

Strategic Orientations and Novel Business Model Designs: an Empirical Investigation¹

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Abstract

Novel business model designs have become a focal unit of analysis in strategy and entrepreneurship research. However, little is known about how a venture's strategic orientations influence the novelty of the business model design. Building upon the well-established literature on strategic orientation, this study contends that entrepreneurial orientation — a prominent strategic orientation — is positively related to novel business model designs. Additionally, this study posits technology and customer orientation — two other prevalent strategic orientations — as influential moderators that positively impact the relationship between entrepreneurial orientation and novel business model designs. To empirically validate these propositions, I collected survey data from 972 new ventures operating in Austria, Germany, Liechtenstein, and Switzerland. The primary finding shows that entrepreneurial orientation is positively linked to novel business model designs. Furthermore, the study reveals that technology orientation and customer orientation exert a negative moderation effect on the relationship between entrepreneurial orientation and novel business model design. Based on this, this research not only contributes to a deeper theoretical understanding of the interplay between strategic orientations and novel business model designs but also provides practical insights.

Keywords

Business model design; novelty; entrepreneurial orientation; technology orientation; customer orientation; strategic orientation

¹ I used ChatGPT to linguistically improve and shorten this paper. Beyond linguistically improving and shortening, I did not employ ChatGPT in the development of this paper.

INTRODUCTION

In the realm of business model design research, a notable focus is placed on novel business model designs (Foss & Saebi, 2017; Schneider & Spieth, 2013; Spieth, Schneckenberg, & Ricart, 2014; Zott & Amit, 2007, 2008). Novel business model designs are about new ways of doing business (Amit & Zott, 2001) and play a significant role in the commercialization of innovations (Chesbrough & Rosenbloom, 2002), industry change (Christensen, Raynor, & McDonald, 2015; Martins, Rindova, & Greenbaum, 2015), as well as firm performance (Leppänen, George, & Alexy, 2021; Zott & Amit, 2007, 2008).

Given the importance of novel business model designs, how can we facilitate their development? Concerning this question, prior research started to explore the antecedents of novel business model designs through the rational positioning view (Martins et al., 2015). This view underscores the importance managerial choices as pivotal factors influencing the emergence of novel business model designs (Martins et al., 2015; Wei, Song, & Wang, 2017).

Within the rational positioning view, scholars have examined the relationship between strategy and the business model (Casadesus-Masanell & Ricart, 2010; Cortimiglia, Ghezzi, & Frank, 2016; Teece, 2010) while more recent debates have shifted towards exploring the impact of strategy on business model change through strategic orientations (Ciampi, Demi, Magrini, Marzi, & Papa, 2021; Klein, Spieth, & Heidenreich, 2021).

Despite these advances, we need a better understanding of how strategic orientations affect novel business model designs (Klein et al., 2021; Lanzolla & Markides, 2021; Schneider & Spieth, 2013; Spieth, Schneckenberg, & Matzler, 2016). Specifically, the literature calls for more quantitative research (Cortimiglia et al., 2016) and stresses the importance of linking strategic orientations not only to business model change but also to the level of novelty in business model designs (Klein et al., 2021). Considering the conceptual distinctions between a change and design

perspective (Demil & Lecocq, 2010; Foss & Saebi, 2017), and recognizing the potency of strategic orientations in fostering novelty (Hughes, Chang, Hodgkinson, Hughes, & Chang, 2021; Zhou, Yim, & Tse, 2005), establishing a link between strategic orientations and novel business model design emerges as a fruitful avenue to both complement and extend existing research.

Against this background, this paper seeks to explore the impact of strategic orientations on novel business model designs through a quantitative research design in the context of new ventures. While several strategic orientations exist, this study focuses on entrepreneurial orientation and how entrepreneurial orientation affects business model design novelty (Covin & Slevin, 1989; Lumpkin & Dess, 1996). However, as studying only one strategic orientation may provide an inaccurate reflection of reality (Hart, 1992) this study not only examines the impact of entrepreneurial orientation on novel business model design but also the interaction between entrepreneurial orientation and two other prevalent strategic orientations: technology orientation and customer orientation (Gatignon & Xuereb, 1997; Klein et al., 2021). In this vein, this study follows the view that strategic orientations can be complementary (Hakala, 2011; Schweiger, Stettler, Baldauf, & Zamudio, 2019).

This study holds several contributions to business model research. First, studies examining how strategy affects the business model design tend to be on a high level of abstraction (Casadesus-Masanell & Ricart, 2010; Teece, 2010). By adopting strategic orientations, the study contributes more fine-grained insights into how strategy affects the business model design. Second, this paper builds upon the view that strategic orientations are complementary (Hakala, 2011). Through this approach, the study conveys a more complex view of how strategy influences the novelty of the business model design. Third, the discussions on how strategy affects the business model design are mainly conceptual (e.g., Casadesus-Masanell & Ricart, 2010) or qualitative (e.g., Hacklin &

Wallnöfer, 2012). This study provides fresh empirical evidence to the conceptually driven business model field and the strategy-business model design discussions.

This study also enhances the strategic orientation literature in two key ways. First, while existing research primarily concentrates on product or performance levels (e.g., Atuahene-Gima & Ko, 2001; Gatignon & Xuereb, 1997; Renko, Carsrud, & Braennback, 2009), this study pioneers the exploration of how strategic orientations impact not only product and performance outcomes but also influence a firm's business model design novelty. Second, in contrast to the prevailing view that strategic orientations are complementary (Hakala, 2011) and additive (Schweiger et al., 2019), this study introduces a more critical perspective, particularly in the realm of business model design.

THEORY & HYPOTHESES

Business Model Design

Activity system perspective. A fundamental goal of strategy and entrepreneurship research is to achieve and sustain a competitive advantage (Amit & Zott, 2001; Brandenburger & Stuart, 1996). Over the past two decades, the business model literature received considerable attention and has become an important and useful concept for this purpose (Foss & Saebi, 2017; Massa, Tucci, & Afuah, 2017; Zott, Amit, & Massa, 2011). A business model is defined as “the design or architecture of the value creation, delivery, and capture mechanisms” (Teece, 2010, p. 172). In line with this definition, business model design stands as an essential component within the broader realm of business model literature (Wirtz, Pistoia, Ullrich, & Goettel, 2016) and emphasizes the architectural aspects of a business model.

To examine a firm's business model design, the literature predominantly employs the activity-system perspective (Zott et al., 2011). According to this perspective, a business model design “depicts the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities” (Amit & Zott, 2001, p. 511). This perspective offers a static, rather than an evolutionary view (Demil & Lecocq, 2010) and encompasses two crucial components: design elements and design themes (Zott & Amit, 2010). Design elements describe what activities a firm performs (content), how these activities should be linked (structure), and who performs the activities and where (governance). Design themes detail how the design elements of a business model (i.e., activity content, structure, and governance) are arranged and organized around a common thread. In scholarly investigations, researchers commonly employ four primary design themes: “novelty”, “lock-in”, “complementarities”, and “efficiency” (Zott & Amit, 2010, p. 222).

In this study, I focus on the design theme “novelty”. Business model design novelty goes back to the work of Schumpeter (1934) and is about new ways of doing business (Amit & Zott, 2001). More specifically, a novel business model design is about adopting “new activities (content), and/or new ways of linking the activities (structure), and/or new ways of governing the activities (governance)” (Zott & Amit, 2010, p. 221). Through novel business model designs firms can create new markets or innovate transactions in existing markets (Zott & Amit, 2007).

