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THE DARK SIDE OF BUSINESS MODEL INNOVATION

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Abstract

Existing literature has tended to focus on the positive benefits and outcomes of business model innovation (BMI), despite emerging evidence that BMI can also have a dark side - with negative consequences. We systematically review the existing BMI literature, articulating it around three clusters of negative consequences: those affecting the firm as an entity; those affecting the firm's stakeholders; and those that are specific or context-dependent. In a similar fashion, we identify the driving factors and circumstances leading to these negative consequences and group them into four clusters: (1) managerial choices and the processes; and three underpinning circumstances that influence such choices or processes: (2) trade-offs between the new and current business models; (3) managers' ability to manage BMI; and (4) context within which BMI is situated. The paper provides the first attempt to gather prior research on the phenomenon and thereby develop a conceptual understanding of the dark side of BMI. Furthermore, by proposing a model that explains how the dark side of BMI may occur, we inform ongoing debates on the theorisation of the consequences that may derive from BMI and how these can be managed to support firms' innovative growth, arguing how the disruptive innovation literature can only partially explain the phenomenon. Second, our model provides important foundations to further distil the complex link between BMI and performance. Finally, we suggest a number of future research avenues, accounting for different dimensions of the phenomenon.

Introduction

A business model (BM) is "a model that links the working inside the firm to outside elements including value creation processes (Amit and Zott, 2001; Teece, 2010) and value capture processes" (Baden-Fuller and Mangematin, 2013, p. 419). Business model innovation (henceforth referred to as BMI) can be defined as the development of a new BM or replacement of a firm's existing BM with a new one (Massa and Tucci, 2014) through altering "key elements of a firm's BM and/or the architecture linking these elements" (Foss and Saebi, 2017, p. 216). It involves choices and consequences of exploring new potential value creation (Casadesus-Masanell and Ricart, 2010; Amit and Zott, 2012) or new ways of doing business (Andries and Debackere, 2006; Frankenberger et al., 2013) and converting those into economic outcomes (Chesbrough, 2010).

Research on BMI has grown progressively resulting in an increasing amount of academic literature dedicated to the field (Zott et al., 2011; Schneider and Spieth, 2013; Foss and Saebi, 2017; Kraus et al., 2020). Theory development regarding the antecedents, drivers, typologies, elements, processes, and performance implications of BMI have grown significantly (Teece, 2010; Foss and Saebi, 2017; Rodríguez et al., 2020; Sjödin et al., 2020; Latifi et al., 2021); in some instances, the concept has been expanded to include the business ecosystem, stakeholders, and industry-spanning networked firms (Chesbrough, 2007; Brunswicker and Vanhaverbeke, 2015; Evans et al., 2017; Gamble et al., 2021).

Extant literature has tended to focus on the positive benefits and outcomes of BMI (Schneider and Spieth, 2013; Foss and Saebi, 2017). Typically, the emphasis has been on BMI as a powerful tool used by firms to sustain competitive advantage, promote growth, and generate superior returns (Teece, 2010; Amit and Zott, 2012). However, there is evidence suggesting that BMI can also have a dark side, engendering negative consequences or unintended outcomes. Neely (2008), for example, demonstrated that many manufacturing firms

that shifted to a service-centric BM achieved lower revenue margins compared to product-centric companies and were more likely to go out of business. Halecker et al. (2014) showcased how several companies that had innovated their BM did not adapt and experienced the failure of the new BM soon after its launch. If we traced the rise of the BM concept back to the Internet bubble in the 1990s, we can observe how a great number of firms that adopted an e-commerce or electronic BM failed to sustain profitability and, in many cases, ceased to exist (Kim and Min, 2015; Linde et al., 2021).

In other words, the above examples are a testimony of how the shift to a new BM may not always be a positive experience for the organisation: whilst beneficial for some firms, some others are unable to achieve the expected benefits, with their performance weakened as a result of it (Christensen et al., 2016). Moreover, a failure in *how* BMI is undertaken may yield rather devastating consequences, possibly jeopardising firms' survival (Chesbrough and Rosenbloom, 2002; Sosna et al., 2010). Finally, BMI could also generate negative consequences for stakeholders despite the firm itself is benefitting; examples include employees struggling with new ways of working, suppliers finding themselves as no longer needed, or local economies negatively affected by changes in supply chains (Girotra and Netessine, 2013; Lange et al., 2015; Dreyer et al., 2017).

Although a number of BMI studies have drawn attention to the negative consequences that firms could encounter when innovating their BM amid exploring the wider phenomenon of BMI (e.g., Neely, 1998; Chesbrough and Rosenbloom, 2002; Kim and Min, 2015), the examples described are mostly of conceptual or illustrative nature. This paper systematically reviews existing BMI literature, collating prior studies on the dark side of BMI and examining how it has been theorised. By so doing, our work informs ongoing debates on the theorisation of the dark side of BMI and the consequences that may derive from BMI and how these can be managed to support firms' innovative growth.

The rest of the paper is structured as follows. First, we present the methodological approach underpinning the systematic literature review (Denyer and Tranfield, 2009). Second, we illustrate the results of the exploration of the dark side of BMI, which include three distinct clusters of negative consequences: those affecting the firm as an entity; those affecting the firm's stakeholders; and those that are specific to or, dependent upon, the context. In a similar fashion, we present the driving factors and circumstances leading to the negative consequences, which are grouped into four clusters: managerial choices and the processes; and three underpinning circumstances that influence such choices or processes: trade-off between the new and current business models, managers' ability to manage BMI, and context within which BMI is situated. By combining the negative consequences resulting from BMI with the driving factors and circumstances leading to them, we suggest a model of how the dark side of BMI may occur. We conclude by discussing implications for theory and practice and suggesting avenues for future research.

Approach of the systematic literature review

Table 1 provides a summary of the current state of BMI literature, which shows how BMI literature has expanded into different ranges of focus and themes. The present review is taking a focus on the theme of the consequences of BMI. More specifically, we address an important yet overlooked phenomenon in the current BMI literature, that is: the existence of firms that, when shifting to a new BM, may fail to achieve the expected benefits, find their performance weakened, or, in some cases, cease to exist. We conceptualise this phenomenon as the dark side of BMI, borrowing the term 'dark side' from the broader management literature to emphasise the bias within extant literature to characterise BMI as an organisational endeavour mainly yielding positive outcomes. While not present within the BMI literature, 'dark side' has been used across various branches of business and management literature (e.g., Victor and Stephens, 1994; O'Toole and Meier, 2004; Spivack and McKelvie, 2018), including innovation

management (e.g., Gravier and Swartz, 2009; Gonzalez-Roma and Hernandez, 2016; Coad et al., 2021).

Despite the absence of a formal definition, innovation scholars seem to refer to the 'dark side' to capture the negative consequences that may derive from BMI, expected or unexpected, for the firm and/or the firm's stakeholders (Gravier and Swartz, 2009; Christensen et al., 2016; Coad et al., 2021). At the same time, these studies differ in the unit of analysis, which could include the firm, employees, managers, or broader stakeholders. Accordingly, the dark side of BMI in the present paper is defined as the negative consequences that may result from BMI, which, depending on the unit of analysis, run counter to or deviate from the expected benefits of undertaking BMI. The review aims at exploring the following aspects: (i) identifying the negative consequences that may result from BMI; (ii) unveiling the driving factors and circumstances leading to the negative consequences; and (iii) explaining how the dark side of BMI may occur.

