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Entrepreneurial copycats: A resource orchestration perspective on the link between extra-industry business model imitation and new venture growth

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ABSTRACT

This study draws on resource orchestration theory to develop and test a framework that explains when the imitation of business models from other industries increases new venture growth. We propose that extra-industry business model imitation enhances growth when extra-industry business models are bundled together with novel technologies, and when founders possess the necessary industry experience to orchestrate these resource combinations effectively. Using a unique multi-source, time-lagged dataset of 122 Swiss technology ventures from four industries, we find support for our theoretical model and discuss its implications for research at the intersection of business models, competitive imitation, and resource orchestration.

“Picasso had a saying – ‘good artists copy, great artists steal’ – and we have always been shameless about stealing great ideas.”
(Steve Jobs, Co-founder of Apple Computer)

Strategy scholars are increasingly invoking the business model construct to understand how firms capitalize upon new market opportunities (Foss and Saebi, 2017; Zott et al., 2011). Defined as ‘the logic of the firm, the way it operates and how it creates and captures value for its stakeholders’ (Casadesus-Masanell and Ricart, 2010: 196), the business model represents a new facet of innovation (Chesbrough, 2010; Haefliger and Baden-Fuller, 2013) and captures attributes of real firms that have a ‘direct real impact on business operations’ (Massa et al., 2017: 76). Developing a business model is a key design challenge for any firm, particularly for new ventures that commercialize new technologies (Zott and Amit, 2007), and can entail significant risks (Teece, 2010). Understanding how new ventures can develop innovative business models that also facilitate growth is thus an important area of research.

Recent research has suggested that “imitating”, “replicating”, or “copying” existing models may enable new ventures to develop innovative business models (Baden-Fuller and Morgan, 2010; Casadesus-Masanell and Zhu, 2013). Besides the anecdotal evidence indicating that business models are frequently replicated (Chesbrough, 2010), however, most work has focused on how firms can prevent imitation of their own models (Teece, 2010). By contrast, there has been little research on whether business model imitation is a performance-enhancing strategy in its own right. This is surprising, because ‘especially founders of new firms search widely for examples of other business models from which to copy elements’ (Amit and Zott, 2015: 339). Given the prevalence of business model imitation in business practice and the limited research on its consequences for performance (Foss and Saebi, 2017), there is thus a strong need for systematic research that clarifies the impact of business model imitation on new venture growth.

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Although imitation lies at the heart of strategy research, existing theories offer conflicting predictions about its impact on performance (Posen et al., 2013). On the one hand, scholars have long argued that imitation is a strategy used by inferior firms to catch up with industry leaders (Porter, 1991), and that it only hurts performance by reducing firms' competitive differentiation (Deephouse, 1999). Indeed, new ventures that imitate existing business models are often criticized for lacking innovation and dismissed as “copycats” or “clone factories.” On the other hand, a more positive view of imitation is starting to emerge, with some even arguing that ‘imitation bests innovation’ (Flannery, 2010) and that ‘imitation is one of the shrewdest ways to become a successful entrepreneur’ (Moules, 2012). This research suggests that imitation is often partial at most and may actually improve a firm's performance (Posen et al., 2013; Shenkar, 2010).

Given these conflicting views, this study seeks to improve our theoretical understanding of the link between business model imitation and new venture growth in two ways. First, prior research tends to assume that imitation occurs within a single industry and thus reduces firms' competitive differentiation (Porter, 1991), thereby ignoring the fact that entrepreneurs often adopt novel business model rationales from other industries (Amit and Zott, 2015). While scholars have suggested that the risks and rewards of extra-industry imitation are greater than those of intra-industry imitation (Enkel and Mezger, 2013), they have yet to explore systematically how extra-industry business model imitation impacts venture growth. The first aim of this study is thus to extend prior work on intra-industry imitation by developing and testing theory about the impact of extra-industry business model imitation on venture growth. We posit that extra-industry business model imitation may bring new ventures a unique mix of novelty *and* legitimacy benefits that enhance growth.

Second, prior work has paid little attention to the boundary conditions that govern when particular forms of business model innovation enhance firm performance (Foss and Saebi, 2017). It is important to identify such contingencies, because this can help us to reconcile conflicting findings in the field (e.g., Velu, 2015; Wei et al., 2014) and promote more theory-driven research (Massa et al., 2017). The second aim of this study is thus to develop and test a theoretical framework that clarifies how new ventures can successfully leverage extra-industry business model imitation for growth. To do so, we draw on the emerging “resource orchestration” perspective in resource-based theory (Sirmon et al., 2011), which maintains that the conversion of a venture's resources into higher performance is dependent upon on how these resources are configured and deployed (Sirmon et al., 2007; Wales et al., 2013). We propose that extra-industry business model imitation leads to increased growth when the replicated business models are combined with novel technologies *and* when the founders possess the industry experience needed to orchestrate these resource bundles effectively. We thus extend prior work on resource orchestration that has highlighted the potential value of bundling resources (Baert et al., 2016; Carnes et al., 2017) by revealing the critical role of founders' career experiences in realizing the value created by combining extra-industry business models with novel technologies.

In pursuing these two aims, we address Foss and Saebi (2017) call for more systematic research on how entrepreneurs can develop innovative business models and on the boundary conditions governing their performance outcomes. By drawing on resource orchestration theory to explain when extra-industry business model imitation leads to higher growth, we heighten theoretical understanding of the contingent value of imitation for developing performance-enhancing business models in the new-venture context (Amit and Zott, 2015).

Theory and hypothesis development

First, we briefly review the literature on business models and competitive imitation, before theorizing about the link between extra-industry business model imitation and venture growth. We then introduce resource orchestration theory to develop a contingency framework that clarifies how new ventures can better leverage business model imitation to achieve growth.

Business models as profit-related attributes of real firms

Recent years have seen the emergence of a rapidly-growing but fragmented literature on business models (Foss and Saebi, 2017; Zott et al., 2011). This research views the business model as a key design challenge that involves the making of numerous design choices in relation to firms' value propositions, modes of value creation, and value capture strategies (Chesbrough, 2010; Teece, 2010). Reviewing this literature, Massa et al. (2017) identify three major interpretations of the business model construct, ranging from business models as attributes of real firms to business models as cognitive/linguistic schemas or as formal conceptual representations. In this paper, we interpret business models as “attributes of real firms” and focus specifically on profit models, i.e., simplified representations of a firm's logic for generating revenues and earning profits (Casadesus-Masanell and Zhu, 2013). Researchers who follow this interpretation classify business models as archetypes—basic configurations of firm attributes designed to create and capture value—and study their differential impact on firm performance (Casadesus-Masanell and Zhu, 2013; Zott and Amit, 2007). In the case of profit models, well-known archetypes include “razor and blade”, “subscription”, “freemium”, or “pay as you go” (McGrath, 2010; Teece, 2010).

Given that imitation involves a firm's attempt to appropriate the attributes of another firm (Posen et al., 2013), conceptualizing business models as profit-related attributes of real firms is consistent with our focus on business model imitation. The specific case of business model imitation is thus based on the assumption that business models are observable firm attributes that can be subject to imitation. This assumption appears particularly reasonable in the case of profit models, which are easier to observe and understand than the other more detailed, causally-ambiguous activities and processes that underlie a firm's business model (Casadesus-Masanell and Zhu, 2013).