I focus on business model design novelty in this study because it is the only design theme that consistently enhances firm performance (Brettel, Strese, & Flatten, 2012; Pati, Nandakumar, Ghobadian, Ireland, & O'Regan, 2018; Zott & Amit, 2007, 2008) and is a prerequisite for very high performance (Leppänen et al., 2021). Furthermore, novel business model designs play a pivotal role in commercializing innovations (Chesbrough & Rosenbloom, 2002), driving industry changes

and disruptions (Christensen et al., 2015; Martins et al., 2015), and addressing emerging and latent customer demands (Amit & Zott, 2012; Priem, Wenzel, & Koch, 2018).

Business model design novelty and strategy. Recognizing the significance of novel business model designs, research has delved into understanding their antecedents. Martins et al. (2015) identify three key streams exploring these antecedents: (i) the evolutionary learning view, (ii) the cognitive view, and (iii) the rational positioning view. The evolutionary view explores the elements that drive decision-makers to modify their business model designs and examines the unfolding of such changes (e.g., Sosna, Trevinyo-Rodriguez, & Velamuri, 2010). The cognitive view posits that the mental processes of managers and founders affect the business model design (e.g., Frankenberger & Sauer, 2019). The rational positioning view regards managerial choices as the precursors to business model design (e.g., Casadesus-Masanell & Ricart, 2010). According to the latter view, managers influence and manipulate the design elements and design themes of their activity system through their choices (Wei et al., 2017). Drawing on the rational positioning view, I view the firm's strategy as an important choice of managers.

In the realm of the rational positioning view, the relationship between strategy and the business model design is of central interest (Spieth et al., 2016). The discourse on the interplay between strategy and business model design dates back over two decades (Johnson, Christensen, & Kagermann, 2008; Magretta, 2002; Richardson, 2008). In the beginning, scholars argued that the business model design serves to formulate strategy (e.g., Chesbrough & Rosenbloom, 2002) or complements strategy (e.g., Zott & Amit, 2008). However, the literature has since converged toward the perspective that strategy precedes and significantly influences business model design (Wirtz et al., 2016).

For instance, employing a case study approach, Hacklin and Wallnöfer (2012) investigate the role of business model design as a strategizing tool. Their findings indicate that the business model design is not well-suited for strategy-making, suggesting a conceptual distinction between strategy-making and business model design. This aligns with the perspective of Casadesus-Masanell and Ricart (2010, p. 203) who argue that the “resulting (created) activity system is a reflection of the firm’s strategy; strategy proper is not the activity system - that is the business model - but the creation of that system”. Likewise, Teece (2010) contends that the business model design reflects the underlying strategic planning and execution. In a longitudinal case study, Ghezzi (2013) similarly concludes that the chosen strategy channels into the business model design.

While most studies on the strategy-business model design relationship are conceptual or qualitative, Cortimiglia et al. (2016) stand out as an exception. These authors employ a mixed-method approach to investigate when firms engage in business model innovation during strategy-making. The authors find that business model innovation occurs towards the end of strategy-making, providing first empirical evidence supporting prior conceptual claims that strategy precedes and affects the business model design.

Recently, the discourse has pivoted towards exploring the impact of a firm’s strategy on the business model through a strategic orientation lens. For instance, Ciampi et al. (2021) demonstrate the crucial role of a strategic orientation in the interplay between big data analytics capabilities and business model change. In another study, Luis Ferreras-Mendez, Olmos-Penuela, Salas-Vallina, and Alegre (2021) reveal that business model change serves as a partial mediator between a strategic orientation and new product development performance. Additionally, Klein et al. (2021) illustrate that strategic orientations mediate the relationship between sustainability commitment and business model change in established firms.

While existing studies offer valuable insights, there is a need to understand the influence of strategic orientations on the development of novel business model designs (Klein et al., 2021; Lanzolla & Markides, 2021; Schneider & Spieth, 2013; Spieth et al., 2016). Notably, the existing literature calls for more quantitative research designs in this area (Cortimiglia et al., 2016) and underscores the significance of linking strategic orientations not only to business model change but also to business model design novelty (Klein et al., 2021). Connecting strategic orientations not only to business model change but also to business model design novelty is important because, on one side, a change perspective is conceptually different from an architectural (i.e., design) perspective (Demil & Lecocq, 2010), providing no inherent insight into the degree of novelty (Foss & Saebi, 2017). On the other side, strategic orientations can serve as an important means of novelty (Hughes et al., 2021; Zhou et al., 2005). Furthermore, employing a strategic orientation lens shifts discussions on the relationship between strategy and the business model design to a more tangible and less abstract level.

Therefore, I build upon the perspective that strategy precedes business model design (Casadesus-Masanell & Ricart, 2010; Ghezzi, 2013; Teece, 2010), and quantitatively investigate how strategic orientations shape novel business model designs.

Strategic Orientations

Grounded in the strategic management and marketing literature (Noble, Sinha, & Kumar, 2002), strategic orientations serve as a manifestation of a firm's competitive strategy (R. E. Morgan & Strong, 1998; Slater, Olson, & Hult, 2006; Zhou et al., 2005). Specifically, strategic orientations represent different "strategic modes" (Schweiger et al., 2019, p. 1823) that affect a firm's activities (Hakala, 2011). While various strategic orientations exist, the study's primary focus is on one of

the most prominent strategic orientations and how it is related to novel business model designs: entrepreneurial orientation (Hakala, 2011).

Entrepreneurial orientation. Entrepreneurial orientation is a firm-level construct (Covin & Slevin, 1991) that captures the entrepreneurial facets of a firm's strategy (Hakala, 2011; Lyon, Lumpkin, & Dess, 2000; Rauch, Wiklund, Lumpkin, & Frese, 2009).

While conceptualizations of entrepreneurial orientation have varied, the prevailing consensus in research has gravitated towards the understanding that it comprises three fundamental dimensions (Rauch et al., 2009; Wiklund & Shepherd, 2003). These dimensions are risk-taking, innovativeness, and proactiveness. Risk-taking manifests as a firm's inclination to embark on bold actions, such as venturing into uncharted territories, borrowing heavily, or making daring resource commitments (Lumpkin & Dess, 2001). Innovativeness pertains to a firm's inclination to foster novel ideas, encourage creativity, engage in experimentation, and introduce new products, services, or technologies (Lumpkin & Dess, 1996). Proactiveness involves a firm's proclivity to be a trailblazer rather than a follower, foreseeing and pursuing new opportunities and future demands, displaying initiative, and staying ahead of the competition (Lumpkin & Dess, 2001).

I link entrepreneurial orientation with novel business model designs as entrepreneurial orientation is "aimed at the rejuvenation, renewal, and redefinition of organizations" (Covin & Miles, 1999, p. 50) and significantly influences key elements of business model designs, including the value creation activities (Keil, Maula, & Syrigos, 2017). Therefore, entrepreneurial orientation may serve as a crucial capability and enabler for novel business model designs (Teece, 2018).

Entrepreneurial orientation and novel business model designs. Against this background, I posit a positive relationship between entrepreneurial orientation and the development of novel business model designs, based on three primary reasons.

