



Business Model Innovation Portfolio Strategy for Growth Under Product-Market Configurations

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Abstract

Purpose: The research links three concepts: product market growth strategy, the magnitude of innovation and Business Model Innovation, merging them together into a dynamic Business Model Innovation strategy framework.

Design/Methodology/Approach: The paper is conceptual and exploratory in nature and builds on existing literature and the author's experience with developing business models.

Findings: The BMI strategy framework can help managers establish a BMI portfolio strategy following six pathways within four categories. Conclusions lead to avenues for future research in Business Model Innovation portfolio strategy, dynamic Business Model Innovation processes, and market innovation.

Originality/Value: The article deepens the theoretical understanding of Business Model Innovation strategy and provides an enriched dynamic classification of Business Model Development and Business Model Innovation, new to the firm, new to the market and new to the world and the expected outcome being more or less novel (incremental, evolutionary, transformative). Our analysis brings new insights into the recent development in the literature from a static to a more dynamic view on Business Model Innovation, supporting a dynamic analysis of strategy development and Business Model Innovation processes.

Keywords: business model innovation; innovation portfolio; entrepreneurial strategy; product market innovation; growth strategy

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Introduction

Most of the time companies are in exploitation mode, leveraging existing knowledge and resource bases (Mudambi & Swift 2011), executing a plan in which innovation is a change process involving incrementally extending a range of (slightly modified) products to the same known users (Bucherer, Eisert & Gassmann 2012) without drastically altering the value proposition, or questioning the existing business model. A business model represents the rationale of how an organisation creates, delivers and captures value (Teece 2010a) and the development, adoption and exploitation of value-added activities in economic and social areas is a key factor for competitiveness and growth (Crossan & Apaydin 2010). But in highly uncertain, complex and fast-moving global industry environments competitors challenge the status quo by creating new business models with superior competitive advantage. Firms commercialise new ideas and technologies through their business models (Chesbrough 2010) where the same idea or technology taken to market through two different business models will yield two different economic outcomes, stressing the constant need to search for the most optimal business model fit with product-market configurations. Studies on the performance of Business Model Innovation (BMI) are scarce but first indications are that effective BMI outperforms product-process innovation (Amit & Zott 2012; Bock et al. 2012) leading to generic growth (Baden-Fuller & Morgan 2010; Calia, Guerrini & Moura 2007; Velu 2015). According to the literature on strategic diversification (e.g., Ansoff, 1958), firms can achieve growth by engaging in exploration of new markets or market niches, reducing the risk of becoming obsolete to users: growth by market pull (Di Stefano, Gambardella & Verona 2012). Exploration can also involve a dynamic search for new knowledge, skills and resources (new product development) in domains that are new to the firm (Baum, Calabrese & Silverman 2000; Benner & Tushman 2003; He & Wong 2012): growth by product push (Brem & Voigt 2009). It is unclear, however, how BMI relates to this growth strategy model. This gap leads to a lack of direction for a BMI strategy under product-market boundary conditions. In the literature, we find an abundance of work on differentiation strategy, innovation strategy and more recently also on BMI, but to the best of our knowledge there has been no attempt to connect the three concepts to create a

BMI strategy framework assisting managers to make better decisions on growth via BMI. We set out to develop this framework which also helps to address a second gap in the literature leaving managers mostly in the dark on decisions involving the magnitude of BMI from incremental exploitation of existing business model to exploration of new value propositions enabling a strategic portfolio of BMI. Our study addresses these gaps as we specifically ask: *What consequences for BMI strategy can be extracted from the link between product-market growth diversification strategy and the magnitude of innovation under product-market configurations?* Helping business model innovators make better strategic decisions in turbulent environments, a central contribution of our study, is the development of a dynamic BMI strategy framework for growth under product market configurations and combines a much-needed update to the Ansoff matrix with BMI magnitude under product-market configuration.

The framework supports analysis of the origin, magnitude and drivers of BMI as well as BMI strategic growth goals and scope. Practically this enables managers to put together a BMI portfolio strategy guiding and balancing their BMI efforts in new to the firm, new to the market and new to the world BMI. To address BMI strategy and magnitude and to support, the conceptual development of a BMI strategy framework, we first deepen our understanding of the shortcomings and problem statement in section 2. Then in section 3 we outline and discuss the conceptual development of two concepts: Growth through differentiation strategy and innovation magnitude. Then we will pull the concepts together in a conceptual model and discuss consequences in section 4, followed by conclusions in section 5.