One potential criticism of our focus on profit models is that it only represents a partial view of business models, as it seems to

emphasize value-capture mechanisms but neglects the core activities and processes that enable value creation. Here, it is important to note that despite being easier to imitate, profit models can enable both value capture *and* value creation (Chesbrough, 2010). Consider the example of Salesforce, which adopted a new profit model by offering software through subscriptions instead of license fees. This not only allowed Salesforce to boost its profitability, but also to create extraordinary new value for its customers and become one of the ten fastest-growing companies in the world. Although our focus on profit models might neglect certain business model archetypes that focus purely on a firm's activity system, most of the business model archetypes that have been identified by scholars and practitioners as important and relevant contain profit-related attributes (Gassmann et al., 2014). Thus, given that profit models are frequently subject to imitation efforts and play a key role in both value creation and value capture (Casadesus-Masanell and Zhu, 2013), they provide an appropriate basis for investigating the performance implications of business model imitation.

Imitation as a vehicle for business model innovation

Scholars have emphasized the importance of business model innovation by arguing that a firm's performance is dependent on its ability to “search for new logics of the firm and new ways to create and capture value for its stakeholders” (Casadesus-Masanell and Zhu, 2013: 464). Business model innovation can be challenging for new ventures, however, because they often lack the resources and capabilities they need to develop and implement novel business models (Doganova and Eyquem-Renault, 2009; Velu, 2015). It is therefore not surprising that research findings on the performance benefits of business model innovation remain inconclusive (Foss and Saebi, 2017).

Business model scholars are increasingly recognizing the potential value of “imitating”, “replicating”, or “copying” extra-industry business models. Baden-Fuller and Morgan (2010), for example, argue that a firm's business model can act as a recipe or blueprint for subsequent innovation endeavors by other firms. Casadesus-Masanell and Zhu (2013) describe how new ventures disrupted the newspaper industry by adopting a sponsor-based rationale that had proven successful in other industries. Teece (2010) also provides numerous examples of business model innovations that have been replicated in other industries. Amit and Zott (2015) argue that although the practice of “borrowing” from existing business model designs is prevalent among many types of firms, the founders of new ventures in particular search widely for existing business models that can be adopted and introduced to new markets. As the extant literature suggests that imitation can be an important vehicle for business model innovation, but its performance outcomes are yet to be evaluated, we examine how extra-industry business model imitation influences the performance of new ventures.

Performance is a complex multidimensional construct, suggesting that extra-industry business model imitation might impact new ventures differently depending on the specific performance outcomes that are being examined. In this study, we focus on new venture growth as the focal outcome, because growth is widely considered a relevant and valid indicator of performance in the new-venture context (Brush and Vanderwerf, 1992); it reflects the viability of new ventures and the extent to which entrepreneurs are able and willing to expand their business operations. Despite our focus on profit models, however, we acknowledge that our theory does not directly address the impact of business model imitation on new venture profitability. Indeed, while growth may enable profitability in the medium to long term, profitability is not a primary concern for new ventures, which must first achieve viability through growth (Gilbert et al., 2006).

Extra-industry business model imitation and new venture growth

Researchers have frequently highlighted the risks of imitation by emphasizing that imitating firms lack differentiation from competitors (Deephouse, 1999; Porter, 1991). According to this view, imitation increases the rivalry between a focal venture and its competitors, because firms increasingly target the same markets with comparable strategies (Casadesus-Masanell and Zhu, 2013; Posen et al., 2013). It may prove difficult to escape these competitive pressures, however, as imitation often appears to be an effective response, despite having negative outcomes (Lieberman and Asaba, 2006). For this reason, Porter (1991: 102) argues that ‘imitation almost ensures a lack of competitive advantage and hence, mediocre performance.’

Whilst this may be true of new ventures that imitate direct competitors' business models, we argue that imitation does offer novelty benefits when ventures imitate business models that have proven successful in other industries. Extra-industry business model imitation allows new ventures to achieve competitive differentiation by importing business models from different sectors. In so doing, these ventures effectively become “business model brokers” (cf., Hargadon and Sutton, 1997) that create and exploit entrepreneurial opportunities by forming novel business model-market combinations (Schumpeter, 1934). In support of this, Amit and Zott (2015) provide qualitative evidence suggesting that replicating the business models of incumbent firms encourages new ventures to embrace efficiency-centered business models, while imitating models from other domains is more likely to result in novel, distinctive business models. New ventures that imitate business models from other industries thus enjoy fewer competitive pressures and can therefore achieve higher growth by locking in their customers, suppliers, and partners (Zott and Amit, 2008).

While developing new business models always carries risk, we argue that imitating proven models from other sectors is less risky than launching entirely novel business models. Imitation allows entrepreneurs to learn from past successes and failures in other markets, leverage this learning when implementing an imitated business model (Aldrich, 1999), and thereby achieve faster market entry and more rapid growth. Stakeholders are also more likely to understand and support a business model when it has a proven track record. Entrepreneurs can therefore create legitimacy for their own ventures by drawing on analogies that associate the venture with firms that have successfully pioneered the business model in other markets (Doganova and Eyquem-Renault, 2009). Extra-industry business model imitation may thus help to increase a new venture's legitimacy, which is critical for acquiring the resources that are needed for pursuing growth (Zimmerman and Zeitz, 2002). Hence, we offer the following baseline hypothesis:

Hypothesis 1. *Extra-industry business model imitation will be positively related to subsequent new venture growth.*

New ventures that adopt business models from other industries can themselves become the object of subsequent imitation efforts by competitors. Incumbents or other new ventures in the focal industry may attempt to adopt the same business model, which reduces its initial novelty benefits. As a consequence, the performance benefits of extra-industry business model imitation may only be temporary at best (Casadesus-Masanell and Zhu, 2013).

We draw on recent developments in resource-based theory to clarify how new ventures can successfully leverage extra-industry business model imitation for growth. Resource-based theory is primarily concerned with barriers to imitation, emphasizing the importance of inimitable resources for firm growth (Barney, 1991; Penrose, 1959). Yet, while ‘inimitability is a lynchpin of resource-based theory’ King and Zeithaml (2001: 75), recent theoretical advances suggest that imitation can also enhance firm performance. Specifically, the emerging resource orchestration view (Carnes et al., 2017; Sirmon et al., 2011; Wales et al., 2013) posits that entrepreneurial performance is explained not by the possession of a particular resource, but by how resources are managed in terms of ‘structuring the firm’s resource portfolio, bundling the resources to build capabilities, and leveraging those capabilities with the purpose of creating and maintaining value for customers and owners’ (Sirmon et al., 2007: 273). Resource orchestration theory thus suggests that in order to understand when business model imitation increases venture growth, we need to consider how new ventures combine replicated business models with other resources and capabilities.

The moderating role of new venture technological innovativeness

In line with resource orchestration theory, scholars increasingly recognize that ‘entrepreneurial firms need to orchestrate resources to support their nascent business models’ (Baert et al., 2016: 348). One critical resource in this regard constitutes the venture’s core technologies, because not only ‘technology itself will influence business model possibilities,’ but also the ‘choice of business model influences the way in which technology is monetized and the profitability for the relevant firms’ (Baden-Fuller and Haeffliger, 2013: 424). We extend these insights by proposing that technological innovativeness—defined as the extent to which firms create technologies that are technologically significant (Dutta and Weiss, 1997)—will enable new ventures to create and capture more value from imitated business models. This is expected for several reasons.

