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Business model innovation: Integrative review, framework, and agenda for future innovation management research

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Abstract

The business model innovation (BMI) concept has become a well-established phenomenon of current academic research. While Foss and Saebi's (*Journal of Management*, 2017, 43, 200–227) seminal literature review on BMI revealed 349 articles on BMI published between 1972 and 2015, an additional number of 1727 articles on the topic have been published since 2016. In contrast to this overall interest in the BMI phenomenon, innovation-focused journals include only a limited number of publications on BMI. Further, besides the valuable insights and fruitful research directions of extant literature reviews, they tend also to overlook the linkages between traditional innovation management and the majority of BMI research. Given this underrepresentation of BMI research in the innovation management literature, we conduct an integrative literature review to bring the disconnected literature closer together and offer directions for future research. Our literature review applies the review strategy of blending and merging the literature across domains. First, we blend the knowledge base of the BMI domain by applying the Product Development and Management Association (PDMA) Body of Knowledge categories. Second, we merge the literature across domains by developing an integrative framework. As recent BMI literature increasingly converged to two lines of research, our framework differentiates between the relatedness of the BMI and BMI openness. Thereby, we offer new avenues for future research that can enrich the dialogue on BMI research in the innovation management community. These results demonstrate how the BMI domain covers aspects that fit, contribute to, and extend classical innovation-focused research, how both research domains can be merged to enrich each other, and how future research can foster the dialogue across disconnected domains.

KEYWORDS

blending and merging, business model innovation, integrative literature review, integrative theoretical framework

1 | INTRODUCTION

The rapidly growing literature on business model innovation (BMI) deepens our understanding of the concept increasingly, but at the same time, the interfaces between BMI and the innovation management literature often remain overlooked (Massa et al., 2017; Schneckenberg et al., 2022). BMI describes “designed, novel, nontrivial changes to the key elements of a firm’s business model and/or the architecture linking these elements” (Foss & Saebi, 2017, p. 201). Given the impact of BMI on firm performance (Cucculelli & Bettinelli, 2015; Visnjic et al., 2016; Zott & Amit, 2007), the BMI concept has become a well-established phenomenon of current academic research (Foss & Saebi, 2017; Massa et al., 2017; Spieth et al., 2014).

While Foss and Saebi’s (2017) seminal literature review on BMI revealed 349 articles published until 2015, an additional number of 1727 articles on this topic have been published since 2016.¹ The increasing number of publications reflects the growing interest in BMI research but also its underrepresentation in the innovation management domain (see Appendix A1). The few empirical articles that have been published in typical innovation management journals explore antecedents of BMI, such as strategic orientations and sustainability commitment (Klein, Spieth, & Heidenreich, 2021), analyze the alignment of specific activities for value creation and value capture (Sjödin et al., 2020), examine how BMI drives front-end success (Schrauder et al., 2018), or study how BMI influences firm performance through its interplay with product innovation (Visnjic et al., 2016).

This underrepresentation of BMI research in the innovation management domain is also reflected in extant literature reviews. Instead of offering integrative reviews, literature reviews usually attempt to organize BMI research or focus on specific particularities (Foss & Saebi, 2017; Ilyas et al., 2023; Loon et al., 2020; Spieth et al., 2014). Thereby, literature reviews tend to overlook the commonalities between the innovation management domain and BMI research, failing to exploit the potential of bringing these two disconnected domains closer together.

A possible explanation for the underrepresentation of BMI research in the innovation community could be the application of a predominant strategy lens to BMI (Lanzolla & Markides, 2021; Massa et al., 2017). To illustrate, Spieth et al. (2014) reveal the roots of BMI in the strategy literature by identifying three major roles assigned to business models (BM) that serve as motivations for BM research:

Practitioner points

- The business model innovation (BMI) perspective is a holistic approach to organizational innovation that encompasses several aspects of traditional innovation-focused research.
- Adopting a BMI perspective helps to keep the big picture in mind instead of focusing only on specific innovation topics described by traditional innovation management.
- Managers responsible for an organization’s strategy or business development may focus only on the overall BM but lack the necessary knowledge on specific innovation topics.
- The integrative framework can help practitioners to deal with different BMI situations described by the four quadrants.

explaining, running, and developing the business. More recent reviews strengthen this strategic focus by applying three review strategies (Breslin & Gatrell, 2023): (a) organizing and categorizing the extant literature, (b) identifying conceptual gaps in the research, and (c) transferring theories across domains. The first strategy includes the examination of the antecedents and outcomes of BMI (Zhang et al., 2021), the functions served by BMs (Spieth & Schneider, 2016), specific characteristics of BMI for sustainability (Evans et al., 2017), and implications of SME heterogeneity for BM development (Miller et al., 2021). Second, reviews identifying conceptual gaps in the BMI literature (Foss & Saebi, 2017) point to important themes for further advancement by clustering research streams and identifying trends (Filser et al., 2021). Third, reviews that transfer specific theoretical lenses on HR practices (Loon et al., 2020), theories of the firm (Kohtamäki et al., 2019), and strategic management (Schiafone et al., 2019) into BMI research.

In contrast to the overall interest in the BMI phenomenon, the underrepresentation of BMI research in the innovation management domain is problematic for the following reasons. First, the purposeful design of (innovative) BMs is pivotal for commercializing novel ideas, technologies, and products (Appio et al., 2021; Chesbrough, 2010; Lanzolla et al., 2021; Raff et al., 2020). For instance, while Nokia was the first to develop a smartphone, others like Samsung and Apple prevailed through their innovative BMs (Hacklin et al., 2018). In other words, to be successful, new product development has to consider the BM perspective of innovation projects (Schrauder et al., 2018).

Second, BMI has evolved as a distinct type of innovation complementing established but disconnected topics on the innovation of processes, products, and services

¹Web of Science (WoS) Core Collection database search for “business model innovation” in title, abstract, author keywords, and Keywords Plus across all academic journals in the timespan from January 1, 2016, to December 31, 2022.

(Appio et al., 2021; Casadesus-Masanell & Zhu, 2013; Zott et al., 2011). For example, several platforms do not focus on developing tangible products. Instead, they curate social and economic interactions (Massa et al., 2017). Hence, innovation efforts focus on the innovation of the BM rather than on tangible products.

Third, BMI is arguably a complex and specific process that differs from other forms of innovation due to its multidimensionality requiring a different combination of capabilities (Loon et al., 2020; Magistretti et al., 2021; Martins et al., 2015). Conducting BMI involves the analysis of its breadth, including macro (e.g., newness to a market) and micro levels (e.g., newness to the firm), as well as of its depth, such as changes in the firm's logic and organizational culture (Hock et al., 2016; Taran et al., 2015). Thus, BMI has wide-ranging implications across the firm. Therefore, BMI research would not only fit into the innovation management domain. Instead, integrating the BMI lens into the innovation management literature can offer novel insights.

In response, we investigate the following research questions: How does the literature on BMI cover aspects that fit, contribute to, and extend traditional innovation-focused research topics? How can BMI and traditional innovation research be merged to enrich each other? What are the promising future research avenues that emerge from the integration of BMI into innovation-focused research topics?

To address these questions, we conduct an integrative literature review that draws on recent methodological advancements (Breslin & Gatrell, 2023; Elsbach & van Knippenberg, 2020; Patriotta, 2020). In particular, we apply a blending and merging review strategy to comprehensively review and synthesize the literature across the domains of BMI and innovation management. In contrast to existing literature reviews, this study bridges the disconnected research domains on BMI and innovation management. First, we categorize the BMI literature according to the Product Development and Management Association (PDMA) Body of Knowledge to reveal intersections between the two domains (blending). Second, we combine the literature across both domains by developing an integrative framework that differentiates between two dimensions: relatedness and openness of BMI (merging). Third, as both dimensions reflect the convergence of recent research on BMI, they lay the foundation for new avenues for future research and the dialogue on BMI research in the innovation management community as well as beyond.

This study contributes to and extends the literature as follows: First, we integrate the BMI literature by blending BMI with innovation-focused research. Thereby, we extend our understanding of BMI since earlier literature reviews tend to categorize or focus on a specific

phenomenon/theory only (Foss & Saebi, 2017; Miller et al., 2021; Schneckenberg et al., 2022; Schneider & Spieth, 2013). Second, our integrative theoretical framework shows how the insights of BMI and traditional innovation research can be reverse-translated to their origins to provide new insights complementing innovation management research on cognition (Osievskyy & Dewald, 2015; Schneckenberg et al., 2019; Snihur & Zott, 2020) and relations with external stakeholders (Chesbrough, 2006; Radziwon et al., 2022; Snihur et al., 2018). Third, this integration offers new avenues for future research that can enrich the innovation management community. Thereby, we integrate the BMI literature into existing conversations about innovation management (Antons et al., 2016; Biemans et al., 2007, 2010) and inform novel directions for research. Finally, we contribute to this special issue by applying a review approach that integrates disconnected knowledge domains, representing a methodological novelty in innovation management research.

2 | CONCEPTUAL BACKGROUND

This section provides a synthesis of the main discourse of BMI research to date and shows how scholars have responded to the research agenda proposed by Saebi et al. (2017). After clarifying both the BM and the BMI concept, we provide an overview of research on the antecedents, moderators and mediators, and the consequences of BMI. In doing so, we take stock of the current state of BMI research, which clears the ground for identifying intersections with innovation management research.

2.1 | BM and BMI

Research characterizes BMs as boundary-spanning activity systems encompassing value creation, value capture, and value delivery activities (Snihur & Zott, 2020; Teece, 2018). These specific configurations of activities are called a “business model,” and changes in these activity systems are, according to our understanding, a “business model innovation” (Foss & Saebi, 2018). The BMI concept has various characteristics. In particular, it encompasses the exploration of new ways to create and capture value for a firm's stakeholders (Casadesus-Masanell & Zhu, 2013), the changes in the approach of how firms go to market (Teece, 2010), and the discovery of a completely new BM within an existing business context (Markides, 2006). Other perspectives apply the BMI lens to explore novel value architectures for generating profits (Yunus et al., 2010).

Therefore, BMI research is driven by the motivation to examine and understand the differences in the antecedents, moderators and mediators, and consequences of innovating BMs (Foss & Saebi, 2017).