First, entrepreneurial-oriented firms embrace risks, showing comfort with uncertainty (Lumpkin & Dess, 2001) and possessing resilience, adaptability, and problem-solving capabilities (Ireland, Hitt, & Sirmon, 2003). These qualities align directly with the development of novel business model designs, which are inherently tied to uncertainty (Teece, 2010). Given the computational and dynamic complexities causing uncertainty in the design of novel business models (Massa & Tucci, 2014), entrepreneurial-oriented firms possess the capabilities to navigate such situations. Additionally, entrepreneurial firms, driven by their risk-taking propensity, embrace high-risk, high-reward investments (Miller & Friesen, 1978; Wiklund & Shepherd, 2003). While novel business model designs may yield “abnormal returns” (Massa & Tucci, 2014, p. 8), novel business model designs are inherently risky as they depend on the regulatory framework (Amit & Zott, 2015; Foss & Saebi, 2017), frequently face barriers (Chesbrough, 2010), and fail often (Massa & Tucci, 2014).

Second, entrepreneurial-oriented firms, fueled by an innovation mindset, generate and support new ideas (Lumpkin & Dess, 2001). This emphasis on idea generation is directly related to novel business model designs, as ideas form the foundation (Björk, 2012) and the first step in the construction of such designs (Eppler, Hoffmann, & Bresciani, 2011). As another part of their innovative approach, entrepreneurial firms also embrace experimentation (Lumpkin & Dess, 2001), a learning process (Bingham & Davis, 2012) that is a central capability for novel business model designs (Achtenhagen, Melin, & Naldi, 2013). Experimentation is essential for novel business model designs because McGrath (2010) notes that internal and external shifts relax or

impose constraints on how a firm can create, deliver, and capture value. Thus, novel business model designs must be discovered and learned over time.

Third, entrepreneurial-oriented firms are proactive, meaning they actively seek emerging business opportunities (Lumpkin & Dess, 2001). Capturing these opportunities typically requires the creation of novel business model designs, which configure firm activities to enact these arising prospects (Amit & Zott, 2012; George & Bock, 2011). Additionally, proactive firms take the initiative and aspire to be ahead of the competition by doing business in a new way (Lumpkin & Dess, 1996). Novel business model designs are the primary means to achieve this. Novel business model designs, which bridge unrelated parties, change processes, or address unmet needs (Amit & Zott, 2001) facilitate first-mover advantages (Casadesus-Masanell & Zhu, 2013; Markides & Sosa, 2013), differentiation (Zott et al., 2011), and competitive advantages (Teece, 2010).

Based on this reasoning, the qualities inherent in entrepreneurial-oriented firms are considered crucial facilitators for the development of novel business model designs. Therefore, I hypothesize:

Hypothesis 1: Entrepreneurial orientation is positively related to novelty business model design.

Technology and customer orientation. To enrich our understanding of the pivotal role that strategic orientations play in shaping novel business model designs, I also examine technology and customer orientation. I also consider technology and customer orientation because these are two other prevalent strategic orientations (Gatignon & Xuereb, 1997; Hakala, 2011; Schweiger et al., 2019) that are important for business model designs (Dmitriev, Simmons, Yann, Palmer, & Schneckenberg, 2014; Sainio, Ritala, & Hurmelinna-Laukkanen, 2012).

Technology-orientation is rooted in the resource-based view (Barney, 1991) and reflects the “technology push” philosophy (Zhou et al., 2005, p. 45). Technology-orientation is the firm’s tendency to view the development and introduction of new and superior technologies as a key success factor when doing business (Gatignon & Xuereb, 1997). Firms with a technology orientation are strong in research and development and introduce and acquire the latest technologies, products, and services (Beckman, Eisenhardt, Kotha, Meyer, & Rajagopalan, 2012; Deshpande, Grinstein, Kim, & Ofek, 2013). This is because technology-oriented firms assume that customers prefer products and services that offer technological superiority (Hamel & Prahalad, 1991; J. J. Li, 2005). Thus, technology-oriented firms invest in new technologies to remain viable instead of developing products and services based on expressed customer needs (Christensen & Bower, 1996).

Customer orientation is based on the demand-side perspective (Priem, Li, & Carr, 2012), and reflects the “market pull” philosophy (Zhou et al., 2005, p. 45). Customer orientation refers to the firm’s tendency to view a sufficiently deep knowledge of the target buyer’s needs —essential for consistently delivering superior value — as a key success factor when doing business (Narver & Slater, 1990). The primary activities of customer-oriented firms are the systematic collection and analysis of customer information, enabling them to comprehend and address both expressed and latent customer demands (Y. Li, Zhao, Tan, & Liu, 2008; Narver, Slater, & MacLachlan, 2004). Thus, for customer-oriented firms, customer interests come first. In this context, a commonly employed term is market orientation. Given that customer needs serve as the main reference point for market-oriented ventures, market orientation is essentially synonymous with customer orientation (Deshpande, Farley, & Webster, 1993). Therefore, I follow prior literature (Deshpande

et al., 1993; Deshpande et al., 2013; Guo, Wang, Su, & Wang, 2020) and use the term customer orientation whenever possible in this paper.²

While earlier studies have demonstrated the positive individual effects of technology and customer orientation on the radicalness of business models (Sainio et al., 2012), other scholarly work suggests that the combination of entrepreneurial orientation with other orientations, such as technology and customer orientation, may offer a more accurate reflection of reality (Atuahene-Gima & Ko, 2001; Hakala, 2011; Schweiger et al., 2019). This is because ventures rarely rely on a single strategic orientation (Grinstein, 2008). Instead, ventures often integrate various orientations to effectively pursue their objectives (Hakala, 2011). Thus, considering various strategic orientations together has “the potential for fewer blind spots” while only studying one strategic orientation “may suffer from limitations and biases” (Hart, 1992, 345).

Yet, the existing body of research that integrates entrepreneurial orientation with technology and/or customer orientation has predominantly emphasized performance outcomes (Becherer & Maurer, 1997; Bhuian, Menguc, & Bell, 2005; Boso, Story, & Cadogan, 2013; Schweiger et al., 2019) or how these orientations complement each other for product-level innovations (Atuahene-Gima & Ko, 2001; Gatignon & Xuereb, 1997; Renko et al., 2009; Zhou et al., 2005). However, the literature neglected so far how the interplay of strategic orientations shapes business model design novelty, despite their individual importance for business models (Ciampi et al., 2021; Dmitriev et al., 2014; Klein et al., 2021; Sainio et al., 2012).

² Using the term customer orientation aligns also with the work by Guo et al.(2020). From Guo and colleagues, I use the items to measure customer orientation (see method section).

The moderating role of technology and customer orientation. While I assert that entrepreneurial orientation contributes to the development of novel business model designs, I posit that this impact is more pronounced when entrepreneurial orientation is combined with either a technology- or a customer orientation.³

Technology-oriented firms excel in generating inventions (Beckman et al., 2012; Gatignon & Xuereb, 1997). An invention that comes from the technology part of the firm may provide a strong incentive for the entrepreneurial part of the firm to design a novel business model design. This is underscored by the fact that an invention “by itself has no single objective value” (Chesbrough, 2010, p. 354). To ensure that an invention delivers value, a firm must find a novel commercialization approach, that is a novel business model design (Chesbrough & Rosenbloom, 2002). However, the path to commercializing an invention is often ambiguous, time-consuming, and resource-intensive (Dmitriev et al., 2014). Consequently, the invention directs the creative and experimental tendencies of entrepreneurial firms toward the business model design (Lumpkin & Dess, 2001).