Literature review, shortcomings and problem statement

The business model concept has been defined in different ways (Fielt 2014; Teece 2010a; Zott & Amit 2010), but two themes appear in the literature repeatedly: the business model as a representation of the logic and strategy of value creation, delivery and capture (Johnson, Christensen & Kagermann 2008; Shafer, Smith & Linder 2005), and the business model as a framework

explaining the elements, structure and architecture, of the business (Amit & Zott 2012; Chesbrough 2007; George & Bock 2011; Osterwalder, Pigneur & Tucci 2005). Ahokangas and Myllykoski (2014) noted that these two aspects enable the business model concept to connect abstract-level strategy (i.e., theoretical thinking) to its implementation on a practical level (i.e., action) (McGrath 2010; Osterwalder, Pigneur & Tucci 2005; Sosna, Trevinyo-Rodríguez & Velamuri 2010). When BMI is considered as the innovation of the business model (Velu 2015) it involves the discovery and adoption of fundamentally different modes of value proposition, value capture and/or value creation to an existing business (Teece 2010a), but it is under discussion what the value elements of the business model consist of (Fielt 2014; Groth & Nielsen 2015; Osterwalder 2004; Osterwalder & Pigneur 2010; Osterwalder et al. 2014), let alone how BMI influences which elements or structure of the business model. Groth and Nielsen (2015) present an overview of a number of different frameworks and conclude that many frameworks focus on similar areas, and the differences should therefore sometimes be seen in the details and in the ways the areas are put together. Chesbrough and Rosenbloom (2002) mention the value network as one of the elements, where Barjak, Niedermann and Perret (2014) perceive BMI as changes of all three components of business models, 1) value creation, 2) business systems, and 3) revenue generation. Osterwalder (2004) assumed the business model framework to cover value creation, an enabling part for value delivery and a value capture part (Osterwalder 2004; Osterwalder, Pigneur & Tucci 2005) consisting of 9 elements in three categories. *Value creation elements*: (1) value proposition, (2) customer segments, (3) customer relationships and (4) channels. *Enabling elements*: (5) Key activities; (6) Key partners and (7) Key resources. *Cost-revenue logic*: (8) Cost and (9) Revenue (Osterwalder & Pigneur 2010; Osterwalder, Pigneur & Tucci 2005). The nine elements can be iterated and changed, providing a dynamic tool for BMI analysis, but strategic guidance on how to use this tool under different product-market configurations is lacking. Business models lie at the core of the fundamental question asked by business strategists: how does a firm build a sustainable competitive advantage, turn a profit and grow? Zott and Amit (2008) argued that the business model may interact with the firm's product market strategy. Teece (2010a) added that coupling strategy analysis with business model analysis is

necessary to protect whatever competitive advantage results from the design and implementation of new business models. Strategy analysis is thus an essential step in designing a competitively sustainable business model within the product-market strategy. But academic literature on BMI strategy has mainly focused on *what it is* and *giving managers and researchers a language* (definition) for BMI that can foster analysis, reflection and dialogue on the subject (Amit & Zott 2011; George & Bock 2011; Zott 2007). Other research has used a range of conceptual lenses like: classification or features of innovative business models (Bereznoi 2015; Chesbrough 2007; Fielt 2014; Groth & Nielsen 2015; Lambert 2015; Lambert & Davidson 2013; Taran, Boer & Lindgren 2015); BMI activities and elements (Amit & Zott 2011; Johnson, Christensen & Kagermann 2008; Osterwalder, Pigneur & Tucci 2005); BMI strategic approaches (Amit & Zott 2012; Bock et al. 2012; Cavalcante, Kesting & Ulhøi 2011; Günzel-Jensen & Holm 2013; Kesting & Günzel-Jensen 2015; Lindgren 2012; Teece 2010a); analysis or case studies of BMI (Abdelkafi, Makhotin & Posselt 2013; Hoveskog, Halila & Danilovic 2015; Sosna, Trevinyo-Rodríguez & Velamuri 2010); or in fewer cases, BMI in the context of innovation (Souto 2015). To add to this diversity of studies, Schneider and Spieth (2013) pointed out that the business model concept, following its acknowledgement as an enabler of innovations, has itself emerged as a promising unit of analysis and starting point for innovation strategies. Trends such as the development of service orientation of manufacturers (Kindström 2010), increasing customer centricity (Teece 2010b), and a market driven form of R&D such as open innovation (Chesbrough 2012; Spithoven, Vanhaverbeke & Roijakkers 2012; Van de Vrande et al. 2009; Van der Meer 2007; Vanhaverbeke 2013), have led to the emergence of new forms of product-market configurations (Johnson, Christensen & Kagermann 2008) and drive analysis of BMI. Acknowledging extant theoretical streams and their explanatory support for research on BMI, Schneider and Spieth (2013) looked at strategic concepts like the resource-based view, dynamic capabilities view, and strategic entrepreneurship to better understand BMI. Consequently, they distinguished two terms:

1. *Business model innovation* is opportunity driven and represents a firm's response to changing sources of value creation where entrepreneurial actions are required.

2. *Business model development* (BMD) requires a firm to identify potentials in terms of improvements and continuous innovations where minor, continuous changes to the extant business model of a firm primarily require a firm to focus on the usage of its resources and competences as well as their development as suggested by resource based and dynamic capabilities perspectives.