2.2 | Antecedents of BMI

Various external and internal factors can trigger BMI activities. Environmental changes and challenges constitute a major external antecedent that drives BMI. This category subsumes research that examined BMI as a response to changing ecosystem conditions (Laudien & Daxböck, 2017), exogenous crises (Averina et al., 2022; Clauss et al., 2022; Osiyevskyy & Dewald, 2018), competitive pressure (Wang & Habibulla, 2021; Zhao et al., 2020), changing customer preferences and demand conditions (Iheanachor et al., 2021; Klein, Schneider, & Spieth, 2021; Sebastiani et al., 2013), legal and regulatory aspects (Peprah et al., 2022; Tykkyläinen & Ritala, 2021), market characteristics and conditions (Holzmann et al., 2020; Landau et al., 2016), and technological progress (Cachon, 2020; Lubik & Garnsey, 2016) including digital transformation (Bohnsack et al., 2021; Cozzolino et al., 2018; Guo et al., 2020; Haaker et al., 2021).

BMI activities can also be triggered by internal factors such as organizational capabilities (Denicolai et al., 2014; Ghezzi & Cavallo, 2020; Miroshnychenko et al., 2021), as well as by dynamic capabilities (Bocken & Geradts, 2020; Heider et al., 2021; Inigo et al., 2017; Velu, 2017), managerial cognition (Frankenberger & Sauer, 2019; Martins et al., 2015; Narayan et al., 2021), organizational culture (Hock et al., 2016), and changes in a firm's strategy (Autio, 2017). Accordingly, BMI is often understood as a necessary response to environmental changes, discontinuities, and disruptions, but it can also originate from within an organization.

2.3 | Moderators and mediators of BMI

BMI research examines a wide range of variables that affect BMI activities. The research focuses on, among others, organizational capabilities such as strategic sensitivity, collective commitment, resource fluidity (Hock et al., 2016), capabilities to acquire external knowledge and integrate it with internal knowledge (von Delft et al., 2019), ambidexterity (Markides, 2013), capabilities that permit a firm to innovate its BM while simultaneously maintaining sustainable performance (Demil & Lecocq, 2010), collaborative capabilities (Fjeldstad & Snow, 2018), specific capabilities for new technologies (Sjödin, Parida, Palmié, & Wincent, 2021), knowledge

integration (Guo et al., 2021), and micro-capabilities, such as innovation capabilities, resource capitalization capabilities, and networking capabilities (Battistella et al., 2017). Organizational capabilities also include aspects like organizational learning and experimenting with possible BM alternatives (Autio, 2017; McGrath & McManus, 2020; Mezger, 2014; Sosna et al., 2010; Weerawardena et al., 2021). Because dynamic capabilities are also identified as influencing variables, these studies mainly explore the influence of the main set of dynamic capabilities (sensing, seizing, reconfiguring) (Best et al., 2021; Randhawa, Wilden, & Gudergan, 2021; Yuan et al., 2021), as well as of several micro-foundations of dynamic capabilities (Santa-Maria et al., 2022).

Scholars identified various managerial factors and skills that affect BMI activities. These include leadership capabilities that support BM changes (Schoemaker et al., 2018), capabilities that support BMI like understanding customer's needs and working with suppliers and partners (Visnjic et al., 2018), industry experience (Frankenberger & Stam, 2020), as well as the capability to manage the possible cannibalization of existing BMs (Velu & Stiles, 2013). Studies are also increasingly examining the role of various cognitive moderators that determine BMI intensity and, subsequently, the degree of novelty of the changes (Dewald & Bowen, 2010; Osiyevskyy & Dewald, 2018; Shepherd et al., 2023). There is also a growing research stream concerning the integration of different external stakeholders, such as customers (Cillo et al., 2021; Radenković et al., 2020; Sjödin et al., 2020), supply chain partners (von Delft et al., 2019), and the industrial ecosystem (Burström et al., 2021; Radziwon et al., 2022).

2.4 | Consequences of BMI

In the majority of studies, when BMI activities are concluded, a novel BM emerges that represents the firm's response to environmental or market changes, technological progress, or other emerging threats and opportunities. However, the new BM's degree of innovativeness depends on the impetus that triggered the BMI activities and the moderating and mediating factors. Thus, BMI outcomes range from incremental to radical innovativeness (Egolford & Sund, 2020). Similarly, the design of the new BM can vary in relation to its innovativeness. For instance, the new BM can either have a novelty-oriented or an efficiency-oriented design, which is determined by several influencing factors (Frankenberger & Sauer, 2019). The resulting BMI can also represent a novel BM for a specific purpose, such as a circular economy (Franzò et al., 2021; Gandolfo & Lupi, 2021), sustainability (Stål et al., 2022), and digital platform-based BMs (Cozzolino et al., 2018).

Prior research also examined the implications of BMI for firm performance (Guo et al., 2017; Karimi & Walter, 2016; Leppänen et al., 2023; Wang & Habibulla, 2021), firm growth (Cosenz & Bivona, 2021; Sosna et al., 2010; Sternad & Mödritscher, 2022), the firm's competitive position (Amit & Zott, 2012; Cosenz & Noto, 2018; Desyllas & Sako, 2013), firm survival (Siebold, 2021; Velu, 2017), and the firm's achievement of optimal distinctiveness (McDonald & Eisenhardt, 2020).

In summary, there is much research that answers Foss and Saebi's (2017) call for articles and advances the understanding of the BMI concept. By investigating antecedents, moderating and mediating variables, and possible consequences of BMI, the understanding of the concept has improved substantially over the last few years. This also demonstrates the increasing maturity of BMI research and its establishment in academic research. Even though there is much research at the interface of innovation management research topics (Antons et al., 2016), for example, strategic orientations for innovation (Klein, Spieth, & Heidenreich, 2021; Landau et al., 2016), open innovation (Sjödin et al., 2020; Spieth, Laudien, & Meissner, 2021), managerial characteristics (Frankenberger & Sauer, 2019; Narayan et al., 2021), and high tech innovation (Holzmann et al., 2020), current research misses the opportunity to exploit further the potential of bringing BMI and traditional innovation management research closer together. As extant research on BMI shows, the insights gathered in this research domain contribute to the traditional topics in innovation management research. On the other hand, BMI research would also benefit the innovation community's expertise to further develop the innovation perspective that fundamentally distinguishes it from classical BM research.

3 | METHODS

We conducted an integrative literature review since this approach goes beyond the mere systematic review of the comprehensive BMI literature (Tranfield et al., 2003) and provides novel insights into how BMI and traditional innovation management research can enrich each other (Elsbach & van Knippenberg, 2020). Recent theoretical advancements classify specific review strategies along a miner-pro prospector continuum (Breslin & Gatrell, 2023). Miners reveal unexploited gaps and focus on a single research domain. In contrast, prospectors focus their attention beyond existing domains to explore novel lines of inquiry between disconnected and isolated knowledge silos.

While earlier literature reviews on BMI predominantly applied miner approaches (e.g., Foss & Saebi, 2017), we adopt a prospector approach by applying the review strategy of blending and merging literatures across domains

(Breslin & Gatrell, 2023). This strategy “extends the borrowing of theories at a higher level of abstraction by developing theory in both the source and target domains” (Breslin & Gatrell, 2023, p. 17). First, blending relies on an extensive engagement in disconnected domains, namely BMI and innovation management, to produce new insights. By showing how the BMI phenomenon fits into traditional innovation-focused research categories, we map, analyze, and integrate the existing body of knowledge on BMI research into the innovation management domain (Patriotta, 2020). Second, the process of merging leads to the development of an integrative framework that not only creates new knowledge but also lays the foundation to derive opportunities for future research in both domains. Therefore, this literature review approach introduces methodological novelty to (innovation) management research and enables us to connect and enrich disconnected domains.

To blend BMI and innovation management research, we adopted the PDMA Body of Knowledge described in the *PDMA ToolBook for New Product Development* (Griffin & Somermeyer, 2007) to categorize the BMI literature. It has been frequently applied to map the topic landscape of the *Journal of Product Innovation Management (JPIM)* (Antons et al., 2016; Biemans et al., 2007, 2010) and, therefore, is well-known among innovation management scholars. For this reason, the PDMA categories provide a suitable common ground to blend BMI research into the innovation management domain. We extracted the six key categories of innovation research, namely (a) “Customer and Market Research,” (b) “Technology and Intellectual Property,” (c) “Strategy, Planning, and Decision-making,” (d) “Codevelopment and Alliances,” (e) “People, Teams, and Culture,” and (f) “Process, Execution, and Metrics” (Griffin & Somermeyer, 2007) and extended them by the additional categories of (g) “Research Methodologies,” and (h) “Cross-cutting Themes.” We defined these eight categories as a priori thematic codes that supported our process of reviewing and mapping the literature on BMI.

We adapted the definitions of the six PDMA categories to match them with BMI research and characterized each category while retaining its original, central meaning (see Table 1). Each author individually developed adapted definitions and characteristics of each PDMA category for the coding structure. Since the list of characteristics was initially not exhaustive, we gradually extended it during the coding process. We iteratively converged to the final definitions and coding scheme in several rounds.

This study used the Web of Science (WoS) Core Collection database for the literature search as it provides a comprehensive, adequate, and reliable collection of academic literature that is frequently used in literature reviews (Raff et al., 2020; Rietveld & Schilling, 2021). We

TABLE 1 Coding scheme.

PDMA categories	Definitions	Codes
Customer and Market Research	Identification, analysis, and processing of external information into innovation.	Alertness, analysis, distribution, and transformation of external knowledge, evaluation, external changes, leverage new information, recognition, search
Technology and Intellectual Property	Ideating, developing, and commercializing technologies.	Commercializing technologies, design, developing technologies, ideating technologies
Strategy, Planning, and Decision-making	Strategizing and decision-making with regard to innovation projects as well as the planning and allocation of resources and capacities.	Decision-making, dynamic capabilities, organizational capabilities, planning, strategic decisions, strategic flexibility, strategic leaders, strategic orientation, strategic renewal, strategy, strategy implementation/execution
People, Teams, and Culture	The human side of innovation: Characteristics, interaction, and change of individual, teams, and culture with respect to innovation.	Capabilities, cognition, culture, disposition, diversity, ideology, individual and team behavior, leadership, skills, team members, top management team, traits, values
Codevelopment and Alliances	External interface: Interaction/exchange and integration/collaboration of external partners, competitors, customers, and institutional actors.	Co-creation, collaboration, competition, customer integration, ecosystems, external cooperation, market orientation, open innovation, service provider, spin-offs, supplier integration
Process, Execution, and Metrics	Operational: Executing, (processual) designing, and controlling the ideation, development, and commercialization of innovation activities.	Development, execution, ideation, implementation, innovation activities, market entry, process
Research Methodology	Analysis of the applied research methods.	Qualitative, quantitative, mixed-methods, theoretical, conceptual
Cross-cutting Themes	Topics that can be assigned to more than one category.	Comparative studies

Abbreviation: PDMA, Product Development and Management Association.

conducted a topic search for academic articles containing the term “business model innovation” in the title, abstract, or keywords published between 2000 and 2022. Quotation marks were used to exclude irrelevant mentions. Since other terms, like BM “evolution” (Bohnsack et al., 2014), “renewal” (Doz & Kosonen, 2010), “change” (Osiyevskyy & Dewald, 2015), “transformation” (Aspara et al., 2013), and “adaptation” (Saebi et al., 2017), are often used interchangeably to refer to the same phenomenon, we also searched for these terms or combinations thereof (see Appendix A3).