First, technological innovativeness enables new ventures to create more value from extra-industry business models. The novelty benefits of these business models may only be realized when they are coupled with novel technologies, since the ‘focus on innovation in multiple domains (business model, product market strategy) may be mutually reinforcing’ (Zott and Amit, 2008: 8). This complementarity arises because the existing business models that dominate an industry are often inappropriate for commercializing new technologies (Chesbrough and Rosenbloom, 2002; Teece, 2010). New technologies tend to open up new monetization opportunities, which are often overlooked when firms rely on dominant business models that were designed to fit with established technologies (Teece, 2010). This means that extra-industry business model imitation enables ventures with novel technologies to create more value for customers, thereby boosting growth. In contrast, for ventures with low technological innovativeness, extra-industry business model imitation may not be beneficial for growth, because these ventures can simply rely on tried-and-tested business models for commercializing their technologies.

Second, technological innovativeness enables new ventures to capture more value from extra-industry business model imitation. Indeed, while it might be easy to appropriate a business model (Casadesus-Masanell and Zhu, 2013), combining it with a novel technology may create a more complex, causally-ambiguous system that is difficult to imitate (Desyllas and Sako, 2013; Kim and Min, 2015; Teece, 1986). As Porter argues, ‘it is harder for a rival to match an array of interlocked activities than it is merely to imitate a particular sales-force approach, match a process technology, or replicate a set of product features’ (Porter, 1986: 13). As such, technological innovativeness serves as a critical isolating mechanism (Rumelt, 1984) that helps new ventures to sustain the novelty-related benefits of extra-industry business model imitation over a longer time period. Ventures with high technological innovativeness are thus more likely to translate extra-industry business model imitation into sustained competitive differentiation, which in turn should enable them to attract new customers, charge higher prices and grow more rapidly (Gilbert et al., 2006; Teece, 2010).

Third, technological innovativeness increases the legitimacy benefits of extra-industry business model imitation. Customers can be reluctant to adopt innovative technologies, as they usually lack established track-records, tend to require changes in customer behavior, and often face greater uncertainties (Lee and Colarelli O’Connor, 2003; McNally et al., 2010). It is under these challenging conditions that extra-industry business model imitation becomes more beneficial for venture growth, because it enables technologically highly-innovative ventures to develop business models with ‘familiar design elements, combined in new ways that mediate between the innovative features of a differentiated product offering and the expectations, norms, and rules of the institutional environment’ (Zott and Amit, 2008: 8). Rather than adding to their legitimacy challenges by utilizing truly novel business models, new ventures with innovative technologies should therefore gain more stakeholder support when they imitate proven business models from other industries, thereby enabling them to acquire more resources for pursuing growth. Thus, we hypothesize:

Hypothesis 2. *The positive relationship between extra-industry business model imitation and new venture growth will be stronger for ventures with high levels of technological innovativeness than for ventures with low levels of technological innovativeness.*

The moderating role of prior industry experience

According to resource orchestration theory, it is not only the bundling of resources that matters for venture growth, but also whether venture founders possess the capabilities needed for orchestrating resources effectively (Sirmon et al., 2007). Building on this insight, we propose that founders with prior industry experience will be more effective at reconfiguring extra-industry business models for pursuing growth opportunities in their focal industry. Indeed, qualitative research indicates that a business model that is successful in one industry may not necessarily succeed in another industry without further modifications (Enkel and Mezger, 2013). We theorize that founders with more industry experience will be better at identifying, adapting, and implementing extra-industry business models in ways that enhance venture growth.

One reason for this is that industry experience provides founders with in-depth tacit knowledge about which business model configurations have been tried in the past, which succeeded, and why (Chatterji, 2009; Patzelt et al., 2008). This aids experienced entrepreneurs when selecting elements of extra-industry business models that will enable them to meet customers' needs and pursue emerging growth opportunities. In contrast, inexperienced founders may lack industry-specific knowledge to make such judgments and may therefore select less promising business model elements (Cosenz and Noto, 2018).

Another reason is that industry experience helps founders to make better business model design choices when trying to adapt elements of a proven business model. Unlike inexperienced founders, who may falsely believe that business models that have proven successful in other markets can easily be implemented in their current form, experienced founders are more likely to recognize which aspects of a model should be adjusted to meet the focal industry's requirements. Moreover, experienced entrepreneurs have more extensive social networks of customers, suppliers, and other stakeholders, all of whom can provide input on how to adapt the chosen business model (Chatterji, 2009; Eisenhardt and Schoonhoven, 1990). Industry experience thus enhances founders' ability to validate and fine-tune the adopted business models, which increases the likelihood of discovering business models that create value for customers and capture emerging growth opportunities.

A final reason is that industry experience increases founders' trustworthiness among stakeholders, which gives them greater access to technological know-how, financial capital, distribution channels and other complementary assets needed to implement and scale-up the replicated business model (Desyllas and Sako, 2013; Teece, 1986). Indeed, scholars have argued that superior business models tend to span firm boundaries, because it is the coupling of a firm's business model with external resources that provides growth opportunities (Amit and Zott, 2001). Although potential resource providers may initially be reluctant to support unfamiliar business models, experienced entrepreneurs are more likely to be able to overcome such resistance, as they share a common language with other industry participants and will thus find it easier to convince stakeholders to provide resources that are critical for venture growth (Penrose, 1959). Therefore, we propose the following hypothesis:

Hypothesis 3. *The positive relationship between extra-industry business model imitation and new venture growth will be stronger for founders with a high level of prior industry experience than for founders with a low level of prior industry experience.*

The interplay between new venture technological innovativeness and founder industry experience

Resource orchestration theory has tended to focus on the independent roles played by resource bundling and managers' resource management capabilities for firm performance (e.g., Carnes et al., 2017; Wales et al., 2013). Here, we propose that these elements of resource orchestration interact and thus *jointly* determine whether new ventures can leverage extra-industry business model imitation for growth. Considering these two elements together is insightful, because it may clarify 'when the combination of a novel technology and a novel business model leads to competitive advantage' (Baden-Fuller and Haefliger, 2013: 420).

Specifically, we expect that bundling extra-industry business model imitation with technological innovation particularly enhances growth when founders possess prior industry experience. Due to their industry-specific knowledge and network connections, experienced founders may have a better understanding of how business models from other industries can be positioned in the industry's value chain and modified to leverage the venture's innovative technology for growth. Experienced entrepreneurs can also leverage their prior employment affiliations with incumbent firms to signal their credentials to other industry participants (Burton et al., 2002; Chatterji, 2009). The legitimacy afforded by these affiliations will help experienced founders to convince stakeholders of the value that is created by re-combining innovative technologies with business models from other industries. Thus, experienced founders are more likely to realize the potential complementarity effects of extra-industry business imitation and technological innovativeness on venture growth.

By contrast, extra-industry business model imitation may fail to enhance the growth of highly-innovative new ventures when the founders lack prior industry experience. Inexperienced founders may lack the skills and resources needed to reconfigure extra-industry business models with their own venture's innovative technology in ways that create value for customers. Because they lack industry-specific human and social capital (Chatterji, 2009), inexperienced founders will find it more difficult to obtain reliable input from stakeholders on how to adapt the imitated business model to the venture's novel technology, leading to more failures and less rapid growth. As industry outsiders, inexperienced entrepreneurs may be less likely to overcome the increased legitimacy challenges associated with using both a novel technology *and* a novel business model; faced with such novelty, stakeholders may be more reluctant to commit to the venture (Zimmerman and Zeitz, 2002; Zott and Amit, 2008). Inexperienced entrepreneurs are also less likely to overcome stakeholder skepticism, because they themselves are perceived as less credible and trustworthy (Chatterji, 2009). As a result, the potential complementary effects of extra-industry business imitation and technological innovation on growth may not be realized when founders lack industry experience. We therefore hypothesize:

Hypothesis 4. *Founder prior industry experience moderates the positive interactive effect of extra-industry business model imitation and technological innovativeness on new venture growth in such a way that this interaction is stronger when industry experience is high than when it is low.*

The theoretical model summarizing our hypotheses is shown in Fig. 1.