This view aligns with theory from the literature on product innovation management and based on that literature Bucherer, Eisert and Gassmann (2012) add a boundary factor suggesting a distinction between a situation in which a company is forced to innovate its business model (called 'threat' in the following) and a situation where it innovates to capture an opportunity ('opportunity'). Following Schneider and Spieth (2013) and Bucherer, Eisert and Gassmann (2012), BMD is more likely to be prompted by a defensive reaction to threats to the market position while BMI is more likely to be prompted by an offensive pursuit of opportunities (Bucherer, Eisert & Gassmann 2012). The much used distinction between threat and opportunity in the strategic literature (Porter 1979) is less clear-cut in innovation, where the origin of innovation is more likely to represent nuances along a sliding scale, for example initially addressing a market threat which may lead to opportunity driven BMI and vice versa. But the strategic distinction is useful as it deepens the understanding of the origin of innovation within the concepts of BMI and BMD. While new firms always act on opportunities, for established firms both origins of innovation are relevant and rather than a clear distinction between BMI and BMD, innovation of the business model is more likely to be a spectrum of offensive (opportunity) and defensive (threat) positions along a sliding scale with some overlap between elements of BMD and BMI in the middle (Figure 1).

Cavalcante, Kesting and Uihøi (2011) made a useful contribution, arguing that changes to a business model



Figure 1: Spectrum sliding scale of BMD and BMI

BMI strategy		
Concept	BMI	BMD
Origin	`Opportunity`	`Threat`
Drivers	Market/customer driven	Resources/capabilities/product driven
Key Milestones	New business model fit	Resource/capabilities/NPD performance milestones

Table 1: BMI strategy factors

consist either of 1) creation, 2) extension, 3) revision, or 4) termination. But they stopped short of explaining which strategy should be applied in what situation and why? And while the discussed distinction between BMD and BMI is useful, it leaves unexplained the influence of product-market boundary conditions on the process of BMI/BMD and the magnitude of BMI compared to BMD. The discussion of BMI and BMD above is summarised in Table 1:

Conceptual development

Growth strategy through differentiation

Since its introduction more than half-a-century ago, the Ansoff Matrix (Ansoff 1958) - also known as the Ansoff product-market expansion grid - has been one of the most widely described and utilised strategic management and marketing tools in academic texts.

Ansoff's matrix (Figure 2) suggests four alternative growth strategies which hinge on whether products or markets are new or existing. The four quadrants in the matrix have guided corporate growth strategies for decades and can be summarised as:

1. Market penetration suits a causal plan approach since it leverages many of the firm's existing resources and capabilities with minimal assumptions, largely keep doing what the firm already does well with incremental improvements.

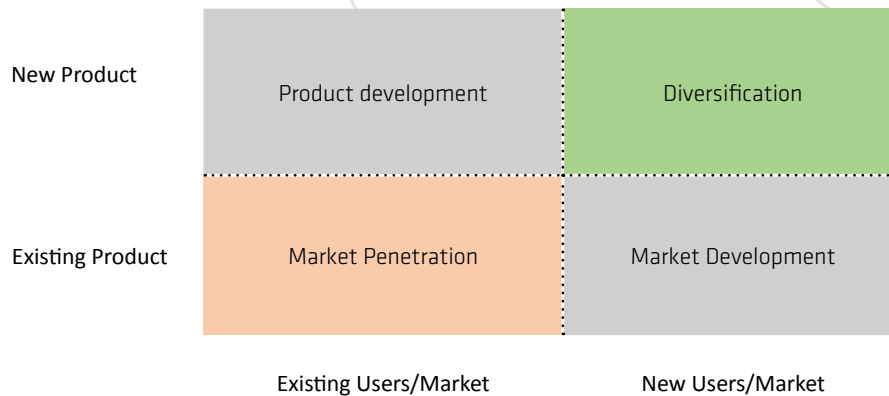


Figure 2: Ansoff Growth Matrix (1958)

2. Product development is done in order to leverage existing technology strengths by developing a new product targeted to existing customers, which requires modified or new value propositions and a process with more assumptions than simply attempting to increase market share.
3. Market development include the pursuit of additional market segments or geographical regions (clone markets), which typically comes with more assumptions than a market penetration strategy and involves experimentation to validate the assumptions.
4. Diversification is the most experimental of the four growth strategies since it requires both product and market development (assumptions on both levels) and may be outside the core competencies of the firm. However, diversification may strengthen the potential to gain a foothold in an attractive industry (high rate of return) and the reduction of overall business portfolio risk.