Due to the large number of articles published in the field, we focused on publications in leading academic journals according to the Academic Journal Guide (AJG) 2021 published by the Chartered Association of Business Schools (CABS). The CABS' list is commonly used in scientific literature reviews to identify high-quality journals in business management (Hiebl, 2023; Loon et al., 2020). The AJG's ratings are based upon peer review, editorial, and expert judgments, and are additionally informed by journal metrics, which is a distinguishing feature compared to other journal rankings. We only included journals ranked 4 or higher focusing on management areas to ensure the results'

representativeness, robustness, and quality. Thereafter, we purposefully selected journals with a lower ranking (at least 3) but with an explicit focus on business research (e.g., *Journal of Business Research*) or innovation topics with high relevance for the innovation community (e.g., R&D Management). Given the JPIM's mission to provide practitioners with meaningful and theoretically grounded insights, we also searched leading practitioner-oriented journals (e.g., MIT Sloan Management Review) (see Appendix A4).

After excluding duplications, we had a total number of 366 articles. We then excluded book reviews, literature reviews, summaries of articles published elsewhere ($n = 44$), and 69 articles that dealt with the BMI concept in a trivial way (Zott et al., 2011). This culminated in a final set of 253 articles. These articles were reviewed according to the previously developed coding scheme. To ensure coding integrity, we randomly divided 10 articles among the authors. Each author independently reviewed and coded the respective number of articles (Aguinis et al., 2023). The results were compared and reconciled through discussions, indicating a high intercoder reliability of 98% in assigning publications to PDMA categories.

4 | RESULTS

4.1 | Trajectories of BMI research

Based on the approach of Antons et al. (2016), we examined the past development of BMI research in relation to the PDMA categories and compared them against each other to identify and classify temporal patterns according to the attention they received. The articles included in our analysis were distributed heterogeneously across the PDMA categories (see Appendix A2). Similar to the overall growth rate in BMI publications (see Appendix A1), a rising trend emerged in each category. While most of the articles could be assigned to the “Strategy, Planning, and Decision-making” category, “Codevelopment and Alliances” is the category with the highest compound average growth rate (CAGR). We present the key insights of each category in the next section.

First, the frequency of the BMI research categories differs substantially. Our analysis revealed that the categories “Strategy, Planning, and Decision-making,” “Codevelopment and Alliances,” and “Process, Execution, and Metrics” received the most attention from scholars. Unsurprisingly, “Strategy, Planning, and Decision-making” constitutes the most extensive category of BMI research as BMI is predominantly viewed from a strategic perspective. The “Technology and Intellectual Property” category received the least attention, but this insight matches the analysis of innovation management research that produced a similar result.

Second, even though only one article was assigned to the “Cross-cutting Themes” category, this category can be useful since it links different categories, presents the bigger picture, and discusses different theoretical perspectives of BMI research. The “Research Methodology” category showed that more than half of the studies in our sample applied qualitative methods ($n = 140$), followed by quantitative methods ($n = 62$), conceptual or theoretical articles ($n = 36$), and mixed-method approaches ($n = 15$).

Third, the analysis revealed that the research categories differ substantially in terms of their timeliness and number of publications but not in terms of their development paths. Similar to the overall trend in BMI research, all six categories showed a positive time trend. Since it is argued that topics with a positive time trend can be classified as “hot” topics in the context of analyzing documents, all categories can be viewed as “hot” in BMI research (Griffiths & Steyvers, 2004). The “Codevelopment and Alliances” and “Strategy, Planning, and Decision-making” categories registered the strongest growth over the past few years, apart from also being the categories with the highest CAGR. In contrast,

“Technology and Intellectual Property” has the lowest CAGR. Figure 1 summarizes these trajectories.

4.2 | Blending innovation management research and BMI research

Following Breslin and Gatrell (2023), we develop a blended structure of BMI and traditional innovation management research by showing how extant BMI research already covers aspects that fit, contribute to, and extend traditional innovation-focused research topics (see Table 2). We proceeded as follows: At the outset, we analyzed the foundational basis of BMI research to clarify the starting point of academic investigations in each category. Subsequently, we illustrate to which research topics the attention shifted over time. Finally, we show the current state of BMI research and which topics scholars are currently examining.

4.2.1 | Customer and market research

The first PDMA category's foundational basis is formed by research examining the reactions of firms in response to environmental and economic changes (Lange et al., 2015), exogenous crises (Amankwah-Amoah et al., 2021; Clauss et al., 2022; Osiyevskyy & Dewald, 2018), and disruptive technological shifts (Tongur & Engwall, 2014). In the majority of these articles, BMI is the outcome of a firm's analysis of the changing conditions and its leverage of new information to adapt to new realities and maintain competitiveness (Gnatzy & Moser, 2012). BMI is also identified as a necessity when environmental changes threaten the firm's existence (McDonald et al., 2021) and, therefore, requires an adaption of BMs to new markets (Gebauer et al., 2017). Furthermore, BMI can also be driven by macro-environmental, institutional-legal conditions, and market trends, such as circular economy (Donner & de Vries, 2021). The BMI activities' purpose is to prepare the firm to align with new environmental conditions. It is also suggested that the more turbulent the business environment is, the more relevant the evaluation of BM alternatives becomes for capturing the value of new ideas and opportunities (Schrauder et al., 2018).

Following these initial insights, articles in this line of research manage the impact of various factors by sensing either these exogenous changes and opportunities or the extent of BMI activities. These factors include, among others, impeding (cognitive) factors such as executives' risk avoidance (Christensen et al., 2016) and threat perception (Osiyevskyy & Dewald, 2018), as well as

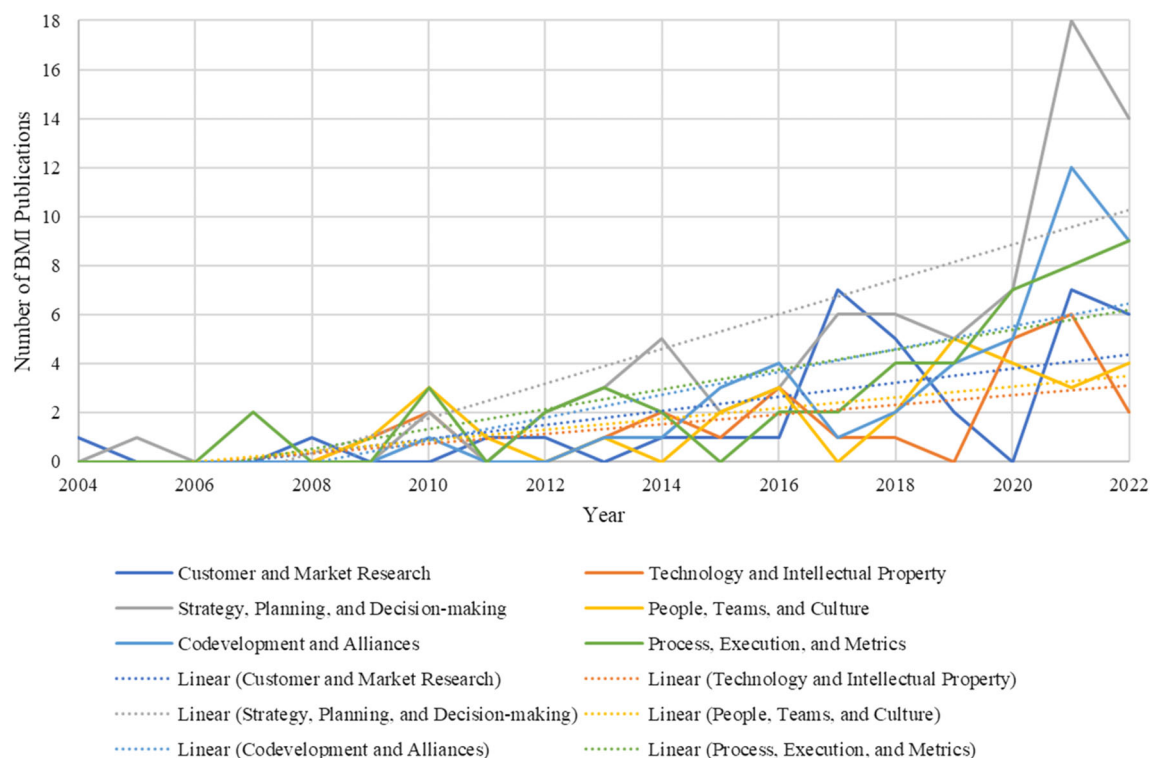


FIGURE 1 Growth in business model innovation (BMI) publications across Product Development and Management Association categories.

supporting factors like organizational capabilities such as strategic foresight and ambidexterity (Laudien & Daxböck, 2017), and an innovation-promoting organizational culture (Chandy et al., 2017). BMI can also act as a mediating variable between opportunity recognition and firm performance (Guo et al., 2017).

Recent articles emphasized a more active approach to finding and exploring opportunities. For instance, they examined the search behavior of firms (Snihur & Wiklund, 2019), revealed the importance of the ability to analyze the environment in order to discover or proactively create opportunities based on resources and competencies (Schneider, 2019), and identified the beneficial implications of collaboration and ecosystem alignment (Averina et al., 2022). In other words, the focus shifted from reacting to environmental change or technological progress with BMI to proactively scanning and searching the environment for opportunities that firms can exploit through BMI (see Appendix B1).

4.2.2 | Technology and intellectual property

The foundational basis of the second research category includes articles that understand technological progress not as a threat to firms but as a commercialization opportunity that firms can seize through BMI (Chesbrough, 2010).

Initially, as a first research step, the literature was concerned with barriers and challenges that firms must overcome to seize the innovative technologies' value. In particular, to protect the constituent elements of the new BM and to capture value from new technologies (Desyllas & Sako, 2013), firms have to be aware of path dependencies and cognitive constraints arising from existing BMs (Bohnsack et al., 2014), as well as of regulatory barriers and resource constraints (Ernkqvist, 2015). Designing a BM that matches new technology is seen as an enabler of firm growth (Wei et al., 2014) and an underlying driver of BMI activities.