Table 1
Summary of the current state of BMI literature

Articles type/focus	Features/themes	Examples
Review articles	Systematic review	Schneider and Spieth, 2013; Foss and Saebi, 2017; Kraus et al., 2020; Andreini et al., 2021.
	Analytical review	Spieth et al., 2014; Zhang et al., 2021; Loon and Quan, 2021.
Most cited articles	Over 1000 citations	Chesbrough and Rosenbloom, 2002; Chesbrough, 2010; Zott and Amitt, 2010.
	Over 500 citations	Johnson et al., 2008; Demil and Lecocq, 2010; Amit and Zott, 2012.
BM as a locus of innovation	Subject of innovation - a new unit of analysis that provide novel ways to configure firm's resources, competencies and processes	Amit and Zott, 2001; Sosna et al., 2010; Frankenberger et al., 2013; Zott et al., 2011; Demil et al., 2015; Kukkamalla et al., 2021.
	A vehicle for converting the value potential of technologies or innovative ideas	Chesbrough and Rosenbloom, 2002; Chesbrough, 2010; Wei et al., 2014; Ma and Hu, 2021.
Conceptualisation of BMI	BMI as an outcome (extent of changes and referent of novelty)	Johnson et al.,2008; Sorescu et al., 2011; Kim and Min, 2015; Spieth and Schneider, 2016; Foss and Saebi, 2017; Clauss, 2017.
	BMI as a process (new BM as an eventual output)	Markides, 2006; Demil and Lecocq, 2010; Bucherer et al., 2012; Frankenberger et al., 2013; Casadesus-Masanell and Zhu, 2013.
Classification of BMI	Extent of changes (incremental, radical)	Brink and Holmen, 2009; Schneider and Spieth, 2013.
	Locus of changes (industry level, enterprise level or within specific components of BM)	Giesen et al., 2007; Kim and Min, 2015.
	Types of firms in which the BMI is carried out (e.g., new venture, established, manufacturing, alliances)	Baines et al., 2007; Neely, 2008; Cavalcante et al., 2011; Spieth et al., 2021.
Antecedents of BMI	Opportunity driven (capturing new opportunities, unlocking the value potential of new technologies)	Amit and Zott, 2001; Chesbrough and Rosenbloom, 2002; Frankenberger et al., 2013; Dmitriev et al., 2014; Kukkamalla et al., 2021.
	Threat driven (e.g., responding new disruptive BM, maintaining competitive advantage)	Markides and Charitou, 2004; Giesen et al., 2007; Teece, 2010; Demil and Lecocq, 2010; Bucherer et al., 2012; Christensen et al., 2016.
	Others (e.g., entrepreneurial character of senior executives, changes in corporate strategies)	Casadesus-Masanell and Ricart, 2010; Sosna et al., 2010; Demil et al., 2015; Futterer et al., 2018; Holtström, 2021.

Articles type/focus	**Features/themes**	**Examples**
Process of BMI	Sequential phases (linear or nonlinear)	de Reuver et al. 2009; Frankenberger et al., 2013; Spieth et al., 2021.
	Discovery driven, iterative, and involves trial and learning processes	Sosna et al., 2010, McGrath, 2010, Andreini et al., 2021.
	Continuous improvement and refinement (incremental in nature)	Demil and Lecocq, 2010.
Consequences of BMI	Consequences on industry and market structures	Sabatier et al., 2012; Bhatti et al., 2021; Nunes and Pereira, 2021.
	Consequences on the performance of the focal firm	Markides and Charitou, 2004; Zott and Amit, 2007; Bock et al., 2012; Kim and Min, 2015; Tavassoli and Bengtsson, 2018; Futterer et al., 2018.
	BMI link to performance (e.g., linear, inverted u-shaped)	Neely, 2008; Kastalli and Looy, 2013; Desyllas et al., 2020; Latifi et al., 2021; Zhang et al., 2021; Clauss et al., 2021.
Moderators of BMI	Individual level (e.g., managers and employees' cognition, attitudes toward change)	Doz and Kosonen, 2010; Andries et al., 2013; Aspara et al., 2013; Lange et al., 2015; Narayan et al., 2020.
	Firm Level (e.g., organisational culture, corporate strategies, managerial capabilities)	Bock et al., 2012, Achtenhagen et al., 2013; Markides, 2013; Khanagha et al., 2014; Hock et al., 2016; Klamer, 2021.
	Ecosystem level (e.g., public resources, prevailing laws related to the new BM, competition)	Moingeon and Lehman-Ortega, 2010; Casadesus-Masanell and Zhu, 2013; Snihur et al., 2018.
BMI in various organisational contexts/ settings	Established/incumbent firms	Chesbrough and Rosenbloom, 2002; Desyllas and Sako, 2013; Snihur et al., 2018; Cillo, 2021; Sund et al., 2021.
	SMEs	Cosenz and Bivona, 2021; Gamble et al., 2021; Miller et al., 2021; Latifi et al., 2021; Clauss et al., 2021; Ferreras-Méndez et al., 2021.
	Family firms	Memili et al., 2015; Bogers et al., 2015; Soluk et al., 2021.
	Start-up/young ventures	Gerasymenko et al., 2015; Snihur and Zott, 2020; Denoo et al., 2021.
	Sustainability	Schaltegger et al., 2012; Girotra and Netessine, 2013; Evans et al., 2017; Pieroni et al., 2019.
	Others (e.g., sharing economy, low-income market, high-tech firms, quasi-social organisational purposes)	Sánchez and Ricart, 2010; Landau et al., 2016; Dreyer et al., 2017; Weerawardena et al., 2021; Grieco, 2021; Mihalache and Volberda, 2021; Holtström, 2021.

To connect with broader innovation literature, it is worth distilling how BMI compared and contrasted to other types of innovation. Similar to other types of innovation, BMI involves changes that can range from incremental to radical (Brink and Holmen, 2009; Massa and Tucci, 2014). These changes (in the current BM or the development of a new one) may regard either the 'components' or the 'architecture' linking the components (Foss and Saebi, 2017). Since a BM encompasses how a firm creates, delivers, and captures value (Teece, 2010; Klang et al., 2014; Massa et al., 2017), the innovation of a BM may either overlap with other types of innovation (e.g., process innovation, organisational innovation) or go hand-in-hand (Tavassoli and Karlsson, 2015; Demil et al., 2015). As a result, whilst it may be straightforward to differentiate BMI from technology or product innovations (Chesbrough, 2010; Bucherer et al., 2012), it may be less so in cases of process, organisational, or marketing innovations. In our view, research in which BMI is considered as a unit of analysis encompasses changes that go beyond the product, process, technology, or organisation, transcending the boundaries of the firm (Zott and Amit, 2010; Berglund and Sandstrom, 2013).

Data collection

We relied on EBSCO Business Source Complete as a comprehensive source to access the relevant literature, following common practice across previous scholarly efforts that also aimed at mapping the development of this field (e.g., Zott et al., 2011; Foss and Saebi, 2017). The following search criteria were set out: (1) the term 'business model innovation' should appear in the title, abstract, or keyword, (2) studies reported in languages other than English are excluded, and (3) the search is limited to 'article' as document type and 'academic journal' as publication type.

The search, which was conducted from the term "business model" first appearing in academia in 1947 (Lang, 1947) up to 08 February 2021 and then updated up to 31 December 2021, resulted in 760 articles. Based on the review of these articles, we were able to identify

additional terms that could help us identify other BMI-related research, that is: 'business model evolution' (e.g., Demil and Lecocq, 2010), 'business model transformation' (e.g., Aspara et al., 2013), 'business model dynamics' (e.g., Achtenhagen et al., 2013), and 'business model renewal' (e.g., Doz and Kosonen, 2010). Additional searches using these and related terms (i.e., 'business model change', 'business model reconfiguration' and 'business model development') were performed, resulting in 209 new items. Finally, we refined the search by looking for sources the title of which combined 'business model' with terms that captured consequences of BMI such as 'impact', 'effect', 'outcome', 'consequences', and 'performance'; 101 items were added to the database. After reconciling repetitions in all of the searches, the combination of the searches resulted in a total of 955 articles.

The population of articles was thoroughly examined by the research team; after a close inspection of the abstracts, all the articles that had BMI as central topic was considered for inclusion, whereas studies in which BMI was only marginal to the core argument of the source were excluded. This first screening resulted in the elimination of 423 articles, which implied that 532 were left. The remaining articles were read in full; those that did not refer to either some form of negative consequences brought about by BMI or their driving factors and circumstances were excluded. This step implied that additional 401 articles were excluded from the population, taking us to 131 articles. Informed by these articles, a further manual search added 48 publications leading to 179 publications in the final sample (four publications are conference papers, in principle excluded from our dataset). The four conference papers, whilst not meeting our original search criteria (i.e., document type as 'article' and publication type as 'academic journal'), we still included them because they provide a rich description of the dark side of BMI (e.g., Halecker et al., 2014; Taran et al., 2015). We decided to carry out this manual search to make sure we would not miss out on publications that, despite not including our

search terms, were still relevant for this systematic review. This search was performed by examining the reference list of the articles obtained from the systematic search.

Data analysis

We started off our analysis of the sampled article through a thematic approach aimed at building categories, groups, and clusters representative of the negative consequences of BMI or the driving factors and circumstances leading to such consequences (Miles and Huberman, 1994; Cassell and Bishop, 2019). We used the term 'category' to refer to the class of negative consequences or driving factors and circumstances that share similar characteristics; we termed 'group' the class of categories that can be regarded as a complete unit; we referred to the class of groups closely related one another as 'cluster'. We define as *negative* those consequences, certain or likely to happen, that result from BMI and affect either the firm or its stakeholders; we reflected this in our coding structure, which thus included 'negative consequences that affect the firm' and 'negative consequences that affect the firm's stakeholders'. *Driving factors and circumstances* are identified as those processes, conditions, and forces that have the potential of influencing management actions when enacting BMI. These factors can be predetermined or occurring in a rather spontaneous way; as a result, 'wrong' choices may be made or 'suboptimal' processes be in place when enacting BMI, to the point of possibly neutralising or reversing the positive consequences of management actions. For the purpose of our study, the driving factors and circumstances are built on the capability perspective (Teece, 2018) and, as the role of managers are central to BMI (Foss and Saebi, 2017), these factors and circumstances are classified from a managerial perspective. Accordingly, those that fall under the reach of 'managerial choices and the processes' are considered as driving factors, whereas others are considered as 'circumstances' when they influence how 'managerial choices and the processes' may be enacted. Finally, the link between the negative consequences and the driving factors and circumstances is framed from a process perspective in a cause-effect fashion.