For instance, the firm might engage in experimenting with diverse value delivery or value capture activities, ultimately culminating in a distinctive activity-system configuration, or in other words, a unique business model design. Relatedly, entrepreneurial firms may also start directing resources toward the creation of the business model design and start anticipating trends that could be addressed by the technology and business model design. Along these lines, the invention arising from the technology orientation serves as a compelling impetus for the entrepreneurial part of the firm to embark on the creation of novel business model designs.

³ I thereby follow the view that strategic orientations are complementary patterns (Hakala, 2011) that lead to additive effects (Schweiger, Stettler, Baldauf, & Zamudio, 2019)

This perspective is reinforced by the qualitative findings of Chesbrough and Rosenbloom (2002) case study on Xerox, which highlights the significance of both technology orientation and entrepreneurial orientation in shaping novel business model designs. Likewise, Sainio et al. (2012) demonstrate that a technology orientation positively influences the radicalness of the business model. Therefore, I hypothesize:

Hypothesis 2: The relationship between entrepreneurial orientation and novelty business model design is positively moderated by technology-orientation.

On the other hand, customer-oriented firms aspire to deliver superior value to their buyers (Narver & Slater, 1990). Achieving this objective hinges on two crucial aspects. First, the business model design is the central element through which customer-oriented firms can create value for buyers (Amit & Zott, 2001; Zott & Amit, 2013). For these firms, the business model design serves as a “hypothesis about what customers want, how they want it and what they will pay” (Teece, 2010, p. 191). Second, in the pursuit of superior value, customer-oriented firms actively gather intelligence on customer and market needs (Aloulou & Fayolle, 2005; Narver et al., 2004). Both components propel entrepreneurial efforts to concentrate on the design of novel business models.

Intelligence acquisition aids in understanding customer preferences and identifying market gaps (Narver & Slater, 1990), nurturing the ambition of entrepreneurial firms to lead the market and stay ahead of competitors (Lumpkin & Dess, 2001). For instance, insights into customer preferences and market gaps can be instrumental in crafting a unique value proposition (an integral part of a business model design) that stands out from existing offerings (Wirtz et al., 2016). Moreover, intelligence also serves as a framework for directing firm creativity and experimental activities (Lumpkin & Dess, 2001). For example, firms that adopt both customer and

entrepreneurial orientations may actively seek feedback on their business model design, conducting tests and experiments to generate new ideas on enhancing the design for delivering greater value to the customer. Hence, a customer-orientation pushes entrepreneurial efforts toward improving and renewing the business model design.

Existing empirical evidence points in the same direction, indicating that the combination of customer orientation and entrepreneurial orientation leads to higher levels of product innovation (Ahmadi & O'Cass, 2016; Atuahene-Gima & Ko, 2001; Thourmrunroje & Racela, 2013). Additionally, research by Saebi, Lien, and Foss (2017) suggests that firms focusing on the market are more likely to adapt their business model designs, while Sainio et al. (2012) find that a customer relationship orientation contributes to the development of more radical business models. Thus, I hypothesize:

Hypothesis 3: The relationship between entrepreneurial orientation and novelty business model design is positively moderated by customer-orientation.

METHODOLOGY

Data and Sample

To empirically test the hypotheses, I conducted a cross-sectional survey encompassing new ventures spanning various industries in Austria, Germany, Liechtenstein, and Switzerland. I focused on new ventures, as the business model design is less constrained in such entities (Zott & Amit, 2010). This is attributed to the reduced path dependencies, fewer embedded structures, and a lesser number of stakeholders typically found in new ventures (Cortimiglia et al., 2016). To identify appropriate new ventures, I employed databases such as Crunchbase, Orbis, and LinkedIn

(e.g., Wang, Pahnke, & McDonald, 2022). Subsequently, I randomly selected a sample of new ventures identified through these databases.

I developed a web-based questionnaire to collect data on the key variables, which underwent a pre-test involving five founders of new ventures. The founders answered all questions and provided valuable feedback on the survey's clarity and terminology. Based on their input, I refined the questionnaire. Subsequently, I distributed the finalized questionnaire via personalized emails to founders, recognizing their pivotal role in determining the strategic orientation of a startup and the business model design (Brettel et al., 2012; Deb & Wiklund, 2017; Snihur & Zott, 2020). To optimize response rates, I adhered to the guidelines outlined Dillman, Smyth, and Christian (2014), inviting the founders to participate in the study, and highlighting the study's significance and confidentiality.

I collected the data between November 2022 to December 2022 and received responses from 1'019 founders (response rate of 9.1%). To enhance data reliability, I excluded 27 responses with fill-out times below half of the median, raising doubts about answer plausibility. Additionally, I removed 20 responses from founders associated with ventures older than ten years, as the criterion for considering ventures as new was limited to those in business for ten years or less (Covin & Slevin, 1990; Guo et al., 2020; Yli-Renko, Autio, & Sapienza, 2001). Consequently, the final sample comprised 972 responses.

To evaluate the potential for non-response bias in the data, I conducted independent t-sample tests comparing early and late respondents, considering key firm characteristics (Rogelberg & Stanton, 2007). The results of these tests indicated no significant differences between the two groups concerning founding team size, firm age, and firm size. This analysis suggests that concerns about non-response bias are unwarranted in this study.

Variables

Novelty business model design. To measure business model design novelty, I used the validated ten-item scale from Wei, Yang, Sun, and Gu (2014) who adapted the scale from Zott and Amit (2007). To gauge the novelty of the business model design, I used statements such as “The business model creates new sources of revenues”. I then asked the participants to evaluate the levels of novelty of their new venture’s business model design using a seven-point Likert-type scale (strongly disagree — strongly agree). The Cronbach Alpha of the scale equals 0.897.

Entrepreneurial orientation. To assess entrepreneurial orientation, I utilized the well-established nine-item scale by Atuahene-Gima and Ko (2001) and Covin and Slevin (1989). I presented the items in an opposing format on a seven-point Likert-type scale, with respondents indicating their agreement by choosing between two statements. The corresponding prompt was: “The following questions contain two opposing statements. Neither is better or worse than the other. Please indicate with which statement you are closer in agreement (1 = first answer, 7 = second answer).” Sample statements included: “In general, my venture as a whole favors...”: “Statement 1: A tendency for low-risk projects with normal and certain rates of return.” “Statement 2: A strong tendency for high-risk projects with chances of very high returns.” The scale exhibited high reliability with a Cronbach Alpha of 0.850.

Technology & customer orientation. To assess whether a new venture adheres to a technology orientation or market orientation, I employed the validated eight-item scale developed by Guo et al. (2020). I presented the items in an opposing format, utilizing a seven-point Likert-type scale.⁴ The associated instruction was: “The following questions contain two opposing

⁴ I follow the perception of prior literature (e.g., Guo, Wang, Su, & Wang, 2020; Schindehutte, Morris, & Kocak, 2008) and contend that firms, particularly new ventures, adopt either a technology orientation or a customer orientation. This assertion is grounded in two key considerations. Firstly, technology orientation and customer orientation represent distinct logics, necessitating different and at times conflicting capabilities (Zhou, Yim, & Tse, 2005; Teece, 2018).

statements. Neither is better or worse than the other. Please indicate with which statement you are closer in agreement (1 = first answer, 7 = second answer).” To evaluate the technology and customer orientation, I posed questions such as: “Statement 1: The idea of product or service comes from consumer needs.” “Statement 2: The idea of a product or service comes from the support of some unique technology.” The scale’s Cronbach Alpha equals 0.777.