The second research step was to examine factors that might contribute to reaching the necessary fit between technology and new BMs. Scholars emphasized the role of organizational culture and mindsets that support the development of technology-driven BMs (Kiel et al., 2017), the positive effects of participating in ecosystems on the innovation and trial-and-error development of new BMs (Lubik & Garnsey, 2016), and the necessity of dynamic capabilities to sense, seize, and transform opportunities arising from new technologies (Björkdahl, 2020). Scholars also identified specific BM design patterns that can be applied to developing new BMs for novel technologies (Holzmann et al., 2020), and showed how new technologies can change the carrying out of BMI activities (Rayna & Striukova, 2016).

More recent studies pointed out the importance of technological capabilities, especially in the context of

TABLE 2 Blending innovation management research and business model innovation (BMI) research.

PDMA categories	Innovation management research (Griffin & Somermeyer, 2007)	Business model innovation
Customer and Market Research	“(…) bringing external insight into product innovation, development, and growth – (….) information about channels, competitors, markets, alternatives, and the overall environment.”	Identification, analysis, evaluation, and response to any environmental changes, such as customer needs, competition, markets, technological progress, and crises and leverage of new information for BMI (e.g., Clauss et al., 2022; Gnatzy & Moser, 2012; Lange et al., 2015; Osiyevskyy & Dewald, 2015; Schrauder et al., 2018; Snihur & Wiklund, 2019; Tongur & Engwall, 2014).
Technology and Intellectual Property	“Anything having to do primarily with the invention, development, acquisition, licensing, and management of the technologies and intellectual property.”	Commercializing and capturing the inherent value of new technologies through BMI. The necessity of technological capabilities, experimentation with BM designs, and supportive organizational culture for technology-driven BMI (e.g., Chesbrough, 2010; Desyllas & Sako, 2013; Haaker et al., 2021; Kiel et al., 2017; Lubik & Garnsey, 2016; Sjödin, Parida, Palmié, & Wincent, 2021).
Strategy, Planning, and Decision-making	“(…) includes anything having to do with strategies, plans, and decision-making around product innovation, development, and growth.”	Strategic options for and decision-making about BMI activities and choices as well as their impact on firm performance. Importance of organizational capabilities and abilities that support the achievement of strategic missions through BMI activities (e.g., Balboni et al., 2019; Casadesus-Masanell & Zhu, 2013; De Silva et al., 2021; Demil & Lecocq, 2010; Inigo et al., 2017; Klein, Schneider, & Spieth, 2021; Zott & Amit, 2010).
People, Teams, and Culture	“Anything having to do with the people side of product development across the NPD lifecycle – including organization/team structures, people management, skills development, culture, organization change management, and human interaction.”	Cognitive and behavioral characteristics and processes of managers that affect BMI activities. Examination of other human-related aspects like organizational culture and leadership behaviors (e.g., Aspara et al., 2013; Egfjord & Sund, 2020; Hock et al., 2016; Martins et al., 2015; Narayan et al., 2021; Schneckenberg et al., 2019; Snihur & Zott, 2020).
Codevelopment and Alliances	“(…) includes anything having to do primarily with innovation, development, and growth activities that take place in unison with external partners of all sorts including customers, suppliers, service providers, and channels.”	Integration of and collaboration with all sorts of external partners, such as customers, suppliers, and other stakeholders. Participation in alliances and ecosystems for BMI (e.g., Bagheri et al., 2020; Bolton & Hannon, 2016; Clauss et al., 2019; Sjödin et al., 2020; Sjödin, Parida, & Visnjic, 2021; Spieth, Röth, et al., 2021; von Delft et al., 2019).
Process, Execution, and Metrics	“Anything having to do with the operational dimension of product innovation, development, and growth.”	Examination of BMI as a systematic process, emphasizing trial-and-error and experimentation concerning the BM design options for the development of new BMs. Identification of possible sources of reluctance to BM changes as well as tools and factors that may support or hinder the BMI process and the implementation of new BMs (e.g., Cosenz et al., 2020; Cozzolino et al., 2018; Franzò et al., 2021; Gandolfo & Lupi, 2021; McDonald & Eisenhardt, 2020; Willemstein et al., 2007; Zott & Amit, 2007).

Abbreviation: PDMA, Product Development and Management Association.

digital transformation and the adoption of digital technologies (Sjödén, Parida, Palmié, & Wincent, 2021). They show that systematic experimentation with different BM designs can help find a BM that best fits novel technology (Haaker et al., 2021) and how the integration of digital technologies enables firms to leverage network relationships and interactions with customers to develop BMs that support the social and environmental mission of firms (Paiola et al., 2021). Furthermore, integrating digital technologies into BMs supports breaking path-dependent behavior (Bohnsack et al., 2021).

Even though technological progress obviously constitutes a threat to firms, articles within this category identify opportunities for technological progress and the effective use of novel technologies to strengthen the competitive position of firms (see Appendix B2). This contrasts with the previous category's insights that mainly view changing macro-environmental conditions as a threat that must be overcome to remain competitive.

4.2.3 | Strategy, planning, and decision-making

While BMI is predominantly regarded as a consequence or an expected outcome in the first two categories, publications assigned to the "Strategy, Planning, and Decision-making" category often examine the impact of BMI on firm performance and survival (Demil & Lecocq, 2010). The foundation of this line of research is based on articles that, among others, propose BM design options that a firm can choose from (Zott & Amit, 2010), investigate strategic interactions between BMs of competing firms (Casadesu-Masanell & Zhu, 2013), point out how strategic goals can be dealt with through BMI (Halme & Korpela, 2014), and identify specific organizational capabilities that firms apply to develop new BMs (Mezger, 2014).

Subsequently, the articles examined how BM-based experimentation and learning support, among others, the internationalization strategy of a firm by finding a BM that best fits the target market (Autio, 2017), how dynamic capabilities can trigger BMI activities that support the achievement of strategic missions as a response to socio-economic changes (Inigo et al., 2017), how dynamic capabilities can mediate the relationship between family influence and digital BMI (Soluk et al., 2021), how important organizational capabilities can ensure strategic agility and, thus, enable firms to innovate their BMs (Battistella et al., 2017), and how strategic orientations influence BMI activities (Saebi et al., 2017). Furthermore, other internal factors like leadership capabilities (Schoemaker et al., 2018), organizational design and structure (Teece, 2018), ambidexterity (Balboni et al., 2019), and organizational culture (Santa-Maria

et al., 2022) were also considered as affecting and underlining the strategic relevance of BMI. A firm's absorptive capacity was also shown to increase BMI activities and strategic flexibility (Miroshnychenko et al., 2021).

Over the past years, research extended this perspective by exploring the strategic behaviors and choices of managers that influence the propensity of BMI activities (Klein, Spieth, & Heidenreich, 2021), the important role of micro-capabilities like managerial, cognitive, and relational capabilities (De Silva et al., 2021), and the strategic relevance of integrating and collaborating with stakeholders (Klein, Schneider, & Spieth, 2021). Furthermore, research also examined how innovative BMs evolve in the context of fierce competition (Zhao et al., 2020). Nevertheless, research assigned to this category still frequently examines the impact of BMI on firm performance (Latifi et al., 2021).

To summarize, the articles reveal the strategic importance of BMI activities and the organizational and dynamic capabilities needed to support overall firm strategy to secure long-term competitiveness and prosperity (see Appendix B3). Thus far, BMI researchers have focused most of their attention on the aforesaid issues, making this the most extensive category ($n = 74$).

4.2.4 | People, teams, and culture

Research on the cognitive and behavioral characteristics and factors that affect BMI activities form the basis of this category. In particular, scholars examined the impact of several cognitive processes and factors on managerial behavior and how managers respond to changing external conditions (Dewald & Bowen, 2010), how BMI can be triggered through cognitive processes in the absence of environmental change (Martins et al., 2015), and how the executive's cognition influences decision-making in BMI processes (Aspara et al., 2013).

Even though managerial cognition plays the most important role in this research category, scholars also investigated other human aspects of innovation that influence BMI activities like organizational culture and values (Pedersen et al., 2018) and leadership capabilities (Doz & Kosonen, 2010). In this context, organizational culture can foster organizational capabilities that support BMI activities (Hock et al., 2016), and the mere presence of entrepreneurs acting as owner-managers can enhance BMI activities (Velu & Jacob, 2016).

Over the past years, cognition still played a major role in this research category that tried to examine specific behavioral and cognitive aspects. For example, research identifies attention (Frankenberger & Sauer, 2019), cognitive diversity (Narayan et al., 2021), and entrepreneurial orientation (Ferrerias-Méndez et al., 2021) as well as behavior (Futterer et al., 2018) as drivers of BMI activities.

However, cognitive aspects were also recognized as moderating or mediating factors. For instance, structural and cognitive imprinting affect BMI activities (Snihur & Zott, 2020), different perceptions and interpretations of environmental challenges can impede radical changes (Egffjord & Sund, 2020), and various cognitive processes can affect managerial reasoning and influence the design of the innovative BM (Schneckenberg et al., 2019).

As these insights show, BMI research assigned to this category mainly examines human aspects that affect the innovation activities directed at the development of a novel BM. In particular, managerial cognition and behavior with regard to reasoning and leading were shown to be factors that may impact BMI activities (see Appendix B4).

4.2.5 | Codevelopment and alliances

The foundation of BMI research assigned to this category examines the effects of collaborating with different stakeholder groups on BMI activities. In particular, these articles investigated how stakeholders can either support or hinder disruptive innovation processes (Snihur et al., 2018), how knowledge from external partners can be leveraged to develop a new BM (von Delft et al., 2019), and how participation in alliances can affect the consequences of BMI on firm performance (Bouncken & Fredrich, 2016). In this context, partnerships can also be beneficial when dealing with socio-technical transitions as they align the partner network with innovation activities (Bolton & Hannon, 2016). Since the BMI process can be challenging and resource-intensive, strategic alliances and collaboration were identified as beneficial options to overcome these challenges (Spieth, Laudien, & Meissner, 2021). As stakeholder collaboration gained more attention, this research category then focused on the involvement of a particular stakeholder group—customers. Customer integration (Sjödin et al., 2020), customer co-creation (Clauss et al., 2019), and crowd-sourcing (Bagheri et al., 2020) were examined, especially regarding their impact on BMI activities and processes and on firm performance. In the context of developing new and innovative BMs as well as securing their success, research emphasized the importance of aligning the firm's strategic needs with the customer profile (Keiningham et al., 2020).

Recently, this line of research evolved toward an ecosystem view of BMI activities. For instance, efforts toward digital transformation and the subsequent development of new digital BMs demand the alignment of the ecosystem to secure the success of these activities for the firm and the ecosystem (Sjödin, Parida, & Visnjic, 2021). The reason is that this type of collaboration can contribute to

BMI activities by allocating resources and knowledge across ecosystem partners and, therefore, accelerating the innovation process (Radziwon et al., 2022). This category encompasses BMI research that focuses primarily on integrating external parties into the innovation activities and, thus, underlines the BM's boundary-spanning character (see Appendix B5).