The thematic analysis followed two steps (Fereday and Muir-Cohrane, 2006; Cassell and Bishop, 2019). First, we deductively identified the unit of analysis and developed the analytical approach; this implied singling out negative consequences that may result from BMI, the driving factors and circumstances leading to these negative consequences, and the link between negative consequences on the one hand and driving factors and circumstances on the other hand. Second, we inductively analysed the textual data related to the examples of negative consequences and driving factors and circumstances; categories, groups, and clusters were adapted if and where necessary.

Descriptive analysis of the sampled articles

'Business model' made its first appearance as a theoretical construct in the abstract of an article written by Frank Lang in 1947, with the intent of describing the way firms deliver value to customers. The term started being designated as a locus of innovation in the early 1990s (cf. Zott et al., 2011), yet the first paper providing examples of negative consequences of BMI only appeared in Venkatraman (2000). It follows that our review covers the timespan 2000-2021.

Venkatraman suggested that the development of a new BM will "challenge the status quo and cannibalise current revenue and margin streams", pose a number of operational challenges to the managers such as "struggling with the requirement to give adequate time and attention", and "have to go a long way to be accepted by customers" (2000, p. 18-19). Other studies have followed, particularly over the last 10 years (Christensen et al., 2016), yet no real academic studies have neither developed a conceptual understanding of this scattered empirical evidence nor systematised the phenomenon. Our analysis indicated how the articles providing examples of negative consequences that may result from BMI or its driving factors and circumstances span across 60 journals, with no discipline dominating the scene; Table 2 lists fifteen of these journals, representing the majority of the sources discussing the relevant examples.

Table 2
Fifteen journals with the highest number of articles covering the dark side of BMI

Journals	N. of Articles	Percentage
Long Range Planning	14	8,00
R & D Management	12	6,86
Research-Technology Management	9	5,14
Journal of Cleaner Production	8	4,57
Creativity and Innovation Management	8	4,57
Industrial Marketing Management	6	3,43
MIT Sloan Management Review	6	3,43
Technovation	6	3,43
Journal of Business Research	6	3,43
International Journal of Innovation Management	6	3,43
Journal of Organizational Change Management	6	3,43
Strategic Entrepreneurship Journal	5	2,86
Journal of business models	5	2,86
Harvard Business Review	5	2,86
Business Horizons	5	2,86
Others (various, spread across 45 different journals)	68	38,86
Total	**175**	**100,00**

Negative consequences resulting from BMI

Figure 1 summarises the negative consequences resulting, or that may result, from BMI. These negative consequences have been classified into three clusters: (1) negative consequences affecting the firm as an entity, (2) negative consequences affecting the firm's stakeholders, and (3) context-dependent negative consequences. In what follows, we provide a detailed illustration of the relevant literature along with references to cases that support the various arguments.

Negative consequences affecting the firm as an entity

Negative consequences affecting the firm as an entity are related to the impact of BMI on the overall organisation and are categorised into two groups: consequences at the strategic level, which capture the ultimate impact of BMI on various measures of performance, and

consequences at the operational level, which stem from the execution of day-to-day activities behind BMI design and implementation.

At the strategic level two categories are identified: (i) profitability and broader financial measures and (ii) competitive position and other non-financial measures. Within the first category, the most frequently mentioned negative consequences include cannibalisation, failed experimentation, and overall failure of the new BM (Chesbrough and Rosenbloom, 2002; Sosna et al., 2010; Desyllas and Sako, 2013; Hoßbach et al., 2016; Comberg and Velamuri, 2017; Taran et al., 2020). Examples in the second category include cases in which competitors/new entrants copy the new BM and commercialise it in a more successful way, the new BM allows new competitors to enter the market, and the firm's existing brands become diluted (Markides and Charitou, 2004; Park, 2011; Casadesus-Masanell and Zhu, 2013). Overall, our review found that extant literature has focused mainly on financial-related consequences, overlooking the potential negative consequences that may derive from adopting non-financial measures at the strategic level. One example relates to the consequences of BMI on firms' capabilities. According to Brink and Holmen (2009), firms' core capabilities can deteriorate as a result of BMI if/when the capabilities required to implement the new BM are not well established yet; it follows that the competitive advantage of the new BM can be short-lived or unsustainable, despite firms may already be financially benefiting from it. Other consequences of this kind include firm's image and reputation, legitimacy, and strategic positioning (Casadesus-Masanell and Zhu, 2013). Arguably, a balanced combination between financial and non-financial measures would be more appropriate when measuring the performance of an innovation initiative such as BMI (Dewangan and Godse, 2014).

Moving on to the negative consequences at the operational level, two aggregate categories have been identified: 'complexities and ambiguities in enacting the BMI' and 'conflict among the involved actors'. Our review reveals how existing BMI literature has

focused primarily on the first category, overlooking the conflicts that BMI may trigger within the organisation, such as managerial conflicts, deteriorating team dynamics, or employee resistance. Among the negative consequences identified in the first category, the following are noteworthy: ambiguity in determining the extent of changes that need to be made (Andries et al., 2013; Cortimiglia, et al., 2016), difficulty in establishing new activities and processes (Chesbrough, 2010), difficulty in integrating and aligning all pieces of the new BM into a coherent model (Venkatraman, 2000; Christensen et al., 2012), and difficulty in balancing exploration and exploitation (Kranz et al., 2016). Concerning the category 'conflict among the involved actors', one example that has received a lot of attention are the conflicts that arise with actors belonging to a firm's network (i.e., partners, collaborating organisations), often because the incentives attached to the new BM are misaligned with the interests of the focal firm. Most common examples include competing goals and commercial objectives, disagreement over the share of value, and partners' opportunistic behaviour (Girotra and Netessine, 2013; Monios and Bergqvist, 2015; de Oliveira and Cortimiglia, 2017). To our surprise, managerial conflicts, which we expected to see given the central role that top management members play in determining BMI, are only mentioned implicitly, with no real examples provided (Doz and Kosonen, 2010).

Negative consequences affecting the firm's stakeholders

This cluster refers to negative consequences resulting from BMI that affect the firm's stakeholders both internally (as individuals or collectively) and externally. Except for a few studies with limited coverage (e.g., Girotra and Netessine, 2013; Lange et al., 2015; de Oliveira and Cortimiglia, 2017; Dreyer et al., 2017), this cluster is largely unexplored. Existing BMI studies seem to take a deterministic view that BMI engages with stakeholders accordingly, yielding positive outcomes.

As far as the firm's internal stakeholders (managers and employees) are concerned, our review brought to the fore two categories of negative consequences: 'career consequences' and 'psychological- and wellbeing-related consequences'. Examples of the former include employees or managers who are unable to adapt to the new BM or meet the performance targets set by the new BM and are eventually dismissed (Chesbrough, 2010; Aspara et al., 2013). Psychological- and wellbeing-related consequences include stress and frustration (Sosna et al., 2010), work insecurity (de Oliveira and Cortimiglia, 2017; Dreyer et al., 2017), and reduced compensation (Lange et al., 2015).

When focusing on the firm's external stakeholders, we have identified three groups of external stakeholders: customers, network or partner firms, and the broader range of stakeholders, which includes society as a whole. Concerning customers, one sub-category identified is related to the emergence of ethical issues when a new BM invades customers' privacy (Desyllas and Sako, 2013). In terms of a firm's proximate network or partner firms, we found that partnership termination is a recurring scenario (Desyllas and Sako, 2013; Markides, 2013); this seems to occur when either the partner firms has little interest or potential of contributing to the BMI or the value generated by the new BM is incompatible with the strategic objectives of partners along the value chain (Berglund and Sandstrom, 2013). Finally, on the front of the broader circle of stakeholders and society as a whole, two categories of negative consequences were identified: ethical externalities and social and environmental externalities. Aagaard and Lindgren (2015) illustrated ethical externalities in the cases of new BMs that rely on 'persuasive technologies', raising ethical concerns due to these technologies subtly affecting individuals, groups, or organisational entities. In terms of social and environmental externalities, Girotra and Netessine (2013) noted that BMI in manufacturing firms often results in uncompensated social costs and pollution. The negative consequences of BMI on broader

stakeholders are typically addressed in the BMI literature under the stream of BMI for sustainability (Girotra and Netessine, 2013; Evans et al., 2017).