Control variables. I included several control variables that are meant to capture other determinants of a novel business model design. More specifically, I included the founding team size measured in the number of founders. I use the number of founders as a proxy for the initial resource endowment of the venture, as bigger founding teams can have more human, social, and financial capital which may affect the business model design (Wasserman, 2013). I also included R&D, advertising, and capital spending, as suggested by previous research emphasizing their relevance in the context of novel business model designs (Zott & Amit, 2007). Respondents were asked to indicate the level of spending relative to their venture’s sales on a seven-point Likert-type scale (extremely low — extremely high). Additionally, I incorporated firm age and firm size as control variables, recognizing that new ventures at different life cycle stages and sizes may exhibit variations in their business model design novelty (Balboni, Bortoluzzi, Pugliese, & Tracogna, 2019). For firm size, I used the logarithm of the total number of full-time equivalents in 2022 (Frankenberger & Stam, 2020). The variable venture capital funding serves as a proxy for firm quality (Beckman, 2006; Frankenberger & Stam, 2020). A dummy equal to 0 indicates that the firm has not received venture capital funding, while a dummy equal to 1 indicates that the venture received venture capital funding; 12% of the firms in the sample received venture capital funding.

Secondly, these orientations vie for limited resources, a significant concern for new ventures operating with typically constrained resources (Massis, Audretsch, Uhlaner, & Kammerlander, 2018, p. 136). Simultaneously pursuing both orientations could lead to ineffective resource allocations and a lack of focus, potentially confusing market participants. Consequently, prioritizing either technology orientation or customer orientation becomes imperative.

Finally, I captured the firm's industry sector (Brettel et al., 2012), with a dummy equal to 0 representing a service firm and a dummy equal to 1 representing a manufacturing firm; 18% of the firms in the sample belong to the manufacturing sector.

Common Method Bias

The data collection relied on self-reporting. To mitigate and identify potential common method bias effects, I followed both ex-ante and ex-post procedures as recommended by Podsakoff, MacKenzie, Lee, and Podsakoff (2003).

Ex-ante, I employed only established scales and concentrated on a single respondent, as in new ventures key information — such as on the business model design — can typically only be provided by a single respondent like the founder (Conway & Lance, 2010). Additionally, I structurally separated key variables in the survey, ensured participant confidentiality, and allowed a minimum of one week for questionnaire completion.

Ex-post, I conducted Harman's Single Factor analysis (Podsakoff et al., 2003), a common method bias test typically employed in business model design studies (e.g., Balboni et al., 2019). The Harman's Single Factor test entails loading all items into a single exploratory factor analysis. The results show that the single factor only explains 24.539% of the total variance, well below the 50% threshold.⁵ This finding aligns with previous business model design studies (e.g., Balboni et al., 2019; Liu, Liu, & Gu, 2021; Pati, Ghobadian, Nandakumar, Hitt, & O'Regan, 2021) and indicates that common method bias is not a significant concern in this study.

⁵ For the Harman's Single Factor test, I used a principal component analysis and unrotated factor structure.

RESULTS

Hypotheses Testing

Table 1 presents descriptive statistics and correlations among the variables considered in my study. The provided descriptives and correlations align with previous studies on business model design (e.g., Wei et al., 2014). To mitigate potential multicollinearity, I implemented mean centering for the moderation variable (Howell, 2010).⁶ The Variance Inflation Factor (VIF) values across all models remain below 3.576, well below the accepted threshold of 10 (Hair, Black, Babin, & Anderson, 2019). Hence, multicollinearity is not a significant concern in this study.

TABLE 1

Descriptive statistics and correlations^a

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1. Novelty business model design	4.59	1.22	-										
2. EO	5.13	.96	.39	-									
3. TO/CO	3.41	1.10	.14	.34	-								
4. Founding team size	2.56	1.36	.10	.13	.11	-							
5. R&D spending	4.13	1.73	.25	.51	.43	.17	-						
6. Advertising spending	3.11	1.50	.06	.08	-.02	.02	.07	-					
7. Capital spending	2.40	1.45	.05	.09	.18	.02	.14	.12	-				
8. Firm age	3.62	2.54	-.02	-.02	.03	.01	-.04	-.06	-.01	-			
9. Firm size (log)	.65	.48	.14	.15	.12	.22	.17	.02	.11	.33	-		
10. Venture capital	.12	.33	.11	.16	.11	.14	.19	.06	.07	.01	.29	-	
11. Industry sector	.18	.38	-.13	.03	.05	.05	.02	.12	.22	.02	.05	.09	-

^aEO = Entrepreneurial orientation; TO/CO = If a firm adopted a technology orientation or customer orientation. Pearson correlation coefficients (2-tailed); n = 972. Correlations with absolute values exceeding 0.06 are considered statistically significant at the 5 percent level.

To examine the hypotheses, I first adopted the approach used by Guo et al. (2020) and Bigliardi, Nosella, and Verbano (2005) employing K-means cluster analysis to categorize the

⁶ For easier interpretation, I mean-centered the moderation variable and the interaction term (Howell, 2010, p. 558). Through this approach, the results of the regression are the same as if the moderation and independent variable as well as the interaction term are mean-centered.

sample into technology-oriented and customer-oriented segments. The three first-order factors of the technology and customer orientation variable act as the grouping criteria (Guo et al., 2020). As displayed in Table 2, the results of the K-means cluster analysis reveal substantial distinctions between the two groups. Group 1 (426 firms) consistently demonstrates significantly higher values across all three dimensions compared to group 2 (566 firms). Consequently, group 1 is identified as the technology-oriented sample, while group 2 represents the customer-oriented sample.

To validate these groupings, I conducted an additional ANOVA (Bigliardi et al., 2005). The results presented in table 2 unequivocally demonstrate statistically significant differences across all factors between the two clusters.

TABLE 2
Output of K-means Cluster Analysis and ANOVA

	Group 1 (mean)	Group 2 (mean)	Cluster		Error		F	Sig.
			Mean square between groups	df	Mean square within groups	df		
Factor 1	.81	-.61	480.52	1	.51	970	941.59	<.001
Factor 2	.75	-.57	408.95	1	.58	970	710.11	<.001
Factor 3	.55	-.42	222.77	1	.76	970	293.70	<.001
N	414	558	-	-	-	-	-	-

Subsequently, I employed Ordinary Least Squares (OLS) regression analysis, consistent with previous studies on business model design (e.g., Balboni et al., 2019; Guo et al., 2020; Zott & Amit, 2007, 2008). Table 3 presents the outcomes of the hierarchical regression analysis. In Model 12, I assessed Hypothesis 1. Initially, I introduced all control variables (Model 9: $R^2 = 0.100$, $P < 0.001$). Subsequently, I incorporated the independent variable entrepreneurial orientation. The results indicate a positive and highly significant impact of entrepreneurial orientation on business model design novelty (Model 10: $\beta = 0.344$, $p < 0.01$). This result is also remarkably stable across new

ventures that are technology-oriented (Model 2: $\beta = 0.207$, $p < 0.01$) and new ventures that are customer-oriented (Model 6: $\beta = 0.388$, $p < 0.01$). Therefore, Hypothesis 1 is supported.