4.2.6 | Process, execution, and metrics

Articles constituting the basis of this research category recognized BMI as a systematic process (Dunford et al., 2010), thereby emphasizing a trial-and-error approach that is based on experimentation and learning (Sosna et al., 2010) and proposing different design options to develop new BMs that include their boundary-spanning nature (Zott & Amit, 2007). The purpose of the change process is to seize emerging opportunities and enable firm growth (Willemstein et al., 2007) or preserve competitive advantage (Chatterjee, 2013). Besides underlining the necessity of experimentation in the BMI process, articles also point out the importance of acquiring external knowledge and managing the interaction between internal and external knowledge (Denicolai et al., 2014), emphasizing customer orientation as a success factor when developing innovative service BMs (Visnjic Kastalli et al., 2013), and utilizing collaborations with external partners in support of BMI activities (Yunus et al., 2010).

These findings were deepened by research on organizational routines that generate novel outcomes (Deken et al., 2016), on the specifics and particularities of the BMI process for internationalization and emerging markets (Landau et al., 2016), on deepening the notion of the essential role of experimentation and highlighting cognitive factors that affect the process of BMI (Bojovic et al., 2018), on identifying sources of reluctance at the implementation phase (Linder & Williander, 2017), on the relevance of analyzing cause-and-effect relationships between BM elements for business modeling (Cosenz & Noto, 2018), and on the beneficial aspects of engaging in alliances to gain access to external knowledge (Cozzolino et al., 2018). Thus, this work deepens our understanding of the BMI process by shifting attention to organizational and managerial factors that affect the process. It also showed how the process must be adapted, for instance, to develop new BMs for emerging markets and the obstacles firms have to be aware of in the implementation phase.

This trend of examining the BMI process was recently continued and further refined. In particular, scholars further differentiated between BMI processes of B2B and B2C firms (Rummel et al., 2022), examined the particularities of the BMI process in the context of weak

institutional environments (Peprah et al., 2022), proposed specific performance-enhancing configurations of BM design elements when developing a new BM in the sharing economy (Jiang et al., 2021), and pointed out the role of distinct managerial practices for the development and launch of circular BMs (Franzò et al., 2021). Furthermore, research also proposed a tailored BMI process for small and medium-sized enterprises (SMEs) (Cosenz & Bivona, 2021) and sustainable BMs (Cosenz et al., 2020). This research underlined the importance of organizational learning to systematically innovate BMs and attain optimal distinctiveness (McDonald & Eisenhardt, 2020), as well as the importance of relationships when ecosystem participants aim to develop a new BM, especially for the circular economy (Gandolfo & Lupi, 2021). In sum, the articles assigned to this category examined the systematic process of BMI in various contexts, including factors that support and impede both the development of a new BM and the implementation of the innovations (see Appendix B6).

4.2.7 | Research methodology

Our literature review revealed that research on the BMI phenomenon predominantly applied qualitative research methods (~55%), followed by quantitative methods (~25%), conceptual and theoretical approaches (~14%), and mixed methods (~6%). Prior qualitative research mainly conducted explorative case studies resulting in the development of novel BMI frameworks (Ernkvist, 2015; Khanagha et al., 2014). These case studies provide the groundwork for BMI research and contribute to the basic understanding of the BMI concept and its peculiarities. Later on, these initial insights were complemented by comprehensive multiple case studies (Klein, Schneider, & Spieth, 2021), followed by longitudinal studies examining and developing BMI processes (Landau et al., 2016; Snihur et al., 2018). Nevertheless, these studies qualitatively explored fundamental characteristics, mechanisms, and processes of BMI and, thus, provided essential insights that ultimately led to the establishment of BMI research in academia.

In contrast, quantitative studies within the BMI domain predominantly relied on the analysis of survey data primarily by applying regression analysis. Therefore, they provided valuable findings regarding interactions between various vital aspects of BMI (Bock et al., 2012; Denicolai et al., 2014). More recent studies applied structural equation modeling and fuzzy-set qualitative comparative analysis to examine, for instance, how BMI can be stimulated (Hock-Doeppen et al., 2021; Klein, Spieth, & Heidenreich, 2021) and causal mechanisms linking BMI and firm performance (Latifi

et al., 2021). A few articles also propose a scale for measuring BMI (Clauss, 2017). These studies mainly draw on survey data as well. Today, only a limited amount of articles within the BMI domain draw on the quantitative analysis of secondary data sources (Visnjic et al., 2016). Recently, scholars adopted, for example, scenario-based experiments for examining effects such as innovation resistance to BMI activities (Heidenreich et al., 2022).

4.2.8 | Cross-cutting themes

Only one article was assigned to this category, the review process being unable to assign it to any other research category (see Appendix B7). This article compared three theoretical lenses through which BMI can be examined: strategy, innovation management, and entrepreneurship (Schneckenberg et al., 2022). The study also proposed three levels to situate BMI and summarized insights from previously presented research. First, the micro level explores individuals such as managers and executives, where cognition and individual capabilities play a major role. Second, the meso level focuses on the firm's BM design, organizational capabilities, resources, and culture. Third, the macro level, where BMI is placed in an industry context that includes the entire ecosystem the firm operates in. The main contribution of this paper is that it depicts various tensions, inconsistencies, and conflicting views while describing the different theoretical perspectives of BMI research. In doing so, it covers aspects of several PDMA categories and, therefore, cannot be assigned to any specific category.

4.3 | Merging research on innovation management with BMI: Toward an integrative framework

Analyzing the trajectories of BMI research for each PDMA category enables us to merge the disconnected research domains by identifying recent trends in each PDMA category related to both BMI and traditional innovation management research. This merging resulted in an integrative framework showing that both domains increasingly focused their attention on topics that can be subsumed under two dimensions: BMI relatedness and BMI openness (see Figure 2).

The dimensions *level of BMI relatedness* refers to the extent to which a (potential) BMI is interrelated with established cognition and actions of an entity.² This

²An entity can include the individual managerial level, groups, and organizations that are located within or beyond the firm's boundaries.

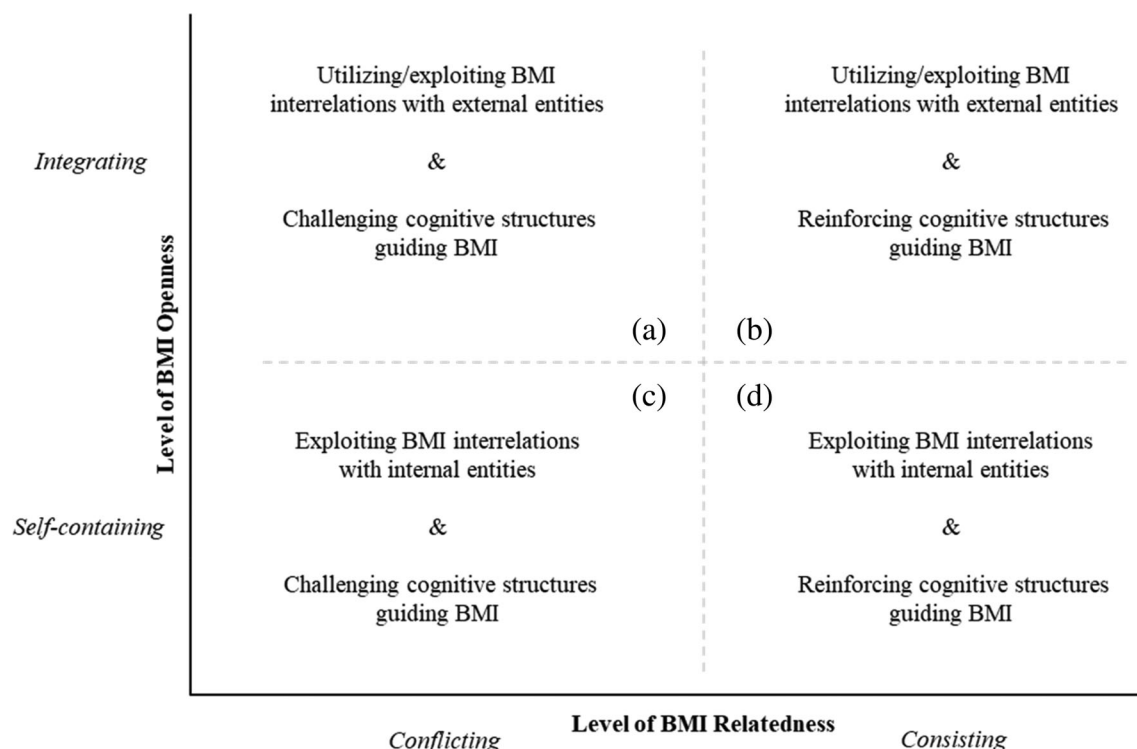


FIGURE 2 Merging innovation management research with business model innovation (BMI) research: integrative framework.

cognitive lens is in line with BMI research that increasingly focuses on how cognitive and action-related aspects are shaped and how they determine BMI (Klein, Spieth, & Heidenreich, 2021; Martins et al., 2015; Osiyevskyy & Dewald, 2015; Snihur & Zott, 2020). According to this lens, a BM can be understood as “cognitive structures that consist of concepts and relations among them that organize managerial understanding about the design of activities” (Martins et al., 2015, p. 105). Actions concern the subsequent cognition-based behaviors and strategies. On this foundation, we differentiate between the level of relatedness of the BMI relative to the status quo of the BM. A BMI can either be perceived as consistent if it reinforces or confirms the cognitive structure and former actions or as conflicting if it challenges or threatens the cognitive structure and former actions (Bundy et al., 2013).

Further, the dimension *level of BMI openness* describes the extent to which external entities, including all stakeholders, assets, resources, capabilities, and information, are integrated into and used for BMI. Two inter-related research streams on innovation management received increasing attention from BMI researchers: ecosystems and open innovation (Burström et al., 2021; Cozzolino et al., 2018; Radziwon et al., 2022; Sjödin, Parida, Palmié, & Wincent, 2021; Sjödin, Parida, & Visnjic, 2021; Snihur et al., 2018). The inclusion of external entities in the examination of BMI activities goes beyond an ecosystem perspective, describing “the

alignment structure of the multilateral set of partners that need to interact in order for a focal value proposition to materialize” (Adner, 2017, p. 42). Rather, this dimension also includes institutions that influence the industry and market, as well as the government that shapes the terms and conditions through policy and regulations. Thereby, this dimension also incorporates insights on open innovation by including research that investigates how BMs create value through the integration of external knowledge, capabilities, resources, information, and ideas (Bogers et al., 2017; Radziwon et al., 2022). On this foundation, we argue that the level of BMI openness can either be self-containing or integrating. Whereas self-containing refers to a BMI that is independent of external entities, relations, and factors, integrating reflects the combination within the BMI of these external aspects.