While Ansoff's matrix has been used in marketing and management studies, it has not received the same attention in the innovation literature. But a clear cut distinction between product development (technology push) and market demand (market pull) led innovation has been dismissed by the field of technology studies since the 1970s with the conclusion that both are important for innovation and that advances in scientific and technological knowledge as well as demand conditions are the main instigators of new technological paradigms (Van den Ende & Dolfsma 2005). Further course of development of a technological paradigm can be determined by an interaction of both technological

developments and by demand. It motivated Nagji and Tuff (2012) to put the two categories in Ansoff's matrix (product development and market development) together in one category of adjacent innovation (Nagji & Tuff 2012). The two scholars refined the matrix replacing Ansoff's binary choices of product and market (old versus new) to three: safe bets in the core, less sure things in adjacent spaces, and high-risk transformational initiatives. An adjacent innovation involves leveraging something the company does well into a new space. While acknowledging the interaction of push and pull, putting them together in one adjacent quadrant may, however, lead to a loss of nuances helping better explain differences in BMD or BMI strategy. However, it acknowledges a matter of degree in innovation (magnitude) from incremental to adjacent (evolutionary) and transformative, something we will discuss more in depth in the following section.

Magnitude of innovation under product market conditions

Scholars have tried to explain the magnitude of innovation in many different ways. Crossan and Apaydin (2010) pointed out that the magnitude dimension of innovation indicates the degree of newness of the innovation outcome with respect to an appropriate referent. In terms of magnitude, scholars tend to distinguish between incremental and radical innovation. To confuse matters the latter is sometimes termed as transformational, revolutionary, disruptive, discontinuous, or breakthrough (Crossan & Apaydin 2010). Radical innovation induces fundamental changes and a clear departure from existing practices in the organisation, while incremental innovation represents a variation in

existing routines and practices. The Oslo manual (OECD 2005) distinguishing between radical or transformative innovation, evolutionary innovation and incremental innovation. By definition, all innovations must contain a degree of novelty and the Oslo manual has developed three concepts for the novelty of innovations: new to the firm, new to the market, and new to the world. The minimum entry level for an innovation is that it must be new to the firm. Innovations are new to the market when the firm is the first to introduce the innovation in its market. The market is simply defined as the firm and its competitors and it can include a geographic region or product line. New to the world: an innovation is new to the world when the firm is the first to introduce the innovation for all markets and industries, domestic and international. New to the world therefore implies a qualitatively greater degree of novelty than new to the market. Souto (2015) connects the terms “incremental innovation” and “radical innovation” with linking BMI with disruption. Teece (2010a) linked the magnitude of innovation with BMI suggesting that the more radical a technological innovation, the greater the need for BMI to capture (part of) the value created by the new technology. These scholars argued the important notion that BMI is related to the novelty of the innovation, innovation as an outcome. Zott and Amit (2008) concluded that a novelty-centred business model combined with early entry into a market has a positive effect on performance. Like them, many studies see BMI as radical or disruptive innovation that affects the entire business and not just incremental changes (Cavalcante, Kesting & Ulhøi 2011; George & Bock 2011; Markides 2006; Yunus, Moingeon & Lehmann-Ortega 2010). Radical or transformative means more than disruptive at company level, doing business in a new way. Radical BMI relates to market level. It attracts new customers or causes customers to consume more and it enlarges the market. Barjak, Niedermann and Perret (2014) perceive BMI as changes of all three components of business models, 1) value creation, 2) business systems, and 3) revenue generation. However, BMI might originate in one part of the business model and at the outset seem to be just another incremental innovation (BMD), but their fundamental impact on the business model then develops in the process. It illustrates the need to look beyond the outcome of BMI and study the magnitude of BMI under product-market configurations, which we will discuss in the next section.

Discussion

First the magnitude of BMI is discussed and illustrated in Figure 3, followed by the related elements of the BMI strategy framework matrix (Figure 4), followed by a discussion of BMI portfolio strategy based on analysis of the four quadrants. To illustrate each stage, we use product-market introduction examples from Apple, as these are well known examples helping to better understand the distinctions between the elements. The Oslo manual, written in 2005, does not provide guidelines for magnitude of BMI, indicating the novelty of the concept of BMI. Figure 3 brings the product-market configuration, the magnitude dimensions of Innovation and distinction between BMI and BMD together.

Figure 3 shows a magnitude of BMI under product-market configurations in four quadrants. The strategy following BMI magnitude is illustrated in the strategy framework for BMI under product-market configurations in Figure 4.

1. Update the Business. The main motivation for innovation in this quadrant is to assure optimised market penetration, defending market position and aiming to reduce or eliminate threats (Bucherer, Eisert & Gassmann 2012). The strategic focus is on exploitation and efficiency to improve processes and reduce cost throughout the value chain. This is made possible via internal incremental improvements managing resources that become too costly or unnecessary over time and enforce a change in the business model. The improvements can be implemented internally or using outside-In Open Innovation where outsiders' contributions enable an enterprise to create offerings whose scale belies its internal capabilities (Chesbrough & Garman 2009). A firm could, for example, outsource certain activities/investments in new capabilities instead of developing them internally. This quadrant is driven by BMD, exploitation and business model updates are incrementally new to the firm, but not to the market. Example is Apple's innovation of the creative process. Acknowledging the importance of creativity, in 2011 a team of senior executives at Apple researched a variety of models and workshops, considered the latest research in various sciences and studied other models implemented at companies like Pixar and Google. After several years of research and internal testing, a