Context-dependent negative consequences

Context-dependent negative consequences refer to (actual or potential) negative consequences resulting from BMI that certain firms may have to deal with due to contextual factors or settings within which BMI is happening. This cluster, similar to the cluster of negative consequences affecting the firms' stakeholders, remains largely unexplored, possibly due to extant BMI literature not engaging with contingency theory, one exception being Markides and Charitou (2004). Our systematic review reveals seven groups of specific contexts or settings, which we briefly discuss below:

- internationalisation, with examples including cases of BMI that entail high resource commitment, for instance due to geographical distance between the resources and chain of activities (Autio, 2017), inconsistent value proposition due to the complexity of value chain, and slow process of new BM development due to the difficulty in coordination (Morrison et al., 2004);
- collaborative/open BMI: negative consequences included difficulty in developing trust with partners, high coordination costs and goal alignment problems, and partners' restrictions in developing or changing specific components of the new BM (Monios and Bergqvist, 2015);
- sharing economy-based BMI, with the inconsistency of offerings emerging as most prominent; in other words, the quality of products or services may depend on firms' ability to monitor or maintain the whole value chain (Dreyer et al., 2017);
- BMI in family businesses: within this subset of the literature, Memili et al.'s (2015) contribution is noteworthy. The authors observed cases of BMI that displace preserved family-firm values, discouraging family members from committing to the BMI or pushing

other key personnel to leave the organisation. In another research, family firms were found to suffer from lower growth and weaker adaptability in the later phases of BMI due to the lack of diversity in the set of resources, especially human capital (Bogers et al., 2015);

- high technology-based BMI: Cudanov et al. (2012) presented cases of firms that incurred in high fixed-cost investment and expensive workforce development in order to enact the BMI;
- low-income market: Sánchez and Ricart (2010) observed how a number of firms that initiated BMI in low-income market had to deal with the lack of complementary resources in the public space and therefore to incur into large percentage of high fixed-cost investment to develop the entire ecosystem;
- organisations pursuing a quasi-social mission: the contribution by Weerawardena et al. (2021) drew attention to possible tensions arising between social and commercial objectives: whilst commercial objectives may not be fully met, the organisation may fall short of delivering its social mission.

Figure 1
Clusters of negative consequences resulting from BMI

I. Negative consequences affecting the firm as an entity	II. Negative consequences affecting the firm's stakeholders	III. Context-dependent negative consequences
Negative consequences at strategic level	**Internal stakeholders**	**Internationalisation**
Profitability and broader financial measures	Career consequences (managers, employees)	Geographical-related problems
Financial losses	Employment termination	**Collaborative/open BMI**
Poor revenues	Uncertainty of future career	Trust-related problems
Increased costs	Psychological and well-being (managers, employees)	Coordination problems
Capabilities and other non-financial measures	Work insecurity	Integration problems
Competitive imitation	Poor compensation	**Family business**
Loosening the barrier of entry	Stress and frustration	Displacement of preserved firm values
Destruction of brand, reputation and legitimacy	Job dissatisfaction	**Sharing economy-based BMI**
Loss of core capabilities	Work alienation	Inconsistency of offering
Strategy defocus	**External stakeholders**	**High technology-based BMI**
Negative consequences at operational level	Customers	Costly development of new BM
Complexity and ambiguity in enacting the new BM	Ethical issues	**Low-income market**
Difficulty in comprehension	Worse value in the long-term	Increased costs
Difficulty in establishing new activities/processes	Network/partner firms	**Quasi-social organisation purposes**
Difficulty in integrating new activities/processes	Partnership termination	Tension between social and commercial objectives
Difficulty in balancing exploration and exploitation	Opportunistic behaviour	
Conflicts among the involved actors	Broader stakeholders/ society at large	
Bad team dynamics	Ethical externalities	
Employees resistance	Social and environmental externalities	
Conflict with networks	Economic externalities	
Managerial conflict		

Driving factors and circumstances

Figure 2 summarises the driving factors and circumstances that could lead to BMI generating negative consequences from a firm perspective. These consist of four clusters: (1) managerial choices and the processes along with the underpinning circumstances that influence these choices and processes: (2) trade-off between the new and current BMs, (3) managers' ability to manage BMI, and (4) context within which BMI is situated. In what follows, we discuss each cluster and provide illustrations of relevant cases.

Managerial choices and the processes

'Managerial choices and the processes' refer to choices made by management regarding "key elements of a firm's BM and/or the architecture linking these elements" (Foss and Saebi, 2017, p. 216) that need to be made or reconfigured (Casadesus-Masanell and Ricart, 2010) and how those choices are enacted (Teece, 2010). Six groups are identified: (1) poor design of the new BM, (2) poor complementarities related to the design of the new BM, (3) poor timing, (4) poor organisational design, (5) poor choices of innovation mode, and (6) poor governance of BMI processes.

'Poor design of the new BM' refers to architectural configurations of a new BM that reveals to be poor because it does not meet customers' expectations or cannot capture enough value for the firm and its stakeholders (Zott and Amit, 2010). We identified two categories. First, poor value and coherence of the configuration (Amit and Zott, 2012): Corbo (2017) provided an example of how the shift of Air Berlin to a new BM "with multiple identities", that is, "value carrier and independent touristic provider on the short and medium-haul, and full-service provider on the long-haul" (2017, p. 148), failed to deliver a clear value proposition to customers, trapping the firm in between and lacking a clear strategic focus. Second, poor design theme (Lange et al., 2015), which includes examples of firms that simultaneously combine novelty and efficiency-centred BM designs (Zott and Amit, 2007; Gronum et al., 2016), firms

that mix low-cost and full-service BM designs concurrently (e.g., airline industry) (Lange et al., 2015; Corbo, 2017), and firms that combine the provision of full service with a more bespoke need (e.g., restaurant industry) (Morris et al., 2013).

'Poor complementarities related to the design of the new BM' refers to complementarities accompanying the new BM by which its design is weakened. These include two categories: poor market complementarities and poor technological complementarities. Examples of poor market complementarities are inappropriate product market strategy or weak reputation (Cucculelli and Bettinelli, 2015), whereas an example of poor technological complementarities is the lack of fit of the enabled-technology (Bojovic et al., 2018).

'Poor timing' refers to how early or late a firm introduces or adopts a new BM with negative outcomes. On the early mover's end, Moingeon and Lehman-Ortega (2010) observed how firms that ambitiously move to new BMs can lose market acceptance, overspend, and eventually go out of business. Park (2011) also found that several firms who pioneered new BMs failed to gain superior performance whilst fast followers with innovative capabilities and complementary assets could seize the market. On the late mover's end, Pohle and Chapman (2006) drew attention to the demise of Kodak that, despite pioneering digital imaging technology, was forced out of business because of the late move to the new BM. Reconciling the two opposing arguments, Kim and Min (2015) examined the importance of contingency for the timing of BMI, arguing that the impact of a new BM depends on the firm's assets endowment: positive consequences are likely to occur when a firm is endowed with greater complementary assets, but negative consequences can be expected when a firm is endowed with highly conflicting assets.

'Poor organisational design' refers to poor arrangement of workflows, procedures, structures, and systems within the focal firm, preventing to fulfil the aims underpinning the BMI. We could group the articles under two categories, those focusing on the organisational

structure and those engaging more broadly with organisational design. A number of studies argued that BMI may cannibalise value streams of the existing business (Markides and Charitou, 2004; Christensen et al., 2016), suggesting the establishment of a separate unit for BMI (Christensen et al., 2016). This latter may not be an ideal scenario: as criticised by Markides (2013), running different BMs across independent units may require greater resource commitment, possibly jeopardising firms' vitality and competitive power; even worse, the synergy from resource complementarity may be lost entirely (Bucherer et al., 2012; Kim and Min, 2015). Some research has argued that an integration strategy may support firms in succeeding with BMI (Markides and Charitou, 2004); however, negative consequences on the broader organisational design seem to have been overlooked. By describing the link between organisational design and BMI, Foss and Saebi (2017) pointed out that, although there is wide consensus about BMI consisting in a change of the components or the architecture of the BM, further scholarly efforts should address the extent to which organisational design and control mechanisms need to be changed to support BMI.

'Poor choices of innovation mode' refers to instances in which the BMI is carried out in a closed fashion while supposed to be open, or vice versa. The prevailing opinion is that BMI is better executed in an open fashion because it enables firms to be more effectively creating and capturing value, for instance through leveraging external parties or sourcing specific resources externally (Chesbrough, 2007). A number of studies have however drawn attention to the likely negatives that may arise from an open BMI such as: firms involved in open BMs may adopt similar mechanisms for value appropriation and, as a result, (have to) share value too (Ritala and Hurmelinna-Laukkanen, 2009; Berglund and Sandstrom, 2013); partners' opportunistic behaviour (Gambardella and McGahan, 2010); unequal bargaining power on value sharing (de Oliveira and Cortimiglia, 2017); costs deriving from having to maintain a healthy relation with partners over time (Monios and Bergqvist, 2015); conflicting

goals and objectives (Spieth et al., 2021); and threat of imitation due to the transfer of technology, proprietary knowledge, or capabilities (Sorescu et al., 2011; Casadesus-Masanell and Zhu, 2013).