To test the moderating effects, I ran four additional models, Models 3 and 4 for the technology-oriented sample, and Models 7 and 8 for the customer-oriented sample. In Models 3 and 7, I introduced the variable technology and customer orientation. Model 3 indicates that, for technology-oriented new ventures, the technology and customer orientation does not significantly affect the novelty of business model design (Model 3: $\beta = -0.036$, $p = 0.444$). Similarly, Model 7 reveals that, for customer-oriented new ventures, the technology and customer orientation variable has no significant impact on the novelty of business model design (Model 7: $\beta = -0.018$, $p = 0.648$).

In Model 4, I introduced the interaction effects. The findings reveal that, for technology-oriented new ventures, the interaction between entrepreneurial orientation and technology and customer orientation yields a negative and statistically significant impact on the novelty of business model design (Model 4: $\beta = -0.169$, $p = 0.014$).⁷ Thus, Hypothesis 2 is not supported.

In Model 8, for customer-oriented new ventures, the interaction between entrepreneurial orientation and technology and customer orientation variables exhibits a positive and statistically significant impact on the novelty of business model design (Model 8: $\beta = 0.68$, $p = 0.028$).⁸ However, it is important to note the interpretation of the interaction coefficient should be reversed, considering its placement at the lower end of the technology and customer orientation continuum, indicating a stronger customer orientation (see also Guo et al., 2020). Consequently, this result suggests that the technology and customer orientation variable negatively influences the

⁷ In the technology-oriented sample, the variable technology and customer orientation reflects the strength of the technology orientation of firms.

⁸ In the customer-oriented sample, the variable technology and customer orientation reflects the strength of the customer orientation of firms.

relationship between entrepreneurial orientation and business model design novelty. Hence, Hypothesis 3 is not supported.

TABLE 3

Results of the OLS regression analysis for novelty business model design^a

	Technology-oriented sample (n = 414)							
	Model 1		Model 2		Model 3		Model 4	
	β	VIF	β	VIF	β	VIF	β	VIF
Founding team size	-.02	1.09	-.01	1.09	-.01	1.09	-.00	1.20
R&D spending	.10*	1.08	.02	1.30	.02	1.32	.02	1.32
Advertising spending	.08†	1.04	.08	1.04	.08	1.04	.08	1.04
Capital spending	-.06	1.12	-.05	1.13	-.05	1.13	-.04	1.13
Firm age	-.12*	1.19	-.11*	1.20	-.11*	1.20	-.10*	1.21
Firm size (log)	.25**	1.35	.22**	1.37	.23**	1.38	.22**	1.40
Venture capital	-.10†	1.17	-.10*	1.17	-.10*	1.17	-.10†	1.17
Industry sector	-.17**	1.08	-.19**	1.08	-.18**	1.09	-.19**	1.09
EO			.21**	1.26	.21**	1.26	.34**	3.15
TO/CO					-.04	1.06	.00	1.21
EO x TO/CO							-.17*	3.11
R ²	.11		.14		.14		.15	
Adjusted R ²	.090		.12		.12		.13	
R change	.11		.03		.00		.01	
F change	6.07**		15.98**		.59		4.35*	

^aStandardized coefficients are reported; EO = Entrepreneurial orientation, TO/CO = if a firm adopted a technology orientation or customer orientation. Dependent variable: business model design novelty.

† p < 0.10;

* p < 0.05;

** p < 0.01.

TABLE 3 (continued)

	Customer-oriented sample (n = 558)							
	Model 5		Model 6		Model 7		Model 8	
	β	VIF	β	VIF	β	VIF	β	VIF
Founding team size	.07†	1.07	.05	1.07	.05	1.07	.05	1.07
R&D spending	.25**	1.06	.09*	1.29	.09*	1.33	.09*	1.33
Advertising spending	.024	1.09	-.00	1.09	-.00	1.10	-.01	1.11
Capital spending	.12**	1.07	.10**	1.07	.11**	1.08	.11**	1.08
Firm age	.00	1.15	.01	1.15	.01	1.15	.01	1.15
Firm size (log)	-.03	1.30	-.03	1.30	-.03	1.30	-.03	1.30
Venture capital	.19**	1.11	.16**	1.11	.16**	1.11	.17**	1.11
Industry sector	-.11**	1.10	-.10*	1.11	-.10*	1.11	-.10**	1.11
EO			.39**	1.28	.39**	1.30	.53**	3.58
TO/CO					-.02	1.10	.01	1.22
EO x TO/CO							.17*	3.52
R ²	.15		.26		.26		.27	
Adjusted R ²	.13		.25		.25		.26	
R change	.15		.12		.00		.01	
F change	11.64**		87.96**		.21		6.03*	

TABLE 3 (continued)

	Full sample (n = 972)							
	Model 9		Model 10		Model 11		Model 12	
	β	VIF	β	VIF	β	VIF	β	VIF
Founding team size	.04	1.08	.03	1.08	.03	1.08	.03	1.08
R&D spending	.21**	1.10	.05	1.41	.05	1.55	.06	1.56
Advertising spending	.05†	1.03	.04	1.04	.04	1.04	.04	1.04
Capital spending	.03	1.09	.03	1.09	.03	1.11	.03	1.11
Firm age	-.04	1.16	-.03	1.16	-.03	1.16	-.03	1.16
Firm size (log)	.10**	1.32	.08*	1.33	.08*	1.33	.08*	1.33
Venture capital	.05	1.13	.03	1.13	.03	1.13	.03	1.13
Industry sector	-.15**	1.07	-.16**	1.07	-.16**	1.07	-.15**	1.08
EO			.34**	1.37	.35**	1.40	.34**	1.42
TO/CO					-.02	1.30	-.014	1.30
EO x TO/CO							-.08**	1.02
R ²	.10		.19		.19		.19	
Adjusted R ²	.09		.18		.18		.19	
R change	.10		.09		.00		.01	
F change	13.44**		102.28*		.39		8.06**	

To provide a more insightful interpretation, I visually depicted the significant moderating effects of technology and customer orientation. Figure 1 illustrates that an increased technological orientation mitigates the positive association between entrepreneurial orientation and business model design novelty. Likewise, Figure 2 illustrates that an elevated customer orientation also mitigates the positive correlation between entrepreneurial orientation and business model design novelty.