Data and methods

Research setting

The empirical context for this study is that of the Swiss chemicals, pharmaceuticals, medical technology, and industrial electronics industries. In line with prior research, we defined an industry as a population of firms that “use similar inputs and technologies, produce similar products and serve similar customers” (Low and Abrahamson, 1997: 440). Scholars have argued that firms in the same industry tend to display a dominant logic for doing business, in the sense that they use similar profit models and offer similar value propositions (Casadesus-Masanell and Zhu, 2013; Teece, 2010). The four selected industries exhibit an adequate mixture of ventures pursuing dominant business models and ventures that apply business models that originate from other industries, making them an appropriate setting for testing our hypotheses. Furthermore, Switzerland is one of the world's leading producers of chemicals, pharmaceuticals, medtech and industrial electronics, and thus provides fertile ground for new ventures.

Research design and data collection

In the absence of an official list of all new ventures founded in Switzerland, we used multiple secondary data sources to construct our sample. We first extracted an initial list of ventures in the four chosen industries from the 2011 release of the Venture database. The Venture database is owned by the Swiss government, Switzerland's two leading tech schools, and major private sector firms in Switzerland, and forms the basis of the country's premier start-up competition.

Extracting our sample from the Venture start-up competition database had several advantages. First, ventures in these high-tech industries often sell or license their technology to large incumbents, thus making it difficult to analyze business model imitation, due to low variance in the dataset. As the sampled ventures were participating in a start-up competition, however, they were forced to explicate their business models, as these were one of the evaluation criteria in the competition. Second, using the same database to extract ventures over a longer period of time ensured the consistency of our dataset with respect to the definition of new ventures and their industry affiliations. Third, having a complete list of ventures, including those that failed, allowed us to reduce survivorship bias, which is an important issue in entrepreneurship research. Finally, as there are no official lists of Swiss ventures and the start-up competition is the country's leading contest, our database is the most comprehensive and trustworthy source of information on new ventures in Switzerland that is currently available.

We cross-checked our list with other start-up databases available in the country and industry experts to ensure the completeness of our list. We extracted 122 ventures from across the four selected industries. On average, the ventures had been established for 5.6 years, confirming that they could still be considered new ventures.

We collected data on our sample from multiple sources. Data for the independent variables were collected in 2011 by expert raters; a method that is increasingly being used in management studies (e.g., MacCormack et al., 2001) and business model research (e.g., Visnjic et al., 2016; Zott and Amit, 2007, 2008). We hired seven research assistants (Master's and PhD students) and trained them to collect, code, and analyze the data. In order to hire the research assistants, we developed a job ad describing the specific task at hand and posted it on our university homepage and other job platforms. The students were required to be either Master's or PhD students in the field of management. Following Amit and Zott (2007: 187), we asked all of the candidates to “submit an abbreviated test survey on a randomly chosen sample company to display their understanding of [...] business models.” We used these surveys to select the most qualified candidates, and then trained and supervised them in data collection, coding, and analysis, in close collaboration with the author team.

Measures and validation

New venture growth. We calculated the ventures' average annual employment growth by comparing the number of employees (full-time equivalents) at the time of data collection (2011) and two years after data collection (2013). We did not include financial data as a component of performance, as such data are not comparable across the different ventures: ventures in the pharma sector, for example, may not generate revenues and profits for several years, while ventures in the industrial electronics industry tend to generate revenues and profits immediately.

Employment data for the ventures were collected from Bureau van Dijk's ORBIS database and from Internet searches. The ORBIS database has been used by several prior studies to measure firm size (e.g., Hawk et al., 2013) and is recognized as a reliable source of employment data. As an additional validity check, we compared the performance data from the ORBIS database with the performance data from the Venture database, which included partial employment numbers for the year 2011. We were able to compare the data for a subsample of 57 ventures. Employment growth rates calculated from the two data sources were highly consistent ($r = 0.95$, $p < 0.01$), thus supporting the validity of our growth measure.

Extra-industry business model imitation. Extra-industry business model imitation was measured using a count measure based on the

work of [Posen et al. \(2013\)](#). The original measure counts the number of attributes that a firm has appropriated from the industry's market leader. To measure extra-industry business model imitation, we made two adaptations to this original measure. First, to capture business model imitation, we specifically counted the number of profit models that a venture had replicated instead of any firm attribute. Second, given our focus on extra-industry imitation, we counted only those profit models that had been employed by leading firms in other industries, but were not yet used by the dominant players in the four focal industries. Thus, a greater value of the extra-industry business model imitation measure indicates that a focal venture has adopted a larger number of profit models from industries other than its own. This measurement is consistent with the business model literature, which argues that firms often apply multiple profit models in parallel ([Casadesus-Masanell and Zhu, 2013](#); [Teece, 2010](#)).

The measure was developed in three steps. First, we created a list of common profit models, by performing an extensive search to identify the various models mentioned in the literature. We scanned relevant publications from the last 25 years (from 1987 until 2012). Google Scholar was used as the primary search platform, instead of EBSCO, as many relevant publications on business models are based on books or working papers, due to the novelty of the topic ([Zott et al., 2011](#)). The search term “business profit model” generated 1.2 million results; clearly, we were unable to analyze all of them. We analyzed the first 300 results based on three criteria, which we adapted from [Zott et al. \(2011\)](#): first, the profit model construct needed to be used in a non-trivial way; second, the profit model had to refer to a construct related to business firms; and third, the journal, book, or working paper needed to be from a “reliable” source, defined as written by a well-known author with a minimum of 50 citations listed in Google Scholar or ResearchGate, published by a university that is ranked in any of the FT rankings (business school, MBA, Master's, etc.), or published by a journal that is ranked in the ISI Web of Knowledge. This selection method resulted in approximately 100 relevant publications. By reading through these, we were able to identify and add other relevant publications, resulting in a final sample of around 120 publications. We analyzed all 120 publications in detail with respect to well-known profit models, which resulted in an initial list of 49 profit models. We then discussed the list with a class of executive MBA students, which allowed us to pinpoint similarities and overlaps between the models. Once similar models had been merged, a list of 25 profit models remained. All 25 of these have been listed in the appendix, including a short description, the main literature, and sample companies that have applied these business models.

In the second step, we conducted interviews with twelve industry experts (three from each industry) to categorize the 25 profit models into two groups: intra-industry and extra-industry. For the intra-industry category, we asked the experts to identify which of the profit models were used by the industry's dominant players. These dominant players were defined as the top three firms in each industry, based on market share. All of the remaining profit models were assumed to be extra-industry business models and were labeled accordingly. Here, we cannot rule out the possibility that we classified profit models as “extra-industry” that had been used by other, smaller players in the focal industry, perhaps in niche markets. Yet, as these business models do not represent the dominant logic of the industry, new ventures that replicate these business models should still achieve differentiation and legitimacy benefits, as predicted by our theory. The experts' classification was homogenous within each industry and differed across the four industries. This resulted in four lists of 25 profit models, with varying classifications of which models were considered intra-industry and which were considered extra-industry.