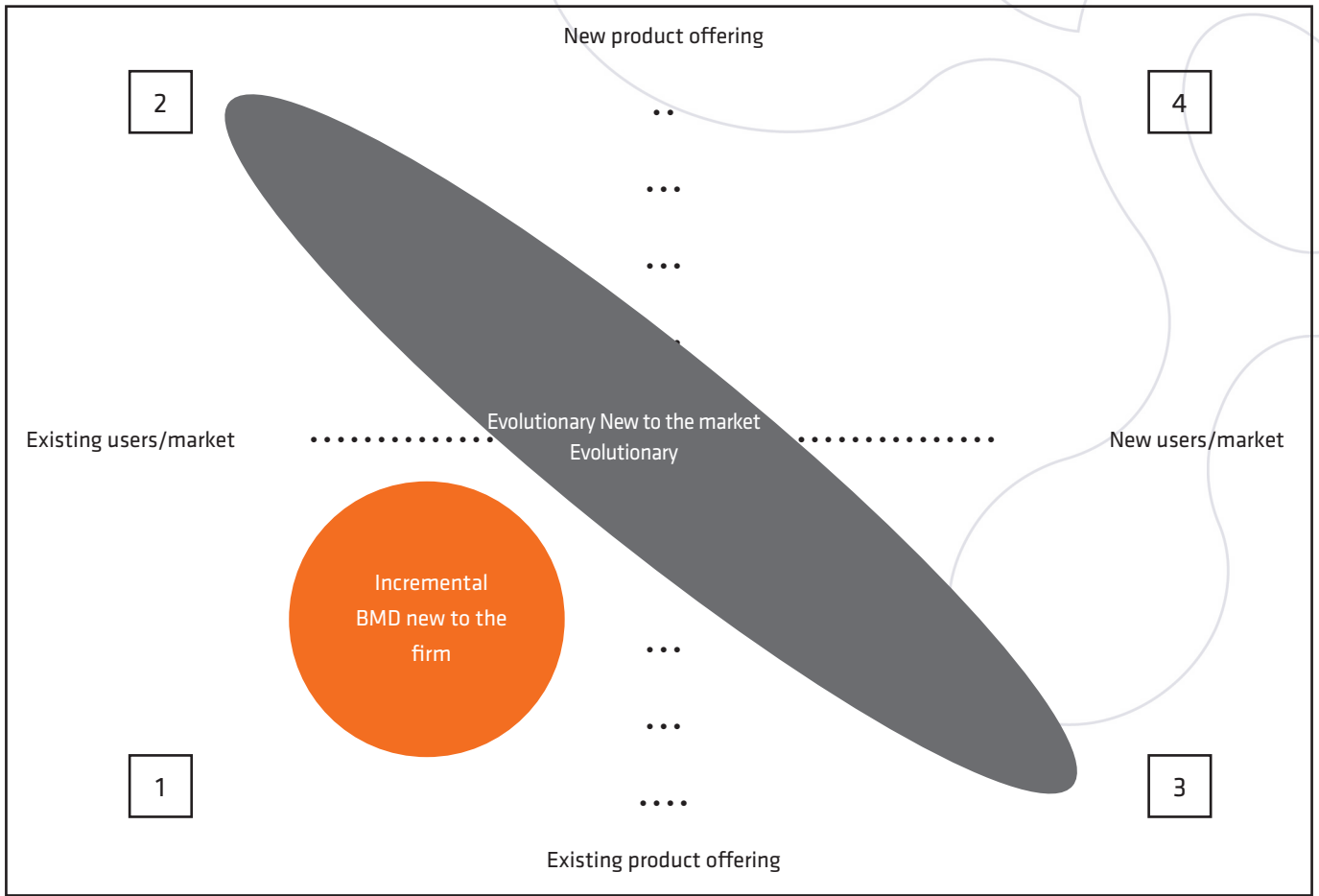


Figure 3: Magnitude of BMI under product-market boundary conditions

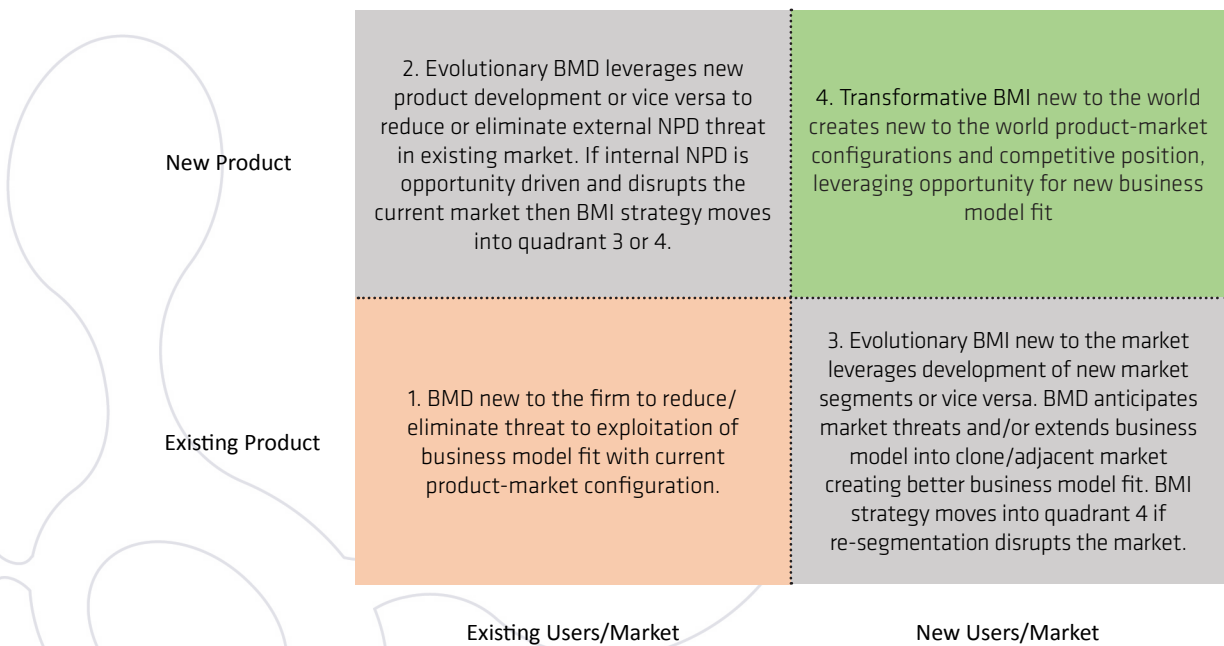


Figure 4: Strategy framework for BMI under product-market configurations

program matured called CreativeIQ, which identified four steps: search, prepare, create, innovate. The four steps are in isolation not new to the market, but the order and holistic approach to the creative process was new to the firm and changed a core process in the business model of Apple (Schmincke & Miller).

2. BMD to leverage NPD: Source of innovation in the second quadrant is to anticipate threats to the market position via leveraging NPD or inside-out Open Innovation, whereby a business places some of its assets or projects outside its own walls (Chesbrough & Garman 2009) as technology (and R&D) or other resources are necessary and adequate but underutilised and could be leveraged for additional purposes. As in Ansoff's matrix, this quadrant is driven by a combination of exploitation and exploration and the outcome is BMD that is new to the firm or new to the market. The objective is for a new product to better fit existing market segments, while optimising cost-revenue logic of the value capture process. An example is the yearly incremental updates of the iPhone concept from, for example, iPhone 5 to iPhone 5S, developing the business model with a two-step introduction of new models. A second example is the introduction of iPhones with `large` and `small` screens. If NPD is opportunity driven and disrupts the current market BMD prompts BMI strategy moving into quadrant 3 or 4. An example is Nespresso from Nescafe for which the technology was developed in the 1980s but was not commercially successful until BMI disrupted the market moving into quadrant 4.