FIGURE 1

Entrepreneurial Orientation and Business Model Design Novelty - the Moderating Role of Technology Orientation

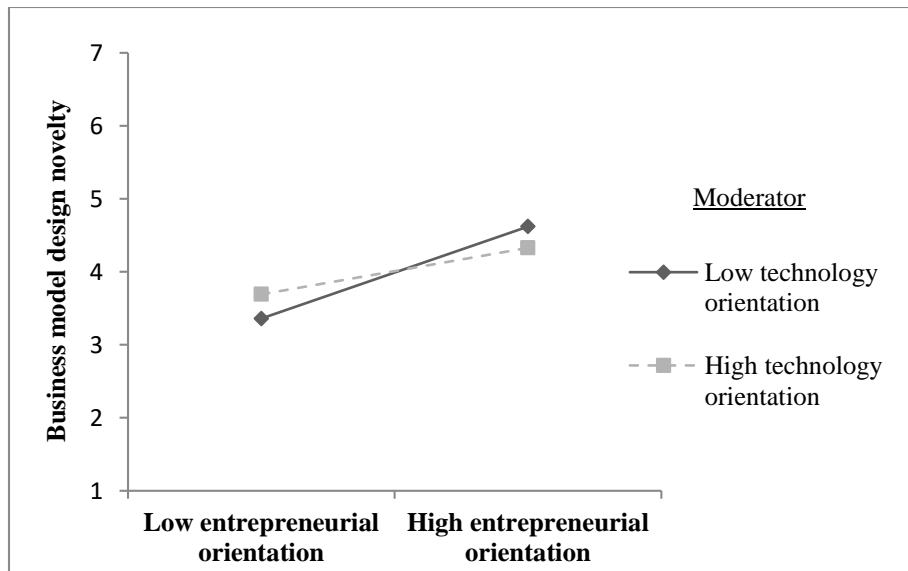
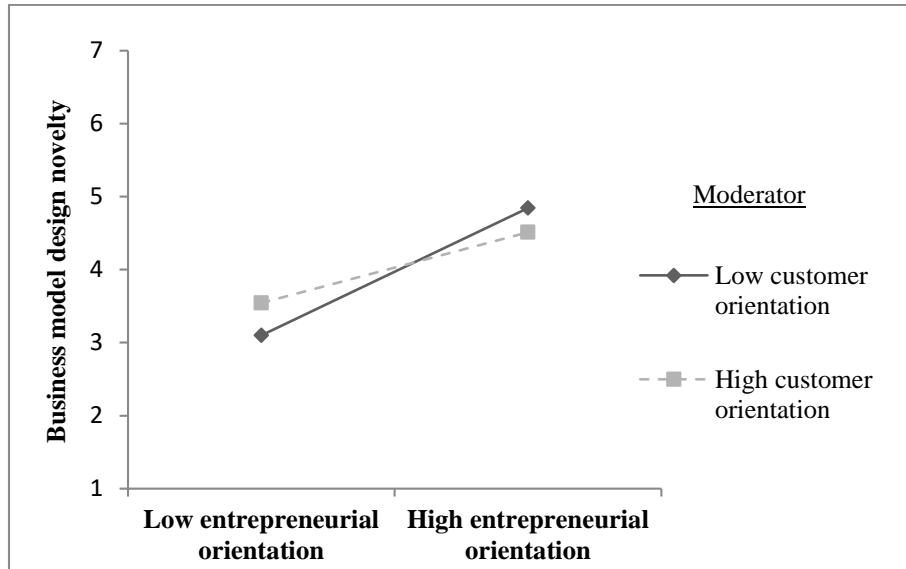


FIGURE 2

Entrepreneurial Orientation and Business Model Design Novelty - the Moderating Role of Customer Orientation



Additional Test

Risk-taking, innovativeness, and proactiveness collectively constitute a firm’s entrepreneurial orientation (Rauch, Wiklund, Lumpkin, & Frese, 2009). Although the conventional practice treats entrepreneurial orientation as a unidimensional construct (e.g., Covin & Slevin, 1989), some scholars delve into the distinct impacts of risk-taking, innovativeness, and proactiveness (e.g., Lechner & Gudmundsson, 2014). To gain deeper insights into the association between entrepreneurial orientation and novel business model design, I examined the individual effects of each dimension. The findings reveal that the positive correlation between entrepreneurial orientation and business model design novelty is primarily influenced by the proactiveness

dimension ($\beta = 0.231$, $p < 0.01$), followed by the innovativeness dimension ($\beta = 0.146$, $p < 0.01$), and the risk-taking dimension ($\beta = 0.044$, $p < 0.1$).⁹

DISCUSSION

The existing literature emphasizes a gap in empirical evidence regarding how strategic orientations influence the well-established concept of business model design novelty (Cortimiglia et al., 2016; Klein et al., 2021; Lanzolla & Markides, 2021; Schneider & Spieth, 2013; Spieth et al., 2016). I address this gap by investigating how entrepreneurial orientation, a distinct strategic orientation, impacts the development of novel business model designs (Hakala, 2011). Drawing on 972 responses from new ventures in Austria, Germany, Liechtenstein, and Switzerland, the findings reveal a positive relationship between entrepreneurial orientation and novel business model designs. The finding, therefore, suggests that novel business model designs — i.e., the created activity systems — reflect a firm's willingness to take risks, pursue arising opportunities, and engage in ideation and experimentation. Entrepreneurial orientation, encompassing these aspects, emerges as a key strategic mode significantly contributing to the design of novel business models.

Two unexpected outcomes surfaced as I incorporated technology orientation and customer orientation — two other crucial strategic orientations — as moderators in the link between entrepreneurial orientation and novel business model designs (Hakala, 2011; Klein et al., 2021). Contrary to the initial hypotheses, the results indicate that both orientations act as inhibitors, negatively moderating the relationship between entrepreneurial orientation and novel business model designs. These outcomes suggest that the combined impact of these strategic orientations does not contribute additively to the novelty of the business model design (Bhuian et al., 2005).

⁹ One-tailed significance.

In the context of technology orientation, one plausible explanation is that entrepreneurial efforts are redirected from business model design toward technology. This shift may stem from the firm's strong belief that technological superiority is a paramount factor for business success (Chesbrough & Rosenbloom, 2002; Gatignon & Xuereb, 1997), particularly crucial for new ventures with limited resources that necessitate strategic resource allocation (Massis et al., 2018). Specifically, a technology orientation might guide entrepreneurial endeavors to explore and experiment primarily with technologies, products, and services. Similarly, a technology orientation could influence a firm's risk-taking inclination, steering it more towards technology-related risks rather than bold investments in business model design (Chesbrough, 2010). Finally, a technology-oriented approach could redirect the entrepreneurial firm's proactive initiatives towards market leadership achieved through technological innovations, rather than emphasizing leadership through novel business model designs.

In the case of customer orientation, a plausible explanation may be the potential incompatibility or competition between customer orientation and entrepreneurial orientation. Customer orientation tends to generate incremental novelty (Atuahene-Gima, 1995; Gatignon & Xuereb, 1997; Im & Workman, 2004), focusing on existing customers for innovation (Slater & Narver, 1995). However, relying on existing customers, who may have limited foresight, might lead to refinements rather than breakthroughs (Christensen & Bower, 1996). This conflicts with entrepreneurial firms' drive to seek radical novelty (Hughes et al., 2021; Salavou & Lioukas, 2003). Additionally, customer-oriented firms are reactive exploiting knowledge in their familiar domains (Slater & Narver, 1995), while entrepreneurial-oriented firms are proactive, exploring opportunities broadly (Lumpkin & Dess, 2001). Previous studies support a similar conclusion by identifying adverse effects in the interaction between entrepreneurial and customer orientation (T.

Morgan, Anokhin, Kretinin, & Frishammar, 2015; Nasution, Mavondo, Matanda, & Ndubisi, 2011), suggesting a non-linear, more complex relationship (Bhuiyan et al., 2005).

Theoretical Implications

This study makes several contributions to research on business model design and strategic orientations. In the following, I outline the primary contributions of the study.