Both dimensions reflect our intention to bring the two research domains closer together because they mirror the growing interest in innovation management research. For instance, Antons et al. (2016) identify “The NPD Team,” “Decision-Making in Innovation,” “Open Innovation,” and “Alliances and Cooperation” as trending “hot” topics. As these topics reflect the dimensions of our integrative framework—cognitive aspects relevant to BMI and opening up BMI activities for exploiting interrelations with external entities—we can show that both research domains converged to similar research topics. Given these similarities, the integrative framework can

be translated between both research domains and, thus, contribute to both research on BMI and innovation management. In the next section, we elaborate on each quadrant of the integrative framework.

4.3.1 | Quadrant A

The first quadrant encompasses research examining situations where firms exploit and integrate external entities for BMI and where BMI does not resonate with managers' established cognition and actions. For instance, crowdsourcing can be beneficial for the development of novel value propositions and innovative value delivery (Bagheri et al., 2020). There is also evidence that the integration of certain types of potential customers increases the likelihood of identifying and selecting novel and high-performing value propositions (Cillo et al., 2021). Engaging in strategic alliances with partners can also lead to the reorganization of entire value creation processes and extensive BM changes (Spieth, Laudien, & Meissner, 2021). Further, using knowledge obtained from supply chain partners enables organizations to learn about new markets and opportunities as well as about alternative ways of creating and capturing value (von Delft et al., 2019). Nevertheless, firms should also be aware of the partners they choose for collaboration, as BMI requires complementary and fitting resources and capabilities (Paiola et al., 2021). Thereby, firms can shape their BMI toward a joint value proposition that can overcome exogenous change, crises, institutional voids, develop circular BM, and enhance firm performance (Amankwah-Amoah et al., 2019; Radziwon et al., 2022; Santa-Maria et al., 2022).

Since the development of a new BM is associated with uncertainty concerning the configuration of the constituent components, scholars proposed specific coping mechanisms to reduce uncertainty and support decision-making processes. For instance, since firms tend to misjudge customer needs when designing new value propositions (Heidenreich et al., 2022; Spieth et al., 2019), they can implement measures, such as customer centricity and engage customers in value co-creation activities, to support BMI (Schneckenberg et al., 2017). Using new digital technologies, such as artificial intelligence, offers a further coping mechanism that often demands the consideration of the entire industrial ecosystem. By adopting artificial intelligence technologies, firms may obtain better access to customer data which can be used to develop novel value propositions that better meet customer preferences. It can also lead to novel and intensified partnerships with new ecosystem participants to deliver value. Thus, using innovative technologies cannot only change BMs but also reconfigure entire ecosystems (Burstrom et al., 2021).

4.3.2 | Quadrant B

The second quadrant refers to situations where external entities are integrated into BMI activities, and the results are perceived as consistent with established cognitive structures. For instance, research revealed that collaboration within an ecosystem could overcome conflicts, resolve tensions, and standardize activities to align the established BM with the ecosystem and changing external conditions securing the success of BMs (Bojovic et al., 2018; Fjeldstad & Snow, 2018; Frishammar & Parida, 2019; Rummel et al., 2022). In contrast, effectively changing established BMs can be achieved by recruiting external CEOs who break with established BM schemas (Gerasymenko et al., 2015) and by attracting stakeholders within an ecosystem while simultaneously adjusting the BM based on the feedback of these stakeholders (Snihur et al., 2018). When the external business environment changes and several firms within an industry innovate their BMs, firms—that do not pursue BMI—risk value migration. To avoid such situations, firms can adapt constituting elements of their established BMs and respond with minor and incremental adaptations (Hacklin et al., 2018).

Moreover, studies in the context of circular BMIs revealed that it is necessary to differentiate between directly (e.g., local partners, customers, and public actors) and indirectly involved external entities (e.g., policymakers and regulators). Engaging in circular BMI requires firms to acknowledge wide-ranging social and economic trends as well as policies, even though their influence on the BM remains limited due to the indirect relationship (Donner & de Vries, 2021). Thereby, social purpose firms can integrate stakeholders to support their pursuit of dual missions of creating social value and ensuring economic viability (Klein, Schneider, & Spieth, 2021).

4.3.3 | Quadrant C

The third quadrant encompasses BMI activities that are pursued based on the use of internal entities and which are perceived as consistent with existing BM schemas. For example, studies showed that entrepreneurs tend to apply their current knowledge structures and rely on the experience of incumbents leading BM designs that are similar to established BM designs (Roessler et al., 2019). Further, industry-focused search patterns, internal efficiency thinking style, and decentralized decision-making of entrepreneurs can limit their novelty orientation and BMI intensity (Snihur & Zott, 2020). In contrast, department orientation and cognitive inertia challenge the established firms' BMIs, as they often tend to stick to established BM designs and pursue incremental BMI

activities (Egffjord & Sund, 2020; Schneckenberg et al., 2019).

Scholars also identified cognitive moderators that initiate exploitative rather than explorative BMI activities. In particular, while exploitative BMI intentions are negatively associated with perceived critical threats, they are positively associated with risk experience (Osiyevskyy & Dewald, 2015). Additionally, sensing a lack of predictability and time to deal with external changes can lead to threat-rigidity mechanisms affecting decision-makers' pursuit and enforcement of established BM schemas (Osiyevskyy & Dewald, 2018). Studies also revealed the top management team's values, beliefs, and experiences can cause cognitive barriers hindering radical BMI activities (Laudien & Daxböck, 2017). In contrast, research on the micro-foundations of dynamic capabilities shows that balanced redundancy, requisite variety, and cognitive discretion are enablers of evolutionary BM changes as they support the achievement of congruence between the innovated BM elements (Velu, 2017).

4.3.4 | Quadrant D

The fourth quadrant includes BMI activities that rely on internal entities and that challenge the status quo of managerial cognition and action. Cognitive processes such as problem sensing, intuitional insights, considering adaptations, and integrating customer perceptions support the departure from established BM schemas and the development of novel BMs (Schneckenberg et al., 2019). In contrast, perceiving performance-reducing threats, recognizing business opportunities, and experiencing risks can drive explorative and disruptive BMI intentions (Osiyevskyy & Dewald, 2015). Scholars also identified a specific set of managerial attention patterns that increase the probability of developing performance-enhancing BM designs (Frankenberger & Sauer, 2019). Further, a high novelty orientation of entrepreneurs can function as a cognitive imprint, as it shapes the firms' industry-spanning search behavior, complex system thinking style, and centralized decision-making. In turn, this imprint drives the BMI intensity (Snihur & Zott, 2020). Parallel play can further support this cognitive imprint since it combines action, cognition, and timing to spur learning and entrepreneurial BMI (McDonald & Eisenhardt, 2020).

Research also sheds light on the need for dynamic BMI capabilities that, in turn, drive the development of innovative BMs (Bocken & Geradts, 2020). Changing the established BM schema can be achieved through generative cognitive processes of analogical reasoning and conceptual combination. Whereas analogical reasoning describes the application of knowledge from a familiar concept to a new

one while focusing on the similarities between the concepts, conceptual combination refers to the comparison of two concepts while focusing on their differences (Martins et al., 2015). By changing the BM schema, firms can translate a recognized business opportunity into BMI and, thereby, enhance their performance (Guo et al., 2017).

4.4 | Future research agenda

We have focused our discussion of future research on the two dimensions of our integrative framework for two reasons. First, BMI research has recently converged on these dimensions. Second, the results of the recent analysis of traditional innovation management research have identified "hot" topics that can be subsumed under the same dimensions as well. We specifically point out how BMI can either complement or revitalize traditional innovation research topics by identifying future research directions (see Table 3). These research directions not only broaden our understanding of the BMI concept but also contribute to each PDMA category and, thus, help to expand and refine theory within innovation management research.

4.4.1 | Customer and market research

While research associated with this category focuses on channeling external information and knowledge to innovation, the cognitive perspective can contribute to future research in various ways. For instance, our review presents several examples of BMI literature that examined how recognition and perception affect innovation activities (Clauss et al., 2022; Frankenberger & Sauer, 2019; Osiyevskyy & Dewald, 2018). Nevertheless, our merging procedure reveals several promising avenues for future research. In particular, further research can investigate how BMIs are shaped by the cognition of external information on, for instance, competitive dynamics, optimal distinctiveness, and media coverage. As cognitive differences in sensing and responding to this (new) information are likely to affect the evaluation of and action on potential BMI, research in this regard can also advance our understanding of bringing external insights into innovations. Thereby, research can offer theoretically grounded and meaningful insights on how firms can manage their BMI in the face of pervasive environmental change, such as crisis, institutional change, and (de-)globalization.

Moreover, the literature also shows that initiating, developing, and exploiting different kinds of relationships with external stakeholders (e.g., open innovation partners, ecosystem actors, and institutional stakeholders) are vital to utilize external information and knowledge

TABLE 3 Future research directions and exemplary research questions.