'Poor governance of BMI processes' refers to poor managerial choices regarding the mechanisms of how firms steer or manage the complex activities of BMI processes resulting in the firm missing the opportunity. Based on the systematic review, we could single out five categories. The first category, (1) 'poor knowledge portfolio and development' refers to the competence set that the BMI task force ought to own, in particularly highlighting how the extent to which these competencies are nurtured or channelled through organisational processes can play a significant role in the success of the BMI task force as well as poor processes of idea exchange and development (Girotra and Netessine, 2013; Kranz et al., 2016); (2) 'poor resource allocation' refers to the lack or excess of devoted resources (including people) to the new BM; Khanagha et al. (2014) found that poor budget allocation in one of the BMIs that they investigated hindered the new BM to progress any further; (3) 'poor customer validation' encapsulates firms' failure to adequately assess the feasibility and stability of the new BM over time, and this could be caused by different factors: narrow scope when analysing target markets, customer needs, competitor reactions, and market positioning (Kranz et al., 2016); lack of or limited testing on users (Gambardella and McGahan, 2010); overlooking of the contextual dependency (Doz and Kosonen, 2010); excessive focus on self-values or preferences (Chesbrough, 2010); (4) 'poor performance measurement' refers to quantitative or qualitative indicators that firms may use to assess how the intended objectives underpinning the new BM are achieved; we identified three different forms of indicators: those investigating the presence (or absence thereof) of a systematic approach to trace the development of the BMI, which then lead to a subjective measure of performance; those strongly rooted in financially-driven accounting measures; and those more conservative in nature, in which failure is

perceived as resource draining rather than a moment for learning and adjusting internal capabilities (Lutjen et al., 2017); (5) 'poor leadership' refers to instances where leaders have poorly executed the BMI, for instance by failing to encourage employees to engage with the BMI (Chesbrough, 2010), which may lead to the new BM being paused or stopped because it is deemed too risky, or by involving the top management in the implementation of the BMI at an inappropriate timing, reducing the likelihood that the BMI will be positively welcome within the firm (Weissbrod and Bocken, 2017).

Trade-off between the new and current BMs

The introduction of a new BM may yield some tensions with the BM that is currently 'owned' by the firm or the one that is dominating the industry at a specific point in time: because of the different values brought about by the new BM, the co-existence between the two may be challenging; in other words, the new BM may act as the disruptor to an existing innovation (Markides, 2006; Christensen et al., 2016).

Through our systematic review, we were able to identify two main tensions related to the trade-off between the new and current firm's BMs. First, the incompatibility of the new BM with the existing one which lead to the existing profit streams being cannibalised by the new BM; firms may indeed resist a new BM if it does not fit their sale maximisation strategy (Lutjen et al., 2017). Second, a new BM may challenge extant dynamics of value sharing, possibly delaying the implementation of such BM; as discussed by Bucherer et al. (2012), the introduction of a new BM may be slowed down if its development is dependent on the negotiations with the firm's existing network. Additional examples of the trade-off between the new and current firm's BMs can be found in Christensen et al. (2016) and Comberg and Velamuri (2017).

In a similar fashion, we identified two forms of tensions related to the relationship between the new BM and the BM that dominates the industry: one tension relates to the extent

to which the new BM connects with the BM of incumbents and another tension regards the extent to which the value created via the new BM may be redistributed within the industry. As a result of these tensions, the implementation of the new BM could be delayed (Bucherer et al., 2012), terminated (Moingeon and Lehman-Ortega, 2010), or fail (Rayna and Striukova, 2016).

Managers' ability to manage BMI

This cluster refers to the situation in which executives or managers in charge of implementing BMI lack the skills to do so, preventing the new BM to perform as planned (Teece, 2018; Loon et al., 2020). After a thorough exploration of this body of literature, we could single out three streams of research that explain the reasons why executives may be responsible for the failure of BMI: (1) poor knowledge and cognition, (2) lack of entrepreneurial attitude and related skills, and (3) lack of leadership skills.

'Poor knowledge and cognition' refer to executives lacking knowledge of either the BM per se or the heuristics needed to process the relevant information. Managers may simply be influenced by the current way of doing business; Doz and Kosonen (2010) drew attention to the cases of Nokia and Timken, two companies that were once leaders within their respective industry and among those pioneering innovative BMs and yet, they failed to seize opportunities that were emerging beyond the boundaries of their industries and geographies because too attached to (locked in by) the extant, dominant business logic. Executives may also have inadequate knowledge of basic heuristics needed to effectively process the new BM; examples include lack of analogical reasoning (Loon et al., 2020), sensemaking (Chesbrough, 2010), or systemic and holistic thinking (Amit and Zott, 2001).

'Lack of entrepreneurial attitude and related skills' refers to the lack of management's skills in enacting BMI as a new business. Within this group, we included research that explores the lack of strategic vision whereby management overlook how the new BM may evolve and the type of opportunities it may lead to (Morris et al., 2005). This group also draws attention

to research that has explored the risk aversion of management, in particular those cases where executives have been highly hesitant in enacting a new BM, despite it having potentials of being promising or offering growth opportunities (Taran et al., 2020).

Within the 'lack of leadership skills' group, we captured research that focuses specifically on those management teams in charge of leading the execution of BMI. We segmented the literature in two streams: (i) poor communication skills, evidencing the inability of management teams to communicate the enactment of the new BM clearly and proactively encourage it (Chesbrough, 2010); (ii) poor skills in managing team dynamics, in particular instances where the new BM raises tensions or disagreements (Simmons et al., 2013) to the extent of preventing the BMI to progress as planned (Khanagha et al., 2014).

Context within which BMI is situated

This cluster refers to conditions or forces, both internal and external to the firm, that have the potential to influence management choices and process, not only in an unfavourable direction but also in neutralising or reversing positive consequences of choices and processes already in place. We identified three groups of internal conditions or forces – poor organisational learning, poor resource slack, and poor stakeholder buy-in – and five groups of external conditions or forces – counter-reactions by disrupted firms or parties, opportunities for competitors or new entrants to imitate the new BM, time required by the new BM to become successful, public munificence, and environmental dynamics.

'Poor organisational learning' refers to the ineffective process of creating, retaining, and transferring knowledge within the firm. In our review, we distinguish two categories: poor learning system of the focal firm whereby extant routines and structure prevent the organisation and/or its members to unlearn the previous BM while preparing for the implementation of the new one. Snihur (2018) discussed the case of Borders, which undertook BMI in their online retail channel, ultimately failing to it because established routines did not allow the firm to

adapt on time to the surrounding emerging ecosystem. The second category is poor attitudes toward learning, which occurs when organisational members, particularly employees, dislike the 'chaotic' process and uncertainty involved in the BMI, preventing them from adequately developing new skills or knowledge related to the new BM. The case of a BMI undertaken within NASA (Davis et al., 2015) is indicative of how poor attitudes of the employees towards learning the new BM prevented the BMI from progressing as expected.

'Poor resource slack' refers to the lack of availability of the required resources to support the development of a new BM. BMI literature assumes how lack of resources will affect BMI (Teece, 2010), despite the absence of meaningful evidence at this regard. Jia et al. (2016) and Lutjen et al. (2017) are the exception: their research suggested that resource slack can restrict BMI in a variety of ways, ranging from a lack of organisational options for innovation – for instance, the inability to pursue radical BMI, the undertaking of BMI in a nascent market, or the co-existence of multiple BMs – to possible delays in the implementation of innovation.

'Poor stakeholder buy-in' refers to the lack of acceptance or rejection of the new BM by influential individuals or groups within the firm, which influences whether or not BMI will proceed. Among others, stakeholder buy-in is the least explored internal firm circumstance in BMI literature. We identify two categories of buy-in: top management buy-in and employee buy-in (including lower levels of managers). Sosna et al. (2010) noted that the success of Naturhouse, a case firm that undertook BMI, was ultimately successful after a major failure: BMI would have come to a halt if Naturhouse's top management had not given it their full support. With regard to employee buy-in, Simmons et al. (2013) described how, due to those involved in executing the BMI being sceptical about it, the overall process was slowed down. More severe consequences are described by Lange et al. (2015), who presented the case of a

firm in which the new BM was strongly resisted by employees, resulting in a poor development, huge finance losses, and a weaker competitive position post-BMI.

