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Business model design in sustainable entrepreneurship: Illuminating the commercial logic of hybrid businesses

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ABSTRACT

Sustainability entrepreneurs often rely on innovative approaches and business models to build a commercial logic for achieving social or ecological goals. We employ a deductive multiple-case study that builds upon a business model design framework to illuminate the commercial logic of hybrid/sustainable businesses. We identify four clusters of design themes and elements: niche novelty, integrated novelty, intermediary approaches, and platform approaches. We link our findings to the extant literature and provide suggestions for researchers and sustainable entrepreneurs for putting these design elements and themes into practice.

1. Introduction

In recent years, a new stream of entrepreneurial activities and corresponding research have received increasing attention: businesses and entrepreneurs that pursue social and/or ecological goals while being guided by a distinct business mindset and some form of commercial orientation (e.g., see Battilana and Lee, 2014; Doherty et al., 2014). Such endeavors are often discussed with terms such as hybrid businesses, sustainable entrepreneurship or social enterprises. A very recent study by Todeschini et al. (2017) describes this phenomenon as born-sustainable business models, which follow shared values and principles of sustainability built upon collaboration and innovation. Such entrepreneurs and their respective ventures are said to be of significant practical, political, and academic interest (Haigh and Hoffman, 2012; Mair and Martí, 2006). One aspect that has attracted significant attention in research on hybrid and sustainable businesses is the entrepreneur's motivation (Cohen and Winn, 2007; Hahn and Ince, 2016; Yitshaki and Kropp, 2015). Beyond this microperspective, there is high demand to develop a better understanding of "the distinctive nature of the mission, processes, and resources leveraged" (Dacin et al., 2010, p. 53). This understanding is especially relevant in the sustainable and hybrid business context, where business approaches reside somewhere between nonprofits and traditional companies (Battilana et al., 2012) to align social or ecological goals with economic ones (Zahra et al., 2009).

Recently, the business model peculiarities of such sustainability-oriented organizations have become the focus of academic research (see for an overview, e.g., Bocken et al., 2014; Schaltegger et al., 2016). Other than pure nonprofit organizations or charities, hybrid businesses often do not rely on donations or similar sources of income to pursue their nonfinancial goals; thus, hybrid businesses regularly seem to focus on innovative approaches to achieve the companies' mission (Murphy and Coombes, 2009; Wilson and Post, 2013). Specifically, hybrid businesses implement a business model following a commercial logic as a prerequisite for achieving sustainability for themselves and to contribute to a more sustainable society. However, little is known about the peculiarities of hybrid or sustainable business models with regard to their ability to successfully operate on commercial markets as a prerequisite of achieving social/ecological goals and research has only recently begun to dig deeper into issues of business models in this domain (see again, e.g., Bocken et al., 2014; Schaltegger et al., 2016).

Similar to the topic of hybrid businesses and sustainable entrepreneurship, academic focus on business model design has sharply increased in recent years (Spieth et al., 2014; Schneider and Spieth, 2013). Research on startup firms usually emphasizes the development of the business as a function that supports the firms' strategic development (Spieth et al., 2014). This emphasis on the business model design of new ventures will help identify opportunities and create sustainable competitive advantages (Amit and

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Zott, 2001; Morris et al., 2005). Various business model elements and themes have been shown to affect company performance (e.g., Bock et al., 2012; Desyllas and Sako, 2013; Zott and Amit, 2007, 2008). So far, however, insights from this stream of research have not been utilized to shed light on the commercial grounding of hybrid businesses. We thus see a missing link between the business model domain and the context of hybrid businesses. We deem this omission to be relevant for two reasons. On the one hand, the (non-financial) performance of a hybrid business can be directly linked to its success in achieving social or ecological goals. On the other hand, the (financial) performance of a hybrid business is relevant already because it is a prerequisite of achieving social/ecological goals.

We address this gap and build on these two emerging research streams to help explain the commercial stability of hybrid businesses as a prerequisite for achieving social or ecological goals and how these two aspects (i.e., commercial orientation and societal goals) are connected. We conduct a deductive multiple-case study that applies a business model design framework from an entrepreneurship perspective to 18 in-depth case studies of hybrid businesses. The framework is structured along two dimensions (see Amit and Zott, 2001; Zott and Amit, 2010): a) four business models design elements (novelty, lock-in, complementarities, and efficiency) and b) three business model themes (content, structure, and governance) that go beyond interdependencies among the activities or notions of network structure. This framework allows us to map the various hybrid businesses' commercial business models, which serve as their economic foundation to reach different social and ecological goals. With this framework, we will shed light on our research question: How do sustainable entrepreneurs strive for commercial stability in their businesses, to reach multiple sustainability-related goals? In sum, we contribute empirically to the emerging research fields of business model design and hybrid businesses by identifying distinct business model approaches in hybrid businesses.

The paper is divided into five sections: First, we briefly illustrate the status quo of research on hybrid businesses and derive our analytical framework from the literature on business model design. Second, we illustrate our method for collecting and qualitatively analyzing the data from 18 case studies of hybrid businesses. Third, we illustrate our findings before discussing the elements of business model design in the context of hybrid businesses in a fifth and final section along with limitations of our approach and suggestions for future research.