In the third step, for each venture, our expert raters (i.e., the Master's and PhD students) coded whether the venture employed any of the 25 profit models. More specifically, for each profit model, we constructed a binary variable coded 1 if the profit model was employed by the focal venture and 0 if it was not. Then, building on the list of business models developed in the second step, for each venture, we counted the total number of extra-industry profit models and the total number of intra-industry profit models that had been emulated. This resulted in two measures, one for extra-industry business model imitation—our main predictor—and one for intra-industry business model imitation, which we used as the control variable.

Our expert raters used multiple data sources to perform the coding, including company databases, investment analysts' reports, webpages, annual reports, and press articles. They could also use data from the Venture database, which contained descriptions of the ventures' technology and businesses provided by the founders themselves, and detailed written feedback from the multiple jurors participating in the competition. It took the raters between one and two days to understand a given venture and perform the coding.

Following [Zott and Amit \(2007, 2008\)](#), we considered the inter-rater reliability of the measure by assigning 30 cases (25%) to two different raters. We then calculated the intra-class correlation index ([Burke and Dunlap, 2002](#)) on the scale level. The index had a value of 0.87. We used different pairs of raters and different cases and reran the test. The index was always well above the threshold of 0.7. Thus, the test confirmed that our business model imitation measure had a good level of inter-rater reliability.

New venture technological innovativeness. We measured technological innovativeness by adopting a three-item scale from [Kock et al. \(2011\)](#). For each venture, our expert raters were asked to evaluate each venture's level of technological innovativeness on a 9-point Likert scale, using sample items such as: “In this venture a completely new technological principle is applied.” All items loaded on a single factor that had satisfactory reliability ($\alpha = 0.77$). For each venture, all three items were averaged into a single technological innovativeness score.

Founder prior industry experience. Our expert raters collected data on founders' career histories, following the procedures described above. Following [Beckman \(2006\)](#), we then counted the total number of discrete prior positions in the focal industry held by all the members of the founding team, prior to founding the current venture. For example, if one founder had worked at Novartis in two different positions and another founder had always worked at Hoffmann-la-Roche in the same position, they had a count number of 3. We focused on positions rather than years of experience, because positions are more directly associated with unique opportunities to accumulate various industry-specific human and social capital resources. For a position to be counted, however, we used a minimum threshold time period of six months, to ensure that founders would have had sufficient time to accumulate meaningful experiences in that position.

Table 1
Means, standard deviations, and correlations.

Variable	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13
1 Pharma	0.39	0.49													
2 Industrial electronics	0.17	0.38	0.36												
3 Medtech	0.11	0.32	-0.29	-0.16											
4 Venture capital financed	0.25	0.43	0.06	-0.01	0.09										
5 Firm size (log)	0.75	0.49	0.19	-0.12	-0.09	0.15									
6 Firm age	5.64	4.09	-0.09	-0.04	-0.02	-0.04	0.38								
7 Intra-industry business model imitation	1.29	0.67	0.16	-0.10	0.04	0.24	0.17	-0.12							
8 Founding team size	2.84	1.27	0.05	-0.15	0.13	0.01	0.17	0.05	0.09						
9 Proportion of founders still employed	0.72	0.34	-0.11	0.07	-0.12	-0.05	-0.21	-0.14	-0.09	-0.23					
10 Working experience overall	1.22	0.46	0.19	-0.07	-0.01	0.12	0.05	0.02	0.25	0.43	-0.13				
11 Extra-industry business model imitation	0.75	0.97	0.03	-0.02	0.01	0.15	0.03	-0.14	0.15	-0.01	0.07	0.14			
12 Technological innovativeness	6.60	1.60	-0.04	0.00	-0.03	0.20	0.11	0.00	0.04	0.06	0.02	0.06	0.02		
13 Founders' prior industry experience	3.16	2.29	0.11	-0.04	0.05	-0.10	0.10	-0.04	0.05	0.24	-0.01	0.22	0.05	-0.09	
14 New venture growth	1.90	5.81	0.11	0.06	-0.06	0.36	0.14	0.02	0.15	-0.02	-0.08	0.19	0.44	0.10	0.05

N = 122.

Correlations with absolute value greater than 0.18 are significant at the 5 percent level.

Control variables. We included several control variables that could affect the hypothesized relationships. We controlled for *industry* by including industry fixed effects in all models, which ensured that the findings could not be driven by unobserved differences between the four sampled industries. We controlled for *firm size* by taking the log of the total number of employees at the end of 2011, because employment growth is likely to decrease as firms grow larger. We controlled for *firm age*, measured as 2011 minus the year of founding. We controlled for whether a venture had obtained *venture capital*, since venture capital backing captures firm quality and resource availability (Beckman, 2006). Thus, we included a dummy that is equal to 1 when the venture had obtained *venture capital* and equal to 0 otherwise. We controlled for *intra-industry imitation* to rule out that our findings could be attributed to a venture's overall imitation propensity rather than its imitation of extra-industry business models. At the team level, we controlled for *founding team size*, since larger teams potentially have more resources available that may influence the venture's tendency or ability to imitate business models. We also controlled for the *proportion of founders currently employed*, because this is likely to impact the extent to which founders' prior experiences are predictive of firm outcomes (Beckman, 2006). Finally, we controlled for the *overall working experience* of the founding team to ensure that our findings on industry experience are not driven by unobserved differences in founders' career tenure. We therefore included the cumulative number of years that founding team-members had worked prior to founding their current venture as a control variable.

Results

Hypothesis tests

The hypotheses were tested using moderated multiple regression analysis. Table 1 presents the means, standard deviations, and correlations for the variables. We plotted the histograms and assessed the skewness and kurtosis for each variable and found no evidence of distribution problems. On average, the ventures had been in business for 5.6 years and had eleven employees. Because the predictors were measured on different scales, we standardized them before creating the interaction terms by computing Z-scores, where each predictor has a mean of zero and a standard deviation of one. Further, we calculated the variance inflation factors (VIF) for all variables; these are presented together with the regression results in Table 2. Since all VIF scores are below 1.9, multicollinearity is unlikely to be severe.

Table 2 shows the results of the hierarchical regression analyses. Model 1 only includes the controls. In model 2, we added the main effects of business model imitation, technological innovativeness and founders' prior industry experience. The results demonstrate that extra-industry business model imitation is significantly and positively related to venture growth ($b = 0.40$, $p < 0.001$). Thus, Hypothesis 1 was supported (see Fig. 1).

In model 3 we added all two-way interactions as cross-product terms of the independent variables. We also ran separate models testing each interaction effect separately, which yielded the same results. Hypothesis 2 posits that extra-industry business model imitation is more positively related to venture growth for ventures with higher technological innovativeness. This interaction is positive and significant in model 3 ($b = 0.24$, $p < 0.01$) but only marginally significant in the full model ($b = 0.15$, $p < 0.10$), thus offering weak support for Hypothesis 2. In contrast, Hypothesis 3 posits that extra-industry business model imitation is more positively related to venture growth when founders have more prior industry experience. As the regression coefficient for this interaction is strongly significant in both model 3 ($b = 0.26$, $p < 0.01$) and the full model ($b = 0.38$, $p < 0.001$), Hypothesis 3 was supported. We plotted the interaction at one standard deviation above and below the mean of the moderator, as recommended by Aiken and

Table 2
Results of hierarchical moderated regression analyses predicting new venture growth^a.