3. BMD or BMI to leverage new markets: Exploring boundary markets extends BMD into adjacent markets creating new business model fit. BMD is in that case based on developing core business model strengths into adjacent markets. An example is Bic, a French company known for a wide variety of plastic products like pens and disposable razors. Bic has a core competency in plastic and to develop this competitive advantage the company would want to create new plastic products in markets that are that are close in proximity to what the company already does, like for example lighters, leveraging and developing existing business model strengths (core competencies and distribution channels). Another source of evolutionary BMD is anticipation of threats` like price erosion, market shifts (changing population, needs/wants), technology changes as well as commoditisation of products, and

legal or regulatory changes. This may lead to evolutionary BMD new to the firm, or even transformative BMI. An example of the latter is the development of the digital music industry from Kazaa to Napster to Apple iPod to Apple iTunes, initially driven by a new market for digital music downloads. The existing business model of Napster was driven by creating a platform that allows for peer-to-peer downloading of digital music. This popular business model was however threatened by lack of compliance with regulations and copyright infringement and Napster ceased operations in 2001. When the music industry turned to streaming, it became an adjacent market for Apple, that has business model strengths in digital technology and platforms. Moving into the adjacent market Steve Jobs did not just developed the Apples business model, but also innovated the existing music streaming industry business model by changing important elements: music labels as key partners and pay per individual song, where customers do not need to buy a whole album. This led to a transformative iTunes business model in the music industry resulting in a dominant position for Apple iTunes and a sharp decline in album sales.