'Counter-reactions by disrupted firms or parties': our review pointed out how the introduction of a new BM can be counteracted by four groups of external parties: competitors, partner firms and networks, customers, and broader ecosystem. As far as competitors are concerned, Moingeon and Lehman-Ortega (2010) described how a firm that undertook BMI was opposed by an incumbent firm, leading to the new BMI being adopted later than planned; in a similar fashion, Rayna and Striukova (2016) recounted the case of Rhapsody, which undertook BMI later blocked by Apple. In terms of partner firms and networks, the case study by Coreynen et al. (2017) demonstrated how, despite a high percentage of customers had switched to the new BM, the partners of the focal firm were reluctant to adopt it. The same case study illustrated how firms innovating their BM may face customer resistance simply because the extant BM had dominated the sector for decades (Coreynen et al., 2017). Witell and Logren (2013) described another case in which some firms that shifted to servitisation, charging fees for the added service proposition, resulted in customers being upset. Finally, in terms of the broader ecosystem, we came across cases in which the opposition of labour unions to the BMI led to the government restricting the BM in favour of economic stability (Moingeon and Lehman-Ortega, 2010) or the delayed adoption of the new BM (Lange et al., 2015).

With regard to 'opportunities for competitors or new entrants to imitate the new BM', Sorescu et al. (2011) argued that, because BMI in retail is highly visible, it is more likely to be imitated; in such circumstances, any competitive advantage would be short-lived and firms are required to constantly innovate. Similarly, Park (2011) found that market opportunities promoted by a new BM attract fast followers into the market, which may perform better at seizing such opportunities due to a better-equipped BM. Competitive imitation is a major concern in BMI, primarily, as we argue, because of the difficulty, or lack thereof, of

mechanisms to protect the intellectual property underpinning business models. Casadesus-Masanell and Zhu (2013) examined this issue by focusing on the cases of low-cost airlines and ad-sponsored free newspapers: their evidence suggested that the focal firm can either be very competitive yet disclosing the new BM to competitors or conceal it behind its traditional BM while the new BM is deployed behind the scenes.

When it comes to the 'time required by the new BM to become successful', three categories are identified: customers' knowledge, cycle of economic activity, and reliance on third parties with complementary objectives. In terms of customers' knowledge, Coreynen et al. (2017) described how two firms that undertook web-based BMI were unable to widen their customer base because customers either found it difficult to familiarise with the new web application or they could not perceive the added value of the new BM. Other examples included incomplete information (Girotra and Netessine, 2013), a high degree of abstraction (objects do not really have an ability to visualise), and damaged customer trust (Schneckenberg et al., 2017). The specific momentum that an economy is navigating may also play against the success of a BMI, possibly by delaying the full scale up of the new BM; an example of this phenomenon can be found in Jia et al. (2016), who described how the attempt to commercialise a 3D chocolate printing technology partially failed because of low demand. Among the factors that signalled reliance on third parties with complementary objectives, we found the following as being the most significant: resource-intensive and occasionally unpleasant negotiations with third parties (Bucherer et al., 2012); absence of financial incentives that could encourage such parties to proactively engage with the BMI (Christensen et al., 2012); and urge to inform and 'educate' third parties about the value of the new BM (Desyllas and Sako, 2013).

'Public munificence' refers to the availability of supporting or complementary resources within the business ecosystem of the focal firm. Anderson and Kupp (2008) discovered that, due to a lack of public munificence, the introduction of a new BM in a low-

income market necessitates a significant investment in complementary resources. Sánchez and Ricart (2010) contributed further to this debate by pointing out how, in these settings, BMI is highly dependent on external actors and firms may, as a result, incur in non-expected costs.

Finally, 'environmental dynamics' refers to the frequency, including amplitude, predictability, and velocity, of environmental changes in which BMI is situated. Despite the wide consensus on how these dynamics constitute important drivers of BMI (McGrath, 2010; Sosna et al., 2010), they have always been described in very abstract terms (Teece, 2010). Through our systematic review we have been able to single out two aspects that may trigger negative consequences of BMI: (i) the presence of regulatory dynamics whereby the legal framework underpinning the new BM is constantly changing (Dobusch and Schussler, 2014; Dilger et al., 2017) and (ii) the changing nature of market- and technology-related dynamics that underpin the value configuration of the new BM (Chesbrough and Rosenbloom, 2002; Gambardella and McGahan, 2010). This body of research draws attention to firms' inability to adjust the new BM to changes in regulations, technology, or market dynamics that may co-occur.

Figure 2
Clusters of driving factors and circumstances

I. Poor managerial choices (and the processes)

Poor design of the new BM
- Poor value and coherence of the configuration
- Poor design theme

Poor complementarities
- Poor market complementarities
- Poor technology complementarities

Poor timing
- Early move, late move, contingencies of timing

Poor organisational design
- Structure and broader organisational design

Poor choices of innovation mode
- Open, closed, contingencies of innovation mode

Poor governance of BMI processes
- Poor knowledge portfolio and development
- Poor resource allocation
- Poor customer validation
- Poor performance measurement
- Poor leadership

II. Trade-off between the new and current BMs

Trade-off with current firm's BM
- Incompatibility with current firm's BM
- Tension value share with established networks

Tension with dominant BM in the industry
- Tension with incumbent firm's BM
- Tension on value share between firms

III. Capabilities of management to manage BMI

Poor knowledge and cognition
- High prevalence of dominant logic
- Poor heuristics

Lack of entrepreneurial attitude and related skills
- Lack of strategic vision
- Conservative in risk-taking

Lack of leadership skills
- Lack of communication skills
- Poor skills in managing team dynamics

IV. Context within which BMI is situated

Internal:

Poor organisational learning
- Poor learning system
- Poor attitudes toward learning

Poor resource slack
- Physical resources, human capital

Poor stakeholders buy-in
- Lack of top management buy-in
- Lack of employee buy-in

External:

Counter reactions by disrupted firms and parties
- Competitors, partners and networks, broader ecosystem

Opportunities to imitate the new BM
- Poor intellectual property protection

Time required by the new BM to become successful
- Customer knowledge
- Cycle of economic activity
- Reliance on complementary network/third parties

Public munificence
- Regulatory restrictions/requirements
- Lack of supporting/complementary public resources

Environmental dynamics
- Regulatory dynamics
- Market and technology dynamics

How may the dark side of BMI occur?

In Figure 3, we combine the negative consequences that may result from BMI and their driving factors and circumstances, which suggest an initial model of how the dark side of BMI may occur. We cannot claim to prove the causality of this model, but we observed patterns that repeat. We hope this could provide the foundation for enhancing current understanding of the consequences that may result from undertaking BMI and subsequent academic efforts could build on this to further nurture the theoretical debate. We base the explanation of our model on three streams of literature. First, disruptive innovation literature, which captures the disruptive nature of BMI in which the dark side of BMI may occur due to the trade-off between the new and current BMs in existing businesses and the industry (Christensen, 1997; Christensen et al., 2016). Second, dynamic capabilities, which captures the required capabilities need to be possessed by the managers or the firm (Chesbrough 2010; Sosna et al. 2010; Helfat and Martin, 2015; Teece, 2018) in such a way that the absence or lack of these capabilities would lead BMI to the dark side. Third, contingency theory (Lawrence and Lorsch 1967), which captures the context in which a BMI has been situated matters – the likelihood that the dark side occurs is high upon certain context or settings.

First, the model proposes that very often the BMI process is managed poorly. One main reason often suggested in literature, especially for incumbent firms, is that incumbent firms tend to avoid initiating, adopting, or responding to the new 'disruptive' BM (Christensen, 1997) in such a way that the BMI may be embraced only when the bottom-line consequences can no longer be ignored, and this is often too late or restricts the chance of gaining a competitive advantage. In the case that these firms may initiate the development of the new 'disruptive' BM, the fear of cannibalizing profit stream in existing business would prevent the firms to tap into the markets and consequently miss the opportunities. In such circumstances, the new entrants may also enter the market and commercialize the new BM in a successful way by

rapidly scaling up the development of the new BM. This is not to say, however, that the new entrants (typically non-incumbent firms) that initiate the new BM, as argued by disruptive innovative literature (Christensen et al., 2016), would always be successful. The new entrants could get trapped in the dark side by counter-reactions from incumbent firms that oppose the new BM (e.g., see Rayna and Striukova, 2016 who showcased a non-incumbent firm that undertook BMI but failed because it was hit back by the incumbent) or other market forces such as labor unions or government that block the development of the new BM for employment or wider economic stability (e.g., see Moingeon and Lehman-Ortega, 2010 and Lange et al., 2015).