	New Venture Growth							
	Model 1		Model 2		Model 3		Model 4	
<i>Control variables</i>								
Pharma	0.06	(0.11) 1.50	0.07	(0.10) 1.52	0.06	(0.09) 1.55	0.01	(0.09) 1.59
Industrial electronics	0.08	(0.10) 1.30	0.09	(0.09) 1.31	0.06	(0.08) 1.33	0.04	(0.08) 1.34
Medtech	-0.05	(0.10) 1.28	-0.05	(0.09) 1.29	-0.04	(0.08) 1.35	-0.05	(0.08) 1.35
Venture capital financed	0.33***	(0.09) 1.11	0.29**	(0.08) 1.18	0.32***	(0.08) 1.19	0.31***	(0.08) 1.19
Firm size (log)	0.08	(0.10) 1.40	0.03	(0.09) 1.45	-0.03	(0.09) 1.50	0.02	(0.09) 1.56
Firm age	0.01	(0.10) 1.29	0.08	(0.09) 1.33	0.07	(0.08) 1.34	0.03	(0.08) 1.37
Intra-industry business model imitation	0.03	(0.09) 1.20	0.00	(0.09) 1.20	0.04	(0.08) 1.22	0.09	(0.08) 1.29
Founding team size	-0.10	(0.10) 1.35	-0.08	(0.09) 1.40	-0.06	(0.09) 1.42	-0.11	(0.09) 1.48
Proportion of founders still employed	-0.05	(0.09) 1.13	-0.08	(0.08) 1.15	-0.05	(0.08) 1.18	-0.00	(0.08) 1.23
Working experience overall	0.17†	(0.10) 1.36	0.09	(0.09) 1.43	0.09	(0.09) 1.45	0.13	(0.09) 1.49
<i>Main effects</i>								
Extra-industry business model imitation			0.40***	(0.08) 1.09	0.31***	(0.08) 1.19	0.29***	(0.08) 1.20
Technological innovativeness			0.04	(0.08) 1.08	0.06	(0.08) 1.12	0.02	(0.08) 1.17
Founders' prior industry experience			0.06	(0.08) 1.15	0.09	(0.08) 1.20	0.11	(0.08) 1.20
<i>Two-way interactions</i>								
Extra-industry business model imitation x Technological innovativeness					0.24**	(0.08) 1.14	0.15†	(0.09) 1.30
Extra-industry business model imitation x Founders' prior industry experience					0.26**	(0.07) 1.20	0.38***	(0.08) 1.65
Technological innovativeness x Founders' prior industry experience					0.05	(0.07) 1.13	0.11	(0.07) 1.22
<i>Three-way interaction</i>								
Extra-industry business model imitation x Technological innovativeness x Founders' prior industry experience							0.23**	(0.08) 1.88
Delta R2			0.15		0.11		0.05	
R2	0.18		0.33		0.44		0.49	
Adjusted R2	0.11		0.26		0.36		0.40	
F	2.51**		4.20***		5.16***		5.73***	
n = 122								

^aAll variables are standardized. Values in *italic* are VIFs.

†p < 0.1.

*p < 0.05.

**p < 0.01.

***p < 0.001.

West (1991). As hypothesized, Fig. 2 shows that the positive relationship between extra-industry business model imitation and new venture growth becomes stronger at higher levels of founders' prior industry experience.

Finally, in model 4 we tested the three-way interaction between extra-industry business model imitation, technological innovativeness, and founders' prior industry experience. The three-way interaction is positive and significant ($b = 0.23$, $p < 0.01$). To further probe the three-way interaction, we plotted the interaction using Aiken and West (1991) procedures.

Fig. 3 shows that the positive moderating effect of technological innovativeness only occurs when the industry experience of founders is high. Simple slope tests indicated that the slope of the link between extra-industry business model imitation and new venture growth was significantly positive when technological innovativeness was high and when founders' prior industry experience was also high ($t = 6.93$, $p < 0.001$). The slope was also positive and significant when technological innovativeness was low and founders' prior industry experience was high ($t = 2.38$, $p < 0.05$). When founder's prior industry experience was low, the relationship between extra-industry business model imitation and new venture growth was negative but not significant for both high and low levels of technological innovativeness ($t = -.81$, n.s.; $t = -0.12$, n.s.). Slope difference tests (Dawson and Richter, 2006) revealed that the slope for high levels of technological innovativeness and industry experience is significantly different from all other slopes, including the slope for high technological innovativeness and low industry experience ($t = 4.42$, $p < 0.001$). This finding lends support for Hypothesis 4.

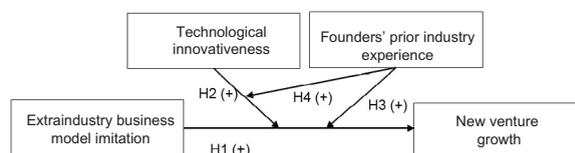


Fig. 1. The theoretical model.

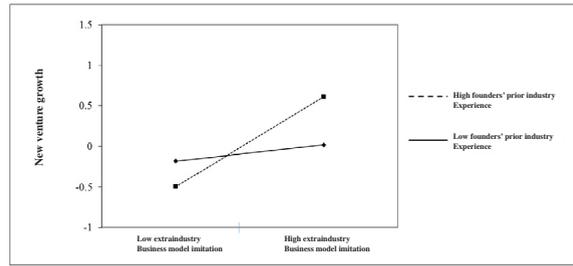


Fig. 2. Two-way interaction between extra-industry business model imitation and founders' prior industry experience (H3).

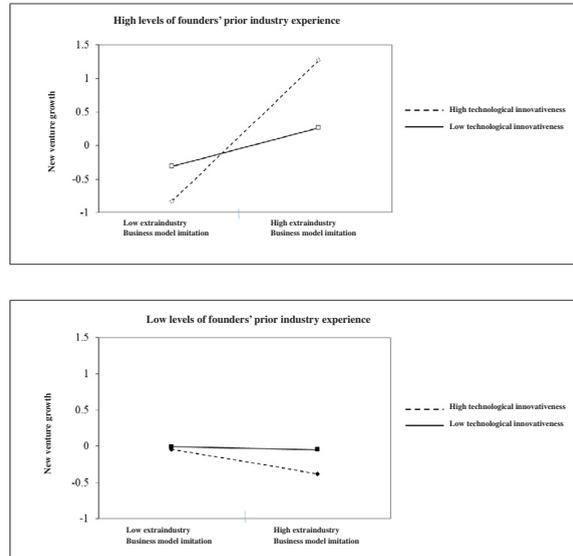


Fig. 3. Three-way interaction between extra-industry business model imitation, new venture technological innovativeness and founder prior industry experience (H4).

Robustness checks

One important concern in our study was potential endogeneity of the predictors, because business model imitation and technological innovativeness are strategic choices that may be influenced by unobserved factors that also impact venture growth. To evaluate this possibility, we estimated a two-stage least-squares (2SLS) regression with three instrumental variables for each of the two predictors. We used STATA 13.1 with the IVREG2 and the FFIRST command to calculate the 2SLS model (Bascle, 2008). In the first stage model, we generated predicted values for the two potentially endogenous variables. In both cases, the F-value was above the value of 10, which shows that our selected instruments were strong and relevant. We then used the OVERID command to test the exogeneity of the selected instruments. Both the Sargan N^2R -sq test and the Basman test were not significant for all six instruments, thus supporting the exogeneity of the instruments. In the second-stage regression equation, we used the predicted values from the first stage model as predictors to test the hypotheses. The regression coefficients and the significance levels of the corrected model paralleled the ones shown in model 4 in Table 2. Finally, we used the IVENDOG command and Durbin-Wu-Hausman test to evaluate the endogeneity of the two variables. Non-significant Wu-Hausman F-tests and Durbin-Wu-Hausman Chi-sq tests indicated that extra-industry business model imitation and technological innovativeness were exogenous and that the result was unbiased (all results are available upon request). Thus, endogeneity is unlikely to have severely biased the research findings.