PDMA categories	Level of BMI relatedness	Level of BMI openness
Customer and Market Research	<ul style="list-style-type: none"> How does the cognition of competitive dynamics, optimal distinctiveness, and media coverage affect the ideation, probability, intensity, and processes of BMI? Which cognitive templates, processes, and outcomes support and hinder BMI activities in the context of crises, institutional change, and (de-)globalization? What are the underlying mechanism and processes? How do established and new BM affect the sensing of and responding to information on technologies, competitors, markets, and customers? How can cognitive inertia and reluctance be countered to improve this process? 	<ul style="list-style-type: none"> How can firms integrate customers (B2B and/or B2C) into BMI? What are the consequences? How does this integration process differ for different types of BMI (e.g., circular, social, and digital)? What determines the value of stakeholders' knowledge and learning activities for BMI? How can firms integrate and leverage their knowledge to improve value creation and value capture? Under which conditions (e.g., environmental turbulence, competition, and technological change) do external stakeholders profit from the creation, sharing, and advancement of knowledge during BMI activities? How?
Technology and Intellectual Property	<ul style="list-style-type: none"> How do differences in cognition explain which technologies and ideas are selected, developed, and commercialized through BMI? How do established BMs affect the ideation, development, and commercialization of (digital) innovations? Does the interrelation between innovation and BM vary for different types (e.g., product vs. process, digital vs. physical, and sustainable), stages (e.g., ideation, prototyping, development, adoption, and diffusion), and characteristics (e.g., innovativeness and intellectual property rights) of innovations? 	<ul style="list-style-type: none"> Which roles, characteristics, and actions of stakeholders of an ecosystem support or hinder different types of technology-driven BMI (e.g., digital, sustainability, and power technologies)? How do the characteristics of BMI (e.g., interdependencies, activities, value offering, and value capturing) affect the initiation, development, and collapse of ecosystems and open-innovation activities? How does collaboration within and across ecosystems affect the ideation, development, and implementation of new technology-driven BMI?
Strategy, Planning, and Decision-making	<ul style="list-style-type: none"> How do cognitive processes and subsequent actions affect the strategizing, decision-making processes, and implementation that guides BMI? Can different digital technologies and tools improve this process? How? Can cognitive dispositions, processes, and mechanisms explain the heterogeneity in firms' abilities and capabilities for BMI? How does cognition determine decisions on BM design choices, BM configurations, strategic positioning of novel BMs, multiple BM, and different types of BMI (e.g., evolutionary vs. radical, social vs. commercial)? 	<ul style="list-style-type: none"> How does strategizing affect the selection of external partners, management of external stakeholders, and design of ecosystems for BMI, and vice versa? How does the interaction of internal and external stakeholder influence strategizing and decision-making processes that shape BMI? What are the consequences of the configuration of BM components, BM design, and BMI when collaborating with external stakeholders on strategies and decisions? Which capabilities and abilities can explain potential differences?
People, Teams, and Culture	<ul style="list-style-type: none"> How can leadership behaviors, team/ individual characteristics, and organizational culture drive the employees' cognitive alignment with, support of, and persuasion of implementing BMIs? How do the cognitive characteristics and behaviors of internal stakeholders (e.g., CEO, top management team, and middle managers) affect the ideation, development, and consequences of BMI? How can change management, organizational culture, and organizational structure hinder and support BMI? What are the conditions explaining different consequences? 	<ul style="list-style-type: none"> How do organizational culture, norms, and values determine the choice of, collaboration between, and management of external stakeholders for BMI? Which effects have the alignment, complementation, and divergence of external stakeholders' organizational structure, organizational culture, organizational learning, and leadership on BMI? What are the antecedents? How can we explain differences? How can firms manage the change of open innovation activities and ecosystems when innovating their BM? How do these changes contribute to organizational learning?

(Continues)

TABLE 3 (Continued)

PDMA categories	Level of BMI relatedness	Level of BMI openness
Codevelopment and Alliances	<ul style="list-style-type: none"> How can interrelations with external stakeholders be purposefully used to challenge established BM templates, initiate BMI, and manage the implementation of new BMs? Which cognitive factors lead to collaborations that either reinforce, challenge, or do not affect established BM schemas? How can we explain these processes? What are the consequences? How do the characteristics and activities of co-development, alliances, corporations, and ecosystems affect the internal cognition of BMI? 	<ul style="list-style-type: none"> What potential trade-offs must firms consider when collaborating with external stakeholders for BMI? How can firms manage these trade-offs? What are the consequences? How can firms innovate their BM to join and collaborate within established but foreign ecosystems? How do different types of BMI (e.g., circular, social, and digital) affect the joining of ecosystems? Under which conditions should firms join or create new ecosystems to foster their BMI? How do cognitive characteristics and processes affect the intentions, quality, intensity, and consequences of collaborations, co-creation, and ecosystem activities when innovating the BM? Do these relationships depend on the roles, characteristics, and behaviors of external stakeholders?
Process, Execution, and Metrics	<ul style="list-style-type: none"> Which cognitive characteristics and processes are of particular importance in different phases of the BMI process? Why? Which means (e.g., tools, digital technologies, and organizational control types) can be applied to limit or overcome the effects of cognitive biases during the BMI process? Which measures can shape the cognition and behaviors of internal stakeholders to support change management when implementing BMI? What are the underlying mechanism and processes? 	<ul style="list-style-type: none"> How can external stakeholders be managed in order to contribute to different phases of BMIs, BM designs, BM configuration, multiple BM, and types of BMI (e.g., circular, social, and digital)? Which means (e.g., digital technologies and governance structures) can drive the success of external collaborations when innovating a BM? How can firms manage the change of external relationships (e.g., open innovation and ecosystems) when innovating the BM? What means can secure effective and efficient implementation of new BMs?
Cross-cutting Themes	<ul style="list-style-type: none"> How can insights from other domains (e.g., psychology, social sciences, and complex systems) be transferred to BMI research to enrich our understanding of cognition and behavior? 	<ul style="list-style-type: none"> How can insights from other domains (e.g., anthropology or social sciences) be transferred to BMI research in order to enrich our understanding of the selection of partnerships for collaboration?
Research Methodology	<ul style="list-style-type: none"> How can conceptual work, meta-analysis, and (theoretical) reviews advance our understanding of the fragmented insights on BMI? How can recent advancements in gathering and analyzing novel data sources (e.g., video analysis, embodiment, and archival data) be used to improve the rigorousness of qualitative research? How can these methodological means be utilized to gain new insights into the processes, mechanisms, and behaviors that explain complex relationships of BMI phenomena? How can further quantitative methodologies, such as (field) experiments, language analysis (e.g., LIWC), variance decomposition methods, and network analyses, improve our understanding of the relationships between the cognition and actions of internal as well as external stakeholders, BMI activities, and the associated outcomes? 	

Abbreviations: BMI, business model innovation; PDMA, Product Development and Management Association.

for BMI (Radziwon et al., 2022; Sjödin, Parida, Palmié, & Wincent, 2021; Snihur et al., 2018; von Delft et al., 2019). Yet, we still lack a comprehensive understanding of the purposeful identification, evaluation, and usage of external information, knowledge, as well as knowledge sources. For instance, the creation, sharing, and advancement of knowledge, as well as organizational learning, are differently affected by external contingencies, such as

technological change. Thus, future research can examine contingency factors that influence the value of external information for BMI activities. Moreover, although research increasingly focuses on the customer ends of BMI (Heidenreich et al., 2022; Spieth et al., 2019), studies can explore the means to integrate the customer into BMI activities, understand this integration process, and research its consequences.

4.4.2 | Technology and intellectual property

Even though the literature has started early to acknowledge the crucial role of technology for BMI (Chesbrough, 2007) and cognition (Martins et al., 2015; Osiyevskyy & Dewald, 2015), less attention is spent on its intersection. Thus, we lack the understanding of the cognitive characteristics and processes leading to the selection, development, and commercialization of specific technologies at the cost of others when firms innovate their BM. Research in this regard is crucial to understand why certain types, characteristics, and contingencies of established BM support digital innovations. In turn, different innovations, such as digital versus physical, are also likely to affect the interrelation between technologies and BMI. Therefore, research that explores this interrelation also calls for further research.

Furthermore, BMI research recently revealed that the adoption of digital technologies could also enhance collaboration and co-creation beyond BM boundaries (Sjodin, Parida, Palmié, & Wincent, 2021). Since overall technological trends, like digital (Cozzolino et al., 2018) and sustainable transformation (Klein, Spieth, & Heidenreich, 2021), increasingly require that entire societies, economies, and industries alter, future research can explore the interrelation between technology usage, external stakeholders, and BMI. For instance, scholars can examine which ecosystem participants support or impede specific technological innovations. Additional research can also identify the specific ecosystem partners that firms should include or exclude during different phases of the BMI (i.e., the ideation, development, and commercialization phases).

4.4.3 | Strategy, planning, and decision-making

Although the literature of this category offers rich insights into capabilities related to BMI activities (Santa-Maria et al., 2022; Soluk et al., 2021; Yuan et al., 2021) and strategizing (Klein, Spieth, & Heidenreich, 2021; Saebi et al., 2017), research on the cognitive characteristics, processes, and actions that guide BMI is still at its starting point. Besides further research on strategizing, decision-making, and strategy implementation, future research can explore how digital technologies and tools can support these aspects of BMI. As the success of BMIs depends, among other factors, on the corresponding capabilities and abilities, cognitive dispositions, processes, and mechanisms are likely to function as conditions that can explain the success or failure of BMI. Such cognitive and behavioral offers also valuable theoretical lenses to advance our understanding of BM design choices, BM configurations, multiple BMs, as well as further BMI-related phenomena.

Additionally, the literature has also examined strategy and decision-making aspects when interacting with external stakeholders (Klein, Schneider, & Spieth, 2021; Toxopeus et al., 2021). Nevertheless, research on the interrelation between strategizing for BMI and the selection of partners, management of external stakeholders, and design of ecosystems is still at its beginning. Besides its antecedents and underlying mechanism, further research can also explore the consequences of interacting with external stakeholders when strategizing and decision-making regarding the configuration of BM components, BM design, and BMI. In particular, future research can also extend our understanding of organizational capabilities and abilities (Teece, 2018) by exploring if and how these organizational factors can explain the conditions shaping the consequences of interacting with external stakeholders when strategizing for BMI.

4.4.4 | People, teams, and culture

While this category already explores different aspects of cognition and action in the BMI, such as the top management team's cognitive diversity (Narayan et al., 2021) and the cognitive imprint of founders (Snihur & Zott, 2020), future studies can shift the emphasis from the executive level to additional levels and contingencies. For instance, research can explore how leadership behaviors, team characteristics, and organizational culture can drive or hinder the employees' cognitive alignment with, support of, and pursuit of the implementation of BMIs. By further exploring how change management, organizational culture, and organizational structure are interrelated to these research avenues, scholars can offer theoretically grounded and meaningful insights into organizational reality and advance our understanding.

Moreover, this category on the human side of innovation lacks insights into interrelations with external partners. For example, research can apply a BMI lens to explore how organizational culture, norms, and values determine the choice, collaboration between, and management of external stakeholders. Future research can also explore the effects of the alignment, complementation, and divergence of external stakeholders' organizational structure, organizational culture, and leadership on BMI. This gap can be further addressed by exploring conditions that can explain the heterogeneity in these relationships.

4.4.5 | Codevelopment and alliances

Studies within this research category increasingly emphasized the benefits of integrating customers, collaborating with external partners, engaging in strategic alliances, and building an ecosystem for BMI (Bagheri et al., 2020;

Radziwon et al., 2022; Sjödin et al., 2020; Spieth, Laudien, & Meissner, 2021). Still, future research can enrich the literature at the intersection of BMI and innovation management by identifying cognitive aspects that reinforce, challenge, or are unrelated to established BM schema and exploring the consequences of as well as moderating aspects of this relationship. Thereby, future research can also extend the literature by investigating how the characteristics and activities of co-development, alliances, collaborations, and ecosystems affect the internal cognition of BMI.