The second possibility, which equally applies to both incumbent and non-incumbent firms, is the lack of required capabilities in such a way that the firms could not perform the BMI effectively (Chesbrough 2010; Sosna et al. 2010; Teece, 2018). It is widely recognised in literature that the development of a new BM or transition from an existing BM to a new BM is not an easy task (Chesbrough, 2010). It requires firms to acquire or develop certain capabilities in ways that the firm can perform the BMI tasks in an effective manner (Teece, 2018). These capabilities, for example, include analogical reasoning and sensemaking (Chesbrough, 2010; Martins et al., 2015), systemic and holistic thinking (Amit and Zott, 2012), communication, entrepreneurial, and leadership skills (Sosna et al., 2010; Cavalcante, 2014; Khanagha et al., 2014) and dynamic capabilities (Mezger, 2014; Teece, 2018). To the extent that management cannot optimally acquire or develop these capabilities, then negative consequences or unintended outcomes would result (Helfat and Martin, 2015). These negative consequences would occur through poor managerial choices and the processes made by the management. As depicted in Figure 3, these poor managerial choices and the processes include poor governance of BMI processes, poor choices of innovation mode, poor organisational design, and poor

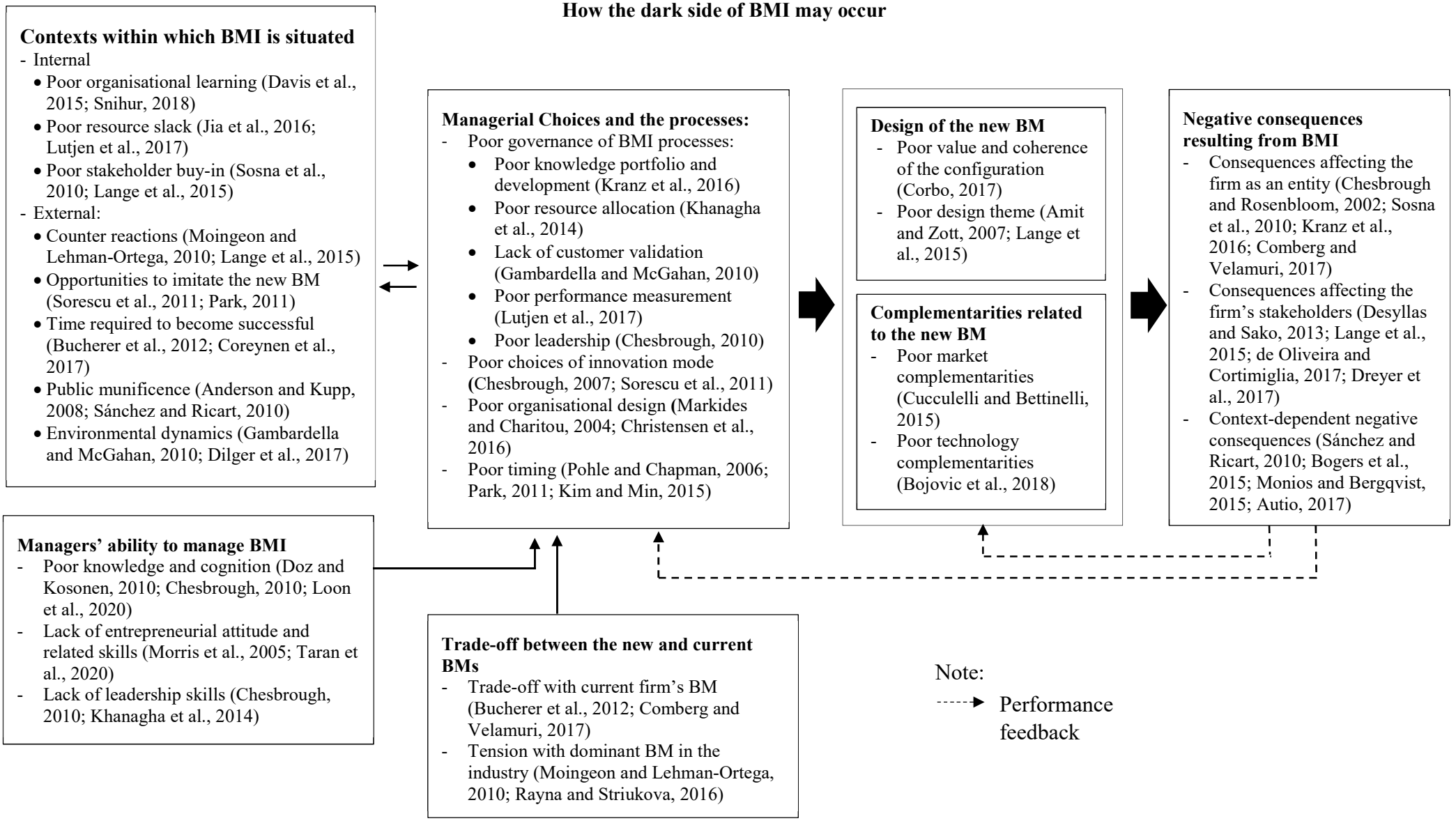
timing of the BMI which then led to the poor design of the new BM and poor complementarities related to the design of the new BM.

Given the dynamic interaction between the managerial choices and the processes and the context within which the BMI is situated, internal and external (McGrath, 2010; Demil and Lecoq, 2010; Comberg and Velamuri, 2017), it is expected that certain contexts may hinder, neutralise, or revers positive consequences of the choices and the processes made by management to enact the BMI (Markides and Charitou, 2004). Examples include lack of stakeholders' buy-in (Sosna et al., 2010; Lange et al., 2015), poor resources slack (Lutjen et al., 2017), opportunities for competitors or new entrants to imitate the new BM (Sorescu et al., 2011; Park, 2011; Casadesus-Masanell and Zhu, 2013), and lack of complementary resources within the business ecosystem (Anderson and Kupp, 2008; Sánchez and Ricart, 2010). BMI is likely to be trapped in the dark side of BMI in all these circumstances; firms will more or less suffer from the negative consequences depending on whether they are equipped with the needed capabilities.

It is important to note that the mechanisms whereby the driving factors and circumstances will result in the poor managerial and the process, and eventually, in the negative consequences will be complex due to the following three reasons. First, there will be interdependencies between the driving factors and circumstances in generating the negative consequences (Casadesus-Masanell and Ricart, 2010) – similar to the concept of 'complementarities' (Milgrom and Roberts, 1995) - in such a way that their 'systemicity' needs to be taken into account. Included in this systemicity is the possibility of the emergence of vicious cycles - on which recurring negative consequences occur – enacted by the interplay between certain driving factors and circumstances (Casadesus-Masanell and Ricart, 2010). Second, there may exist a temporal dimension of certain driving factors and circumstances in which a driving factor or circumstance that may not be a threat during the early phases of BMI

could become 'critical' during the later phases (Khanagha et al., 2014). Third, the relative importance of driving factors and circumstances in leading the BMI to the dark side may be context-dependent where their magnitude vary across organisational settings and BMI types (Markides and Charitou, 2004; Kim and Min, 2015).

Figure 3
How the dark side of BMI may occur



Implications for theory

This paper has gathered scattered pieces of the dark side of BMI by reviewing prior research on the negative consequences that firms may have to tackle when innovating their BMs. Several implications for theory are discussed below.

In terms of theorising the dark side of BMI, we argue that the negative consequences resulting from BMI have frequently been associated with disruptive innovation, owing to their disruptive effects (cf. Markides, 2006; Sabatier et al., 2012; Christensen et al., 2016). According to this literature, new disruptive technology – in the context of this paper, a new BM – would be embraced or developed only by non-incumbent firms, typically new entrants; incumbent firms would either be too late in responding to the new BMs, limiting their chances of gaining a competitive advantage, or, in the case of a timely response, they may still be fearful of cannibalising existing profit streams and, eventually, being overtaken by new entrants or non-incumbent firms that managed to scale up the new BM. To this end, the literature on disruptive innovation can only explain a portion of the phenomenon of the dark side of BMI for two reasons as explained below.

First, incumbent firms can also proactively develop a new BM based on perceived future opportunities (Teece, 2010). Challenging the assumption within the disruptive innovation literature that incumbent firms are 'passive' and completely controlled by their environments, Sandstrom et al. (2014) argued that incumbent firms can be successful at influencing their environment even if the latter limits or controls their actions. In the context of designing a new BM, this resonates with Teece (2010, p. 191), who stated that "[the] business environment is a choice variable: firms can select a business environment or be selected by it: they can also shape it". Therefore, we contend that, if and when the dark side of BMI will occur, its fate would depend on whether firms are able to mobilise the adequate capabilities or develop new ones as needed (Helfat and Martin, 2015; Teece, 2018).