Market driven BMI can involve new products that are technological superior or take root initially in simple applications at the bottom of a market and then relentlessly move up market, eventually displacing established competitors in quadrant 4 (disruptive innovation) (Christensen 1997). Startups are less likely to adopt quadrant 1 or 2 strategies as they do not yet defend product or market positions that can be leveraged. They are most likely to play in category 3 and 4, where markets can be disrupted and the startup becomes the source of the `threat`. The analysis of quadrant 3 indicates that entrepreneurial disruption does not always lead to radical new business models but is often based on targeting new niche segments in existing markets, using modified value propositions, not creating *new to the world* business models but modifying existing business models (sometimes reverse engineered from other industries) and introducing them as new to niche segments. An example of successful entrepreneurial introductions in this quadrant are `digitisation of the business model` relying on the ability to turn existing products or services into digital variants, and thus offer advantages over tangible products, e.g. Wikipedia, Dropbox or Netflix, (Gassmann, Frankenberger & Csik 2013). If initial re-segmentation leads to new markets

disrupting and replacing old markets (e.g., streaming service Netflix causing the demise of Blockbuster video stores business model), then the BMI has successfully become a transformative innovation (quadrant 4).

4. Create business model for new product-market configuration: Here the source of BMI is pursuing an opportunity which leads to a business model that is not only new to the firm or the market but also to the world. Revolutionary search for new users and new product development creates new value propositions for new markets. An example for Apple is: iPhone in combination with Apple App-store. BMI in category 4 is value driven and involves most (if not all) the elements of the business model in both products and markets maximising assumptions and uncertainty, but potentially maximising return as first mover advantage

(Zott & Amit 2008) may lead to early product-market learning, leaving competitors struggling to catch up. Strategic focus is on diversification creating a new cost-revenue logic of the value capture process. Quadrant 4 is different from quadrants 2 and 3 as the unknown is in both products and markets maximising the uncertainty, requiring new value propositions and new resources, skills and capabilities. For existing firms this may lead to a disruption of the current business model and increasingly, researchers have used the notion of ambidexterity to refer to a firm’s ability to engage in exploratory activities leading to transformative innovation on the one hand and exploitative activities leading to incremental innovation on the other (Lin et al. 2013).

The discussion of the four quadrants is summarised in Table 2:

Boundary Conditions: `If`	Strategic Consequences: `then`		
Product-market configuration and origin of innovation	BMI strategic growth goal	BMI or BMD and scope of innovation	Risk
1. Existing market/ Existing product. optimised market penetration, defending market position and aiming to reduce or eliminate threats.	Reduce/eliminate threat to exploitation of business model fit with current product-market configuration.	Incremental BMD new to the firm	Failing to act on weaknesses or opportunities in current product-market configurations may lead to oblivion when competitors introduce superior business models.
2. Existing market/ new product where the origin is to anticipate external threats to the market position via leveraging NPD leveraging or new product development opportunities	2. Leverage new product development or vice versa to reduce or eliminate external NPD threat in existing market. If internal NPD is opportunity driven and disrupts the current market then BMI strategy moves into quadrant 3 or 4.	Evolutionary BMD new to the firm or market.	BMI fails when product development fails to attract market traction. NPD becomes technology in search of customers.
3. Existing product/ new market, where the source of innovation is anticipation of market threats or pursuing opportunity in market diversification into new segments or clone markets.	Leverage development of new market segments or vice versa. Anticipating market threats and/or extends business model into clone/adjacent market creating better business model fit. BMI strategy moves into quadrant 4 if re-segmentation disrupts the market.	Evolutionary BMD/ BMI new to the market	Misunderstanding of market threats and wrong assumptions about adjacent markets leads to failure of BMD. BMI does not lead to value for new segments.
4. New product/ new market where the source is the creation of an opportunity.	New product-market configurations and new competitive position	Transformative BMI new to the world	Failing go to market strategy as unable to educate the market about the new business model. Failing to manage ambidexterity where BMI of the enabling elements does not keep up with the value side of the business model

Table 2: BMI under product-market conditions

In terms of innovation magnitude and origin of the innovation this paper suggests that a transformational BMI is opportunity driven and induces fundamental changes and a clear departure from existing practices leading to a new to the world business model. Evolutionary BMI/BMD is either opportunity or threat driven, where evolutionary BMI requires entrepreneurial strategies for new segments and evolutionary BMD is driven by a resource/capabilities view on NPD. Incremental (new to the firm) BMD represents an update in existing routines and practices and incremental change in value.

Conclusions

Theoretical contribution

Ahokangas and Myllykoski (2014) noted that two themes in the literature enable the business model concept to connect abstract-level strategy (i.e., theoretical thinking) to its implementation on a practical level (i.e., action) (McGrath 2010; Osterwalder, Pigneur & Tucci 2005; Sosna, Treviño-Rodríguez & Velamuri 2010): 1) the business model as a representation of the logic and strategy of value creation, delivery and capture (Johnson, Christensen & Kagermann 2008; Shafer, Smith & Linder 2005), and 2) the business model as a framework explaining the elements, structure and architecture, of the business (Amit & Zott 2012; Chesbrough 2007; George & Bock 2011; Osterwalder, Pigneur & Tucci 2005). Strategy analysis is an essential step in designing a competitively sustainable business model within the product-market strategy (Tece 2010a; Zott & Amit 2008). But our literature review identified a lack of strategic guidance on how these two themes connect strategy with implementation, resulting in a need to better understand strategic BMI choices under different product-market configurations and innovation magnitude. We started this article with the following research question: *What consequences for BMI strategy can be extracted from the link between product-market growth diversification strategy and the magnitude of innovation under product-market configurations?* Our analysis led to the development of a strategy framework for BMI under product-market configurations and combines a much-needed update to the Ansoff Matrix with BMI magnitude under product-market configuration. As far as we are aware this is the first scholarly