Besides the endogeneity tests, we conducted several additional robustness checks. First, we included prior growth in our model, measured as the average annual employment growth during the three years prior to data collection. Doing so did not alter the findings, which reduces potential reverse causality concerns. However, due to high correlations with firm size ($r = 0.68$, $p < 0.001$), we excluded prior growth from the final model. Second, we estimated all models without any controls to ensure that the controls did not overly influence the results. These models yielded findings that were very similar to our main results. Third, we tested whether our findings are robust to using alternative measures for business model imitation by randomly removing particular profit models from the full list of business models and then reconstructing the measure based on the remaining profit models. The results for these alternative measures remained unchanged although in some cases the significance level was slightly lower.

Discussion

Contributions

The present study makes several important contributions to research on business model innovation, resource orchestration, and competitive imitation. First, this is one of the first empirical studies explicitly to test the relationship between extra-industry business model imitation and new venture growth, as well as its boundary conditions in the new-venture context. We thereby contribute to theories of business model innovation, which to date have only offered anecdotal evidence on the potential value of imitation for developing innovative, performance-enhancing business models (e.g., [Baden-Fuller and Morgan, 2010](#); [Teece, 2010](#)). Prior research in this field has emphasized the need for firms to develop innovative business models, but it has also acknowledged that novel business models often fail because they are less likely to be understood and supported by a firm's stakeholders ([Zott and Amit, 2008](#)). We advance this research by offering a new approach to reconciling this tension, by clarifying how extra-industry business model imitation allows new ventures to design business models that are considered both novel *and* legitimate. In so doing, we hope to pave the way for more systematic research on the role of imitation in the design and performance of new venture business models.

Second, by highlighting the moderating effects of new venture technological innovativeness and founder prior industry experience as two key and interdependent aspects of resource orchestration, we respond to recent calls for more research on the boundary conditions that govern when business model innovation enhances firm performance ([Foss and Saebi, 2017](#)). Specifically, this study adds nuance to resource orchestration theory's assertion that bundling resources leads to better performance ([Sirmon et al., 2007](#)) by illuminating the difficulties of bundling replicated resources with proprietary resources. Our findings indeed demonstrate that combining extra-industry business models with novel technologies by itself does not enhance venture growth. We clarify that such bundling only enhances growth when founders possess prior industry experience, thereby underscoring the importance of examining higher-order configurations among different facets of resource orchestration in future research. Overall, our findings thus stress the need to consider the human element in successful business model innovation, directing attention towards the actions and skills that enable founders to replicate business model elements across industries and integrate them into novel designs. Future studies could explore these issues in greater detail by building on emerging theories of entrepreneurial action such as effectuation ([Saravathy, 2001](#)), bricolage ([Baker and Nelson, 2005](#)), and improvisation ([Baker et al., 2003](#)).

Third, this study extends research on competitive imitation. While this research has examined the factors that motivate or prevent imitation ([Fernhaber and Li, 2010](#); [Lieberman and Asaba, 2006](#)), it has tended to assume that imitation is 'a strategy pursued by inferior firms' ([Posen et al., 2013: 149](#)) without systematic study of its performance consequences. Our study addresses this knowledge gap by clarifying when extra-industry business model imitation enhances venture growth, thereby addressing Lieberman and Asaba's (2006: 382) call for research that examines 'the benefits and costs of imitation in specific contexts in order to better anticipate situations where imitation is likely to prove detrimental.' Specifically, we help to reconcile conflicting theoretical perspectives on the performance benefits of imitation in two ways. First, while prior research has generally assumed that imitation reduces a firm's competitive differentiation and performance ([Porter, 1991](#)), our study indicates that extra-industry business model imitation can in fact enhance venture growth. Our study thus underscores the need to pay more attention to cross-industry imitation in future research. Second, prior work typically assumes that firms perfectly replicate each other's attributes ([Lieberman and Asaba, 2006](#)), again suggesting that imitation reduces firm heterogeneity. In contrast, our study testifies to the 'power of imperfect imitation' ([Posen et al., 2013](#)) by showing that imitation leads to more growth when founders are in a position to adapt extra-industry business models and re-combine them with their ventures' proprietary technologies. This insight indicates that more research is needed to explore the processes and capabilities that enable firms to reconfigure imitated and proprietary firm attributes into novel, performance-enhancing re-combinations.

Practical implications

Practitioners and the media seem to have embraced business model innovation as the holy grail of successful new venture creation (e.g., [Blank, 2013](#)). Although this emphasis on innovation suggests that entrepreneurs should develop novel business models, our study indicates that entrepreneurs who aspire to build high-growth ventures should instead consider adopting proven business models. It also suggests that educators need to consider how they can assist entrepreneurs in acquiring the skills that are needed for successfully adapting existing business models to new markets. Importantly, our analysis puts forward two important caveats regarding the performance benefits of extra-industry business model imitation.

First, our study implies that imitating business models from other industries may not deliver any growth benefits when entrepreneurs fail to invest in technological innovation. Thus, when launching their businesses, aspiring entrepreneurs should be aware that it is not business model imitation *per se*, but its combination with unique technologies that increases venture growth. Second, our findings indicate that entrepreneurs who wish to replicate proven business models in new markets should have prior experience in these markets. Entrepreneurs should therefore carefully consider which industry to target with a replicated business model, and perhaps team up with co-founders who have prior experience in that industry.

Limitations and directions for future research

Our contributions should be viewed in the context of several limitations, all of which open up new research opportunities. First, the findings are based on a sample of Swiss ventures in technical industries that participated in a start-up competition. Although using

a restricted sample helped to reduce potential unobserved heterogeneity, further research is needed to determine the generalizability of our findings. Past research indicates that imitation is strongly influenced by context (Lieberman and Asaba, 2006), so future studies might consider how economic, social, cultural, and institutional differences between countries or industries affect the outcomes of business model imitation.

Second, we only considered new venture growth as a performance outcome of extra-industry business model imitation. While growth is widely considered a key indicator of venture development and performance (Brush and Vanderwerf, 1992), future studies could examine other relevant outcomes, such as new venture profitability and innovation performance.

Third, this study is limited in its ability to directly measure imitation. While we mitigated potential validity concerns by using multiple raters and data sources, by carefully developing a list of extra-industry business models, and by conducting robustness tests using alternative measures, future research could develop more finely-drawn measures of business model imitation. Moreover, we were unable to ascertain whether ventures purposely imitated models or incidentally happened to create them from scratch. More research is needed that explicitly examines the imitative practices of entrepreneurs and also considers failed imitation attempts.

Fourth, this research focused on profit models alone and therefore did not examine imitation outcomes related to more detailed perspectives on business models, such as activity systems. Future studies could consider how the imitation of more detailed business model perspectives influences new venture performance. One interesting question that this research could explore is how entrepreneurs might successfully balance imitation and innovation across multiple activities and then reconfigure these activities into a novel business model design.

Fifth, we theorized that extra-industry business model imitation offers new ventures a unique mix of novelty and legitimacy benefits, but more research is warranted to examine how stakeholders respond to business model imitation. For instance, stakeholder responses might be culturally or socially influenced, such that imitation is valued in some settings but punished in others. Our theory also emphasized that it is often necessary for entrepreneurs to adapt the business models that they replicate. By closely examining these adaptation processes, future studies could clarify the factors that determine the success of cross-industry business model imitation. For example, research could examine the role played by relatedness between the source and target industry, or the causal ambiguity associated with the success of the original business model.