Moreover, although the BMI literature in this category offers crucial insights into external interrelation, there are promising future research avenues to advance theory. For instance, BMI studies can explore trade-offs firms should consider when collaborating with external stakeholders to understand their consequences and possible management approaches. Answering research questions in this regard can also lay the foundation to understand how firms can innovate their BM to join and collaborate within established but foreign ecosystems and open innovation activities.

4.4.6 | Process, execution, and metrics

Although research within this category mainly focused on the process of systematic BMI, useful tools, and systematic changes in the configuration of BM design elements (Jiang et al., 2021; McDonald & Eisenhardt, 2020; Peprah et al., 2022), the integration of cognitive and behavioral aspects offer further promising research topics. For instance, scholars could identify specific cognitive aspects that play a role in each phase of the BMI process and, thereby, identify specific means (e.g., tools, digital technologies, and organizational control mechanisms) to limit the influence of cognitive biases on BMI and guide the change management process to implement BMI. Thereby, research explores not only underlying mechanism and processes but also offer rich implications for management practice.

In addition, future research can also improve our knowledge of how firms can manage different external stakeholders to different BMI phases, BM designs, BM configurations, multiple BMs, and types of BMI (e.g., circular, social, and digital). This knowledge is also essential to understand how firms can manage the change of established interrelations with external stakeholders to foster BMI. Thereby, scholars can identify specific means that can secure the effective and efficient implementation of BMI.

4.4.7 | Cross-cutting themes

This category can be enhanced through research that transcends disciplinary boundaries. Future research can

integrate insights from domains, such as psychology and social sciences, into BMI research. This would enrich our understanding of the cognitive differences influencing BMI activities, our knowledge of collaborative behavior, and the subliminal reasons for partnership selections. This being a single example, BMI research could also be enriched by transferring insights from other research domains.

4.4.8 | Research methodology

While qualitative and explorative methodologies are currently overrepresented within the BMI literature, further qualitative approaches can expand our knowledge of the behaviors, processes, and mechanisms that can explain complex relationships. Future research can draw on recent methodological advancements and exploit as well as analyze data sources that are either novel or—due to new digital means—become available in novel quantities (e.g., video analysis, embodiment, and archival data). Nevertheless, given the underrepresentation of quantitative studies, further research is needed to test theories, verify relationships and effects, and purify interdependencies between concepts. Thereby, methodologies, such as (field) experiments, language analysis (e.g., LIWC), and variance decomposition methods, cannot only complement the current analysis of survey data. Rather, it can improve our understanding of the relationships between the cognition and actions of internal as well as external stakeholders, BMI activities, and the associated outcomes. Thereby, future studies can further establish and entrench the BMI concept in management and innovation research.

5 | DISCUSSION AND CONCLUSIONS

5.1 | Summary and theoretical implications

BMI research has gained more traction since Foss and Saebi's (2017) seminal literature review on BMI as the number of publications has increased rapidly. While research on BMI becomes increasingly established in general and strategic management, our literature review shows that BMI studies are still underrepresented in innovation management research. This is problematic since BMI studies encompass several aspects that have noticeable parallels with traditional innovation management research (e.g., commercializing technologies and integrating customers). In turn, the BMI concept offers a holistic lens that can revitalize established discourse in

innovation management and initiate new ones (e.g., the timing of BMI and the utilization of network effects for BMI). In response to this gap, this integrative literature contributes to and extends the literature.

First, we integrate BMI and innovation management research by blending the insights on BMI across mainly disconnected domains (Breslin & Gatrell, 2023; Elsbach & van Knippenberg, 2020). To apply this blending strategy, we identify and organize 253 BMI publications within the PDMA Body of Knowledge categories. By using these frequently used categories, we offer innovation management scholars a well-known categorization that lays the ground to reflect the current state of BMI research (Antons et al., 2016; Biemans et al., 2007, 2010). For instance, while innovation management scholars published a relatively low number of studies on supplier integration, seller-buyer relationships, and organizational learning (Antons et al., 2016), our literature review revealed the increasing interest in BMI research on these aspects. Thereby, we do not only demonstrate what both research domains have in common. Rather, this review's blending strategy functions as a two-way correspondence that produces new insights by revitalizing research topics and initiating novel ones. By doing so, we extend our understanding as other literature reviews categorize the fragment body of knowledge (Foss & Saebi, 2017; Miller et al., 2021; Schneckenberg et al., 2022; Schneider & Spieth, 2013) and focus on specific theoretical lenses or phenomena only (Kohtamäki et al., 2019; Loon et al., 2020; Schiavone et al., 2019). This integrated literature complements the valuable insights of these reviews by integrating disconnected research domains and showing how the holistic BMI lens fits into categories of innovation management research.

Second, we extend the literature by developing an integrative framework that merges innovation management and BMI research. Instead of categorizing specific antecedents, moderators and mediators, as well as consequences (Foss & Saebi, 2017), this literature review synthesizes two dimensions reflecting the convergence and increasing attention of the BMI literature. The dimensions—level of BMI relatedness and level of BMI openness—constitute this study's integrative framework that enables a distinction between different situations that link the perceived relatedness of BMI (conflicting vs. consisting with established cognitions and actions) with the openness of BMI activities (self-containing vs. integrating). Our integrative framework represents the first attempt to integrate the different literature domains on BMI and innovation management. This integration does not only synthesize disconnected BMI research on cognition (Osievskyy & Dewald, 2015; Schneckenberg et al., 2019; Snihur & Zott, 2020) and external relations (Chesbrough, 2006; Radziwon et al., 2022; Snihur et al., 2018). Rather, it also complements innovation

management research on cognition, such as frames and sensemaking (Randhawa, Nikolova, et al., 2021; Roeth et al., 2019; Spieth, Röth, et al., 2021; Weber et al., 2019), open innovation (Gillier & Schweitzer, 2021; Randhawa et al., 2016; Schweitzer et al., 2022), and ecosystems (Adner, 2017; Adner & Kapoor, 2010; Hilbolling et al., 2021). Thereby, this theoretical framework demonstrates how the insights of BMI and traditional innovation research can be reverse-translated to their origins to provide new insights complementing innovation management research.

Third, we extend the literature through the merging procedure as it offers new avenues for future research that can enrich the dialogue on BMI research in the innovation management community. Our theoretical framework does not only reflect the analysis of recent research trajectories but also proposes promising avenues for future BMI research. Based on the two baselines of our theoretical framework, namely BMI relatedness and BMI openness, we offer various future research trajectories along the PDMA categories (Antons et al., 2016; Biemans et al., 2007, 2010). These research trajectories reveal research areas that either (i) lack deeper insights, (ii) remain neglected, or (iii) can be revitalized. This literature review responds to these trajectories by offering specific avenues for further research that integrates the BMI literature into existing conversations about innovation management and informs future and novel discussions. Thereby, this future research agenda contributes to the further establishment and continuous entrenchment of the BMI concept in research in general but also in the innovation management literature.

Fourth, we contribute to this special issue by applying a review approach that represents a methodological novelty in innovation management research. This integrative review departs from earlier literature reviews on BMI, which predominantly applied miner approaches, as it applies the prospector's review strategy of blending and merging (Breslin & Gatrell, 2023). While traditional literature reviews keep to one disciplinary area (the miner approach), our review blends and bridges two disconnected research domains. In applying the review strategy of blending and merging literature across domains (Breslin & Gatrell, 2023), we contribute to this special issue through a rarely applied review strategy in our domain. We believe this paper provides guidance for using methodological advancement in innovation management research and beyond.

5.2 | Managerial implications

Besides the theoretical implications, our work offers valuable insights for practitioners. First, our literature review

underlines that the BMI perspective is a holistic approach to organizational innovation that encompasses several aspects of traditional innovation-focused research. Managers responsible for research and development or innovation management within their organization possibly focus predominantly on individual aspects of the PDMA categories when aiming to innovate their organization. For these managers, adopting a BMI perspective helps to keep the big picture in mind instead of focusing only on specific innovation topics described by traditional innovation management.

Second, managers responsible for an organization's strategy or business development may focus only on the overall BM but lack the necessary knowledge on specific innovation topics. Therefore, their BMI perspective can be complemented by traditional innovation management insights and help them cope with situations where more detailed innovation knowledge is needed.

Third, our integrative framework can help practitioners to deal with different BMI situations described by the four quadrants. In particular, a firm's BMI activities may rely on exploiting interrelations with external entities but are perceived as conflicting with the extant BM structures by employees as the BMI intends to open up a new business field. This creates a complex situation for the responsible managers (quadrant A). Our framework can support them by combining insights on how to effectively integrate external partners for collaborative innovation as well as on the challenge of overcoming cognitive barriers that hinder the integration of a BMI. Furthermore, a firm may also rely on internal entities as the competencies and knowledge necessary for BMI are already available within the organization. Employees, in turn, support the innovation activities as they perceive them as consistent with the extant cognitive structures related to the BM (quadrant D). Thus, the framework supports the BMI activities as it shows the insights of BMI research related to the effective usage and deployment of internal knowledge and resources for BMI and how to keep the organizational staff supportive by pointing out mechanisms reinforcing the extant cognitive structures. This is also valid for the other possible BMI situations innovation managers can see themselves faced with described by the other two quadrants of the integrative framework.

5.3 | Limitations and future research

We acknowledge the limitations of our integrative review and framework. First, using the CABS journal ranking as a selection filter can be seen as problematic. The CABS' list is not solely based on a weighted average of journal

metrics but also rigorous peer reviews, in contrast to other journal rankings. Future studies could instead use several other lists that rank academic journals by their quality, considering that each list uses different approaches and methodologies to form its individual ranking.

Second, selecting articles and rejecting irrelevant studies remain a process whereby researcher bias determines if an article is included in or excluded from the literature review. To minimize the possibility of selection bias, we stipulated selection criteria and protocolled the reason for excluding particular articles. This approach, as suggested by Tranfield et al. (2003), helps to reduce researcher bias. Future studies can nevertheless apply different selection criteria to gain additional insights into the interlinkages of innovation management research and BMI research.

Finally, our study provides an integrative review by blending and merging innovation management research with BMI research. As the miner and prospector approaches are not mutually exclusive, authors may simultaneously pursue more than one approach from this continuum (Breslin & Gatrell, 2023) to gain additional insights. Future research can also review the same body of literature with different motivations. Other possible or complimentary review approaches that can be assigned to the miner strategy include, among others, noting conceptual gaps, organizing and categorizing different bodies of literature, and problematizing the literature. Future prospector literature reviews could encompass the transfer of theories, the development of analogies and metaphors, and the proposal of new narratives and conceptualizations (Breslin & Gatrell, 2023).

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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