attempt to integrate the two concepts. The distinction in the literature between opportunity driven BMI and threat driven BMD (Schneider & Spieth 2013) enabled analysis of the magnitude and product-market configurations at two sub-levels: BMI and BMD. It deepens the theoretical understanding of BMI strategy and led to an enriched dynamic classification of BMD and BMI new to the firm, new to the market and new to the world and the expected outcome being more or less novel (incremental, evolutionary, transformative), answering the call in the literature for a more dynamic view on BMI (Cavalcante, Kesting & Uthøi 2011). The BMI strategy framework supports a dynamic analysis as BMI may take place along a developing scale from BMD to BMI and from incremental to evolutionary to transformative, involving more than one, or moving through all 4 quadrants of the BMI strategy framework. BMI might also originate in one part of the business model and at the outset seem to be just another incremental innovation, but their fundamental impact on the business model then develops in the process ending up in a new to the world business model disrupting the market.

Practical implications

Most of the time companies are in exploitation mode not questioning the current business model. Growth based on sustainable competitive advantage requires managers to successfully exploit or explore BMI as effective BMI outperforms product-process innovation. To better facilitate the practical search for the most optimal business model fit with product-market configurations, we presented and discussed the BMI strategy framework, providing useful traits (rules) and clarity of understanding to practitioners on the various options available to them for pursuing BMI growth opportunities that deliver sustainable competitive advantage and provide the foundation for a BMI portfolio strategy. Our analysis shows that resource and capability driven BMD helps managers formulate a defensive strategy under conditions of existing products-existing markets prompting incremental innovation. BMD as proactive strategy to reduce NPD/market threats prompts new to the firm or new to the market evolutionary innovation (or vice versa) under the following two configurations: new products-existing market; existing product-new market. Opportunity driven BMI as a strategy to achieve evolutionary market or

transformative innovation is prompted under the following two configurations: existing/modified product-new market; new product-new market. This enables managers to establish a BMI portfolio strategy following 6 pathways in four groups:

- 1. Quadrant 4, Existing Product-Existing Market:** A number of updates of the business model new to the firm (BMD) to reduce/eliminate threat and exploit business model fit aiming for continuous improvement.
- 2. Quadrant 2, New Product-Existing Market:** Several BMD projects modifying the business model new to the market to anticipate technology threats to current business model fit.
- 3. Quadrant 3, Existing Product-New Market:** This category has three elements: A number of projects scanning the environment and extending BMD new to the market into adjacent markets. Several BMD projects anticipating market threats. And several opportunities driven projects where BMI leverages the development of new market segments or vice versa aiming for better business model fit with new market segment.
- 4. Quadrant 4, New Product-New Market:** A number of longer term BMI projects aiming to disrupt other's or own business model by creating business models that are new to the world, discovering external opportunity for new product-market fit.

Future research

Future research may dig deeper into the dynamic aspects of BMI by studying how firms move their innovation efforts from one quadrant to another, for example when they turn threats into opportunities moving from quadrant 3 to 4. Process is strongly related to a more dynamic view of BMI so future research could also attempt to explore the process of BMI/BMD under

product-market configurations. For example: Is strategic choice for BMI in one of the quadrants more strongly related to experiential or causal BMI processes? This question for process oriented research is especially interesting to provide more clarity on the process of evolutionary BMI/BMD: How and when do firms approach evolutionary BMI/BMD using a predominantly entrepreneurial iterative process versus planned resource/capabilities process? A further opportunity is research of the relationship between the four strategic configurations with its environment, for example how is BMI strategy distinct from - or may interact with - the firm's existing product market strategy processes and competitive position? A fourth opportunity for future research may attempt to learn more about BMI portfolios, the integration and synthesis of its elements and the consequences for innovation strategy and process. It would be recommended to test the portfolio strategy and related innovation processes by a number of case studies to be able to learn more about the assumptions, relationships and outcomes. When looking at innovation portfolios Nagji and Tuff (2012) found that firms outperforming their peers tend to allocate their investments in a certain ratio: 70% to safe bets in the core, 20% to less sure things in adjacent spaces, and 10% to high-risk transformational initiatives. As it happens, an inverse ratio applies to returns on innovation (Nagji & Tuff 2012). Research on performance of BMI and BMD could help identify optimal percentages for BMI portfolios. Lastly, BMI research may develop a focus on its relationship with market innovation. Recent literature (Kjellberg, Azimont & Reid 2015) has referred to the process of market innovation and how the market itself is contributing to BMI via, for example, open source development or double sided platforms (Uber, Airbnb), opening interesting prospects to find out more about the interaction between BMI and market innovation.

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