segmenting may or should exist, such as during the

transition from one BM to another. The performance and outcome of bridging and segmenting needs to be better understood, where particularly quantitative studies across longer periods of time could be useful. Finally, the development of tools to help managers understand and deal with these complex processes offers a prosperous avenue for future research.

In consideration of the limitations emitted by the lead author's affiliation, we applied a prescribed and transparent method for obtaining and analyzing the data (Gioia et al., 2012), aimed at increasing the transferability and validity of our results. Moreover, we employed a triangulation approach, integrating data from interviews, document analysis, and observational notes, to further strengthen the reliability of our findings. This methodological approach can also serve as a useful framework for other researchers.

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#### Declaration of conflicting interests

The lead author has declared a relationship with MultiCorp that includes employment.

#### Disclosure statement

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