Contributions to business model design literature. This study makes a significant contribution to the business model literature, in particular to the rational positioning view (Martins et al., 2015), by delving into the nuanced relationship between strategy and business model design. Existing studies often operate at a higher level of abstraction when examining this relationship. For instance, Casadesus-Masanell and Ricart (2010) emphasize the relevance of strategic choices, Teece (2010) explores how strategy formulation and execution influence business model design, and Cortimiglia et al. (2016) investigate the innovation of business models within strategy-making. In contrast, this study takes a more granular approach by considering entrepreneurial orientation as a specific strategic orientation. This allows us to probe deeper into how the specific qualities of a strategy — such as risk-taking, innovativeness, and proactiveness — affect the novelty of business model design. By introducing entrepreneurial orientation, this research provides more detailed insights into the intricate ways in which strategy influences the novelty of business model designs.

Second, building on recent research that highlights the impact of strategic orientations on the inclination to alter business model designs (Ciampi et al., 2021; Klein et al., 2021), the results align with and enhance these findings. The revelation that entrepreneurial efforts contribute to novel business model designs adds a nuanced dimension to the existing knowledge. When considered collectively, this study, alongside prior research, underscores the substantial influence of specific

strategic orientations in effecting changes to business model designs while upholding a high degree of novelty. This becomes particularly crucial for the survival of firms in a dynamic and swiftly evolving business landscape (Teece, 2010). Therefore, this study not only aligns with but also complements the most recent discoveries in this domain.

Third, in contrast to previous studies that predominantly underscore the significance of having a strategy to shape business model design (e.g., Casadesus-Masanell & Ricart, 2010) this study unveils a more intricate relationship. Specifically, the findings demonstrate that the amalgamation of entrepreneurial orientation with either technology orientation or customer orientation diminishes the novelty of the business model design. This implies that firms not only need a strategy to impact the business model design but must also possess the right mix of strategic modes to attain a specific business model design. Therefore, this study presents a more intricate perspective on how strategy intricately influences the novelty of business model design.

Lastly, quantitative evidence in the realm of business model research is notably scarce (Spieth et al., 2016; Wirtz et al., 2016; Zott & Amit, 2013). This holds for discussions on the interplay between strategy and business model design. Existing research on the connection between a firm's strategy and business model design is primarily conceptual (e.g., Casadesus-Masanell & Ricart, 2010) or qualitative (e.g., Hacklin & Wallnöfer, 2012), with a shortage of quantitative evidence (Cortimiglia et al., 2016). By presenting quantitative insights into how strategic orientations impact the novelty of business model design, this study contributes fresh empirical evidence to the broader business model field and, more specifically, the research on the relationship between strategy and business model design. The results also affirm previous conceptual assertions that the business model design can indeed mirror the firm's strategy (Casadesus-Masanell & Ricart, 2010; Ghezzi, 2013; Teece, 2010).

Contributions to strategic orientation literature. This study makes a notable contribution to the strategic orientation literature. Traditionally, this literature has predominantly centered on product-level (e.g., Atuahene-Gima & Ko, 2001; Gatignon & Xuereb, 1997; Renko et al., 2009) or performance level (e.g., Boso et al., 2013; Rauch et al., 2009) outcomes. Few studies delve into the impact of strategic orientations on the business model level, with Sainio et al. (2012) being a noteworthy exception. Their work explores the individual effects of technology and customer relationship orientation on business model radicalness, establishing a positive connection for each orientation. In the present study, I introduce entrepreneurial orientation as an additional strategic orientation and reveal a positive association with novel business model designs. Thus, this research stands among the pioneering efforts highlighting that strategic orientations not only influence product and performance outcomes but also extend their impact on the business model design of a firm.

Second, existing literature perceives strategic orientations as complementary (Hakala, 2011), assuming an additive nature (Schweiger et al., 2019). By embracing this perspective, this study advances beyond Sainio et al. (2012) and mitigates potential blind spots by simultaneously considering various strategic orientations (Hart, 1992). While numerous studies demonstrate synergies among strategic orientations at the product (e.g., Atuahene-Gima & Ko, 2001) or performance levels (e.g., Schweiger et al., 2019), this study reveals that this may not hold for the business model level. Specifically, the study indicates that the combination of entrepreneurial orientation with technology orientation, as well as entrepreneurial orientation with customer orientation, does not mutually reinforce each other for fostering novel business model designs. This aligns with other research. For instance, Bhuian et al. (2005) reveal that the interplay between strategic orientations is not strictly linear. Similarly, T. Morgan et al. (2015) suggest that the interaction of strategic orientations could even be detrimental. Therefore, the present study

contributes to a more critical perspective on the complementarity of strategic orientations, especially in the context of business model design.

Managerial Implications

The business model design, particularly novel designs, has emerged as a crucial construct within the domains of strategy and entrepreneurship (Massa et al., 2017; Zott et al., 2011). As a result, this study holds significant implications for both strategists and entrepreneurs.

First, for strategists and entrepreneurs aspiring to craft a novel business model design, it is imperative to adopt a comprehensive strategy that emphasizes the bigger picture rather than getting bogged down in specific details such as customer or technology intricacies. In light of this, instilling and promoting a strategy that nurtures new ideas, experimentation, and creativity in the context of business models is crucial. Furthermore, this strategy should imbue the aspiration to lead the market through distinctive business practices rather than merely following established norms. Finally, a successful strategy should foster a culture of risk-taking that encourages one to venture into the unknown and make bold moves and investments.

Second, this study should also raise strategists' and entrepreneurs' awareness that conflicting strategic orientations could have a negative impact on the novelty of the business model design. Specifically, if the firm or the new venture is more technology-driven, strategists and entrepreneurs should be aware that this could divert the focus from the business model design toward the technology which ultimately could lead to less novel business model designs. If the firm or the new venture is more customer-driven, strategists and entrepreneurs should be aware that this could conflict with entrepreneurial efforts aimed at designing novel business models.

Limitations and Future Research

Although this study was carefully designed, several limitations offer opportunities for further research.

First, the use of cross-sectional data provides a snapshot of a specific point in time. While this fits the static logic of the business model design research (Demil & Lecocq, 2010) it limits the ability to capture changes or developments over time. To address this, employing a longitudinal approach could offer deeper insights, especially regarding how strategic orientations influence decisions about business model design. In addition, longitudinal designs can also mitigate common method bias concerns, which were addressed in this study but could be further minimized with a longitudinal approach.

Second, this study concentrated on new ventures, recognizing that such entities typically exhibit fewer path dependencies, embedded structures, and stakeholders (Cortimiglia et al., 2016). In contrast, established firms often face greater difficulty in business model design due to inertia and resistance (Zott & Amit, 2010, 2013). Exploring whether the identified strategic orientations exert the same influence on business model design novelty in established companies as observed in young ventures would be of considerable interest.

Third, this study adopted a complementary perspective regarding strategic orientations and their impact on novel business model designs (Hakala, 2011). Future research could depart from this perspective and explore whether strategic orientations follow a specific sequence or if they are presented as alternative choices in the context of novel business model designs (Hakala, 2011). This shift could be valuable, especially considering that other studies suggest the interaction between strategic orientations is intricate and adheres to non-linear patterns (Bhuiyan et al., 2005).

Fourth, this study concentrated on three specific strategic orientations. Future investigations could consider additional strategic orientations and their connections to business model design,

such as learning, employee, or competitive orientation (Gatignon & Xuereb, 1997; Grinstein, 2008; Hakala, 2011).

Fifth, the study's contextual scope was confined to new ventures in Austria, Germany, Liechtenstein, and Switzerland. Broadening the geographical scope to include other countries would enhance the generalizability of the study's findings, acknowledging the diverse cultural, social, and economic conditions prevailing worldwide.

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