Second, the assumption in the disruptive innovation literature that new entrants (non-incumbent firms) that disrupt incumbents' BM will always be successful is not always the case. In the examples recounted by our systematic literature review (Markides, 2006; Moingeon and Lehman-Ortega, 2010; Rayna and Striukova, 2016; Birkinshaw, 2022) we can observe how many non-incumbent firms that introduced new BM and disrupted the BM of incumbents failed to achieve superior performance or even ceased to exist as a result of the incumbents' counter-reactions. Hence, we reiterate our argument that while disruptive innovation literature is not necessarily misleading it only provides partial support. In the two preceding points, the firm's lack of the required capabilities to perform a BMI effectively is a potentially satisfying explanation for why a BMI may result in the dark side.

We therefore suggest that, by also taking into account that the context in which a BMI has been situated matters in driving a BMI to the dark side – the likelihood that the dark side occurs is high upon certain contexts or settings (Sánchez and Ricart, 2010; Sorescu et al., 2011; Lange et al., 2015), the dark side of BMI cannot be understood through a single theory or framework; instead, different analytical stances are needed to explain how it may occur and the negative consequences that it can engender. This, as our argument above and Figure 3 in the previous section may suggest, is a combination of theories or frameworks that account for: the disruptive nature of BMI itself, such as disruptive innovation (Christensen, 1997; Yu and Hang, 2010), which captures the extent to which a new BM may deteriorate value streams in existing business and the industry; firm capabilities, such as dynamic capabilities (Teece, 2018), which captures the extent to which a firm may be unable to enact the new BM due to the absence or lack of the necessary capabilities; and contexts or settings in which BMI is situated, such as contingency theory (Lawrence and Lorsch, 1967), which captures the extent to which specific contexts or settings may be vulnerable for BMI to be trapped in the dark side.

This paper also enhances extant scholarly efforts to spell out what can go wrong with undertaking specific BMI. The identification of the negative consequences that may result from BMI, as well as their driving factors and circumstances, provides scholars interested in the strategic importance of innovation with an understanding of the *conditions* that may trigger the dark side of BMI. Furthermore, these factors ought to be understood in combination with the enabling drivers of BMI already suggested by the literature (e.g., Doz and Kosonen, 2010; Achtenhagen et al., 2013). An appreciation of the dark side of BMI enhances current knowledge of the contextual conditions whereby BMI may lead to success (e.g., increased performance) or may not (Markides and Charitou, 2004). This focus also helps uncover "the complex link between BMI and performance", which urges further attention (Foss and Saebi, 2017, p. 212). The model in Figure 3 constitutes one step forward in this direction, laying out aspects of the phenomenon which future research could build upon.

Finally, our study constitutes a call for redirecting future BMI research, encouraging scholars to take into account the 'dark side' dimension of the phenomenon. While research on the subject is gaining traction in the broader innovation management community (e.g., Coad et al., 2021), mainstream BMI literature is still biased towards the bright side. There is a need to reshape or at least rebalance the direction of these studies, not only to challenge the 'bright side' argument, but also to explore it for theory building purposes, such as addressing the shortcoming of disruptive innovation literature (cf. Markides, 2006).

Implications for practice

Is BMI always a good thing? In this paper, we highlighted how BMI can have a dark side, i.e., it could bear negative consequences. Furthermore, while BMI is a promising mean, it is not an easy process to undertake (Chesbrough, 2010). Many attempts at BMI fail (Christensen, et al.,

2016) or, where success is achieved, firms seem to be 'bloodied' in the process with survival constituting nearly a gamble (Sosna et al., 2010).

When confronted with the difficulties and failures of undertaking BMI as described, the development of bespoke capabilities that can support the BMI is the course of action most often pursued (Teece, 2018). Teece (2018) suggested that acquiring new knowledge about customers, existing BMs in the industry, and technological progress are some of the mechanisms for developing these capabilities. Our paper engages with this debate by offering one valuable practical insight, i.e., the use of problem as the unit of analysis in capability development (Björkdahl and Holmen, 2016). Firms can direct the creation or acquisition of new knowledge and relevant capabilities once valuable problems are identified (Björkdahl and Holmen, 2016), rather than acquiring as much new knowledge as possible and building a portfolio of capabilities accordingly (Teece, 2018). In this regard, the negative consequences that may result from BMI and their driving factors and circumstances discussed above draw attention to common issues that firms may have to tackle when innovating their BMs and, as such, using 'the problem' as the unit of analysis may constitute a meaningful approach to follow; this would enable firms to treat given strategic actions as BMI-related problems, which could drive organisational change aimed at mitigating, or coping with, the dark side of BMI.

One may ask what the significance is of using 'problem' as the unit of analysis for capability development. The answer lies in the complexity of BMI and the availability of the resources needed to build the capabilities (Björkdahl and Holmen, 2016). In the first case, managers often struggle to understand their problems, resulting in inappropriately implemented solution. In the second case, assuming that all BMI-related problems are comprehended, the use of 'problem' as the unit of analysis remains useful for capability development: the firm can prioritise solving the 'critical' problems while handling the renowned limited nature of its resources.

Avenues for future research

This paper has accumulated and systemised the phenomenon of the dark side of BMI, opening up a number of new avenues for future research. These include the following:

First, theorisation of the dark side of BMI. The relevance of combining multiple theories or frameworks, in which we suggest a combination of disruptive innovation literature, dynamic capabilities, and contingency theory, has been demonstrated in theorising the dark side of BMI. This suggestion, however, should be regarded as tentative because it requires empirical validation and possibly further refinement. Thus, empirical investigation of the dark side of BMI based on the theories or frameworks can be a viable avenue for future research. These empirical investigations can be conducted across BMI types (e.g., incremental or radical BMIs), organisational settings (e.g., new venture or established firms), and various perquisites that trigger the BMI (e.g., opportunity driven or threat driven).

Second, relatedly, the empirical research can also be conducted in several key areas that have been identified as being largely neglected in the current BMI literature but deemed important for advancing current understanding of the dark side of BMI. These include, for example: conflicts between internal actors during BMI; non-financial negative consequences that matter at strategic level, such as loss of core capabilities and strategic positioning; and negative consequences of BMI that occur in specific contexts, such as sharing economy-based BMI and high technology-based BMI.

Third, an evaluation of the dark side of BMI from the standpoint of stakeholders is similarly relevant. While this research shed light on how the dark side of BMI can affect firms' stakeholders, the focus was primarily on theorising the dark side of BMI from the firm's perspective. Future research could develop further our understanding of the dark side by taking the stance of stakeholders. Responsible innovation is one promising lens (Stilgoe et al., 2013).

Responsible innovation implies that the outcome of innovation is more than just a new product, technological breakthrough, or new ways of doing things; it also transforms norms, social practices, and institutions that govern the environment and stakeholders. Because these transformations are not always positive and, in many cases, impose unexpected costs, the term 'responsible' or, alternatively, 'irresponsible' captures the negative consequences of the innovation. As mentioned in our review, one example is a new BM that has been hailed as a success from the firm's perspective but produced negative consequences for broader stakeholders. Another promising lens is one derived from critical management studies (Alvesson and Willmott, 1992). According to critical management studies, a neglected area in a specific discipline may not emerge as a 'natural' process or development but rather a product of power imbalance within the community. In such cases, the discourse is dominated or directed by certain group(s) of the community in such a way that certain areas that are of no interest to that group(s) are ignored or, if they exist, have been 'conditioned' in a 'specific' narrative. Putting this perspective into the context of the dark side of BMI, future research can investigate how the largely unexplored or neglected negative consequences of BMI occurring to the firm's stakeholders may have been situated or resulted from the power imbalance within the BMI community.

Fourth, referring to Figure 3, future research can explore moderators of BMI: the performance element is rather meaningful. For example, it would be highly relevant to examine under which contextual conditions BMI leads, or does not, to success (e.g., increased performance). Some of the driving factors and circumstances are expected to be similar across settings or industries, while others are more context-dependent (Markides and Charitou, 2004). Furthermore, while some driving factors and circumstances have linear performance links, others do not (e.g., an inverted U-shaped effect between BMI and performance) (Desyllas et al., 2020). Finally, included in this latter avenue is an investigation into the systemicity between

the driving factors and circumstances in generating the negative consequences and the possibility of the emergence of vicious cycles - recurring negative consequences – enacted by the interplay of certain driving factors and circumstances (Casadesus-Masanell and Ricart, 2010). Furthering our understanding of this systemicity would help to distil "the complex link between BMI and performance" (Foss and Saebi, 2017, p. 212) and enhance capability development for effectively managing the process (Björkdahl and Holmen, 2016; Teece, 2018).

There are ample of opportunities for future research to expand our existing understanding of the dark side of BMI. These opportunities include efforts towards not only advancing theorisation of the phenomenon, but also empirically uncovering the link between BMI and performance, distilling the consequences of the dark side of BMI for relevant stakeholders and society as a whole, and developing relevant capabilities to cope with, or mitigate, the dark side.

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