Sixth, we did not examine the antecedents of business model imitation, besides identifying three instruments in the endogeneity test. Future research could extend our study by investigating how entrepreneurs search for and evaluate pre-existing business models before deciding which elements to adopt. Evidence indicates that entrepreneurs' career histories have an important influence on their strategic choices (Chatterji, 2009), suggesting that future studies could examine how founders' human and social capital might influence their propensity to imitate business model attributes of particular firms.

Conclusion

New ventures often face the dual challenge of developing business models that are perceived as both innovative and legitimate. In this study, we have presented theories and evidence clarifying how entrepreneurs may resolve this challenge by imitating proven business models from other industries. Our analysis demonstrates that extra-industry business model imitation can be a performance-enhancing strategy, but cautions that this is only the case when the imitated business models are combined with novel technologies and founders possess the necessary industry experience to orchestrate these resource re-combinations effectively. We hope that these insights will inspire scholars to take a closer look at the power of imitative strategies and their implications for the business models and growth of new ventures.

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APPENDIX. Overview of profit models in the four sampled industries

	Profit Model	Definition	Main literature	Sample companies
1	Add-on	The core offering is priced competitively, but there are numerous extras that drive up the final price.	Casadesus-Masanell and Ricart (2011); Casadesus-Masanell and Tarzijan (2012); Johnson (2010); Teece (2010);	Ryanair, SAP
2	Affiliation	The focus is on supporting others to sell products successfully, thus benefiting directly from successful transactions.	Akçura (2010); Birkner (2012); Duffy (2005); Evans and Wurster (1999); Goldschmidt et al. (2003)	Uber, Amazon Affiliate Program
3	Cross selling	Services or products from an external business are added to the offering, thus leveraging existing key skills and resources.	Akçura and Srinivasan (2005); Li et al. (2011); Malms (2012); Shah and Kumar (2012).	Shell Bistro, IKEA

4	Crowdfunding	A product, project or entire start-up is financed by a group of investors who wish to support the underlying idea, typically via the Internet.	Gobble (2012); Hemer (2011); Ordanini et al. (2011)	Oculus, General Electric Appliances
5	Crowdsourcing	The solution to a task or problem is adopted by anonymous crowd members, who then receive a small reward if their solution is chosen.	Howe (2008); Leimeister (2013); Marjanovic et al. (2012)	Wikipedia, Hyperloop
6	E-commerce	Traditional products or services are delivered through online channels only, thus removing the costs associated with running a physical branch infrastructure.	Amit and Zott (2001); Amit et al. (2002); De Figueiredo (2000); Mahadevan (2000); Turban et al. (2010).	Alibaba, Amazon
7	Freemium	The basic version of an item is offered for free in the hope of eventually persuading customers to purchase a premium version.	McGrath (2010); Teece (2010); Niculescu and Wu (2011)	Dropbox, Spotify
8	Hidden revenue	The main source of revenue does not come from the user, but from a third party, who cross-finances whatever low-priced offering attracts the users.	Casadesus-Masanell and Zhu (2010, 2013); Amit and Zott (2001); Afuah and Tucci (2000); McGrath (2010)	Google, JCDecaux
9	Leverage customer data	New value is created by collecting customer data and preparing it in beneficial ways for internal usage or transmission to interested third-parties.	Afuah and Tucci (2000); Rappa (2004); Wirtz et al. (2010)	Facebook, Google AdWords
10	Licensing	Efforts are focused on developing intellectual property that can be licensed to other manufacturers.	Cesaroni (2003); Chesbrough (2007, 2010); Gambardella and McGahan (2010); Garmsey et al. (2008)	IBM, TV Sports
11	Lock-in	Customers are locked into a vendor's world of offerings, typically generated by technological mechanisms or substantial interdependencies of offerings.	Amit and Zott (2012); Bowonder et al. (2010); Johnson et al. (2008); McGrath (2010); Teece (2010)	Gillette, Microsoft
12	Make more of it	Company know-how and other assets are not only used to build the company's own products, but are also offered to other companies.	Isckia (2009); Marston et al. (2011)	Festo Didactic, Porsche Consulting
13	No frills	No-frills value creation focuses on the necessary minimum to deliver the core value proposition of a product or service.	Casadesus-Masanell and Ricart (2011); Casadesus-Masanell and Tarzijan (2012); Johnson (2010); Teece (2010);	Aldi, Ryanair
14	Orchestrator	The company's focus is on the core competencies within the value chain, while the other segments are outsourced.	Fung et al. (2007); Möller et al. (2005); Ritala et al. (2009)	Nike, Uber
15	Pay per use	The actual usage of a service or product is metered; that is to say, the customer pays on the basis of what is effectively consumed.	Brynjolfsson et al. (2010); Kley et al. (2011); Prahalad and Hammond (2002); Sako (2012)	Car2Go, Rolls-Royce-Turbines
16	Peer-to-peer	This model is based on cooperation between individuals who are connected by an organizing company, which typically offers an online database.	Berry et al. (2006); Hughes et al. (2008); Jeon et al. (2011); Karakas (2009); Kupp and Anderson (2007)	Kickstarter, Airbnb
17	Performance-based contracting	A product's price is not based on its physical value, but on the performance or valuable outcome it delivers in the form of a service.	Chesbrough and Rosenbloom (2002); Hypko et al. (2010); Lay et al. (2009)	Xerox, Phillips Lighting
18	Product sales	The customer pays a price for a product, which is typically calculated based on the costs of producing the product plus a margin.	product management literature	Majority of businesses today
19	Razor and blade	The basic product is cheap or given away for free, while the consumables needed to use or operate it are expensive and sold at high margins.	Amit and Zott (2012); Giesen et al. (2007); Johnson et al. (2008); McGrath (2010); Teece (2010)	Hewlett-Packard, Gillette
20	Rent instead of buy	Instead of buying a product, the customer rents it. This reduces the capital typically needed to gain access to the product.	Barringer and Greening (1998); Knox and Eliashberg (2009); Stevens et al. (2003); Teece (2010); Wessel and Christensen (2012)	Liebherr, Xerox
21	Revenue sharing	Revenue sharing refers to the practice of sharing revenues with a company's stakeholders, such as complementors or even rivals.	Cachon and Lariviere (2005); Pigliapoco and Bogliolo (2012); Smith and Kumar (2004); Tang et al. (2012)	Uber, AppStore
22	Solution provider	A solution provider offers total coverage of products and services in a particular domain, consolidated at a single point of contact.	Berman et al. (2011); Brady et al. (2005); Kessler and Stephan (2010); Kumar et al. (2008); Stremersch et al. (2001)	Tetra Pak, SAP
23	Subscription	The customer pays a regular fee, typically on a monthly or annual basis, to gain access to a product or service.	Casadesus-Masanell and Zhu (2010); McGrath (2010); Teece (2010)	Blacksocks, Netflix
24	Two-sided market	A two-sided market facilitates interactions between multiple interdependent groups of customers.	Casadesus-Masanell and Ricart (2011); Eisenmann et al. (2006); Lin et al. (2011); Mantena and Saha (2012)	Diners Club, TripAdvisor
25	User-designed	In this pattern, the customer is both the manufacturer and the consumer.	Robertson and Hjulser (2009); Wulfsberg et al. (2011); Prahalad and Ramaswamy (2004), Hienerth et al. (2011)	LEGO Factory, Threadless

This table has been adopted and slightly modified from the original table published in Gassmann, O., Frankenberger, K., Csik, M. (2014). The business model navigator.

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