2. Conceptual background and analytical framework

A wide range of terms and definitions currently describes ventures and entrepreneurs that aim to improve social or ecological sustainability while—unlike non-profit organization—building upon a commercial orientation and striving for financial independence. Among these terms are hybrid organizations/businesses (Battilana and Dorado, 2010; Doherty et al., 2014; Haigh and Hoffman, 2012; Pache and Santos, 2013), social enterprises or businesses (Smith et al., 2013; Yunus et al., 2010), sustainability-driven organizations (Keskin et al., 2013; Parrish, 2010), sustainable entrepreneurship (Hockerts and Wüstenhagen, 2010), social entrepreneurship (Bacq and Janssen, 2011; Mair et al., 2012; Santos, 2012; Zahra et al., 2009) or born sustainable business models (Todeschini et al., 2017). The respective authors and studies usually only differ gradually (if at all) in their viewpoints of what constitutes their object of study while adhering to the general outline of the particular businesses as introduced above. For consistency reasons, we use the term sustainable entrepreneur(ship) throughout the paper and additionally refer to hybrid businesses when generally referring to respective ventures also beyond their start-up phase. We deem this approach to be consistent with previous literature, because both concepts usually refer to businesses or entrepreneurs which aim to achieve non-financial (i.e., social and/or ecological) goals alongside financial goals. Furthermore, we build upon insights from the different mentioned streams of research where appropriate.

2.1. Business model issues in hybrid business and sustainable entrepreneurship research

To date, a number of studies have examined questions specifically related to the topic of business models for sustainability. In a literature review, Bocken et al. (2014) propose eight sustainable business model archetypes. They offer an insightful overview of the ecological or social traits of the respective organizations in terms of their value proposition, creation, and delivery. In a similar vein, Wells (2016) and Upward and Jones (2016) conceptually describe different elements and principles as characteristics of business models for sustainability. Turning more specifically to social businesses as an ideal form of hybrid businesses (Battilana and Lee, 2014), Yunus et al. (2010) provide a well-known single-case study (i.e., Grameen Bank and its subsidiaries), listing five lessons learned and comparing the results to conventional business models when building a hybrid business. One of the most obvious characteristics that differentiate hybrid businesses from conventional businesses is their mission: The mission of hybrid businesses purposefully includes a distinct focus on social and/or ecological goals (Austin et al., 2006; Stevens et al., 2014; Wilson and Post, 2013). Katre and Salipante (2012) conclude that successful sustainable (or specifically social) entrepreneurs focus on social goals first before developing an economic opportunity to achieve social change. To this end, Haigh and Hoffman (2012) propose that hybrid businesses are deeply connected to their environment and to various stakeholders. It seems as if these multiple actors are often directly linked, share information, and work collaboratively to achieve their various nonfinancial goals (Corner and Ho, 2010; Katre and Salipante, 2012).

Nonetheless, the focus on nonfinancial goals linked to simultaneous efforts to achieve profitability often leads to various tensions for these businesses, which may hamper them (e.g., Pache and Santos, 2010, 2013; Smith et al., 2013). These tensions create challenges at the business model level, because it leads to highly complex strategies and operations for aligning the different goals (Moizer and Tracey, 2010). Furthermore, hybrid businesses often seem to be confronted with a distinct scarcity of resources (Austin et al., 2006; Moizer and Tracey, 2010). Against this background, some authors argue that hybrid businesses often find innovative solutions and adopt new business model approaches (Wilson and Post, 2013; Di Domenico et al., 2010) that enable these businesses to achieve nonfinancial objectives alongside financial ones (Murphy and Coombes, 2009). Interestingly, although researchers have discussed business models for sustainable innovation (for an overview, see Boons and Lüdeke-Freund, 2013), researchers have not focused on the innovation of the hybrid business models themselves. While Bocken et al. (2014) specifically refer to the term business model innovation, they follow a general business model perspective by building upon the well-known business model canvas by Osterwalder and Pigneur (2010) instead of discussing elements of business model design elements (Zott and Amit, 2010) that influence the commercial orientation of hybrid businesses as a prerequisite for their multiple-goal orientation. Furthermore, Bocken et al. (2014) generally focus on (established) sustainability-oriented companies and offer an overarching view without specific insights into *entrepreneurial* activities. Regarding commercial success, Renko (2013) emphasizes the high novelty level in socially

oriented startups concerning routines, competencies, as well as offerings, and also shows that such startups are initially less likely to be successful compared to purely for-profit startups. This research forms a bridge to our research question how sustainable entrepreneurs pursue their commercial orientation though their business models, because hybrid businesses need to eventually generate revenue to sustain their operations and, thus, follow their nonfinancial missions (e.g., Doherty et al., 2014; Zahra et al., 2009).

2.2. Business model design

The present attractiveness of business model design has its origin in the emergence of the Internet and related e-business activities (Amit and Zott, 2001; Massa et al., 2017; Wirtz et al., 2016). Business model design offers a wide range of avenues for further investigation into innovations concerning the value proposition, its value creation/architecture, or revenue model (Schneider and Spieth, 2013; Hock et al., 2016). A business model is a tool or concept "to position the value proposition in the value chain" (Sabatier et al., 2010, p. 442) and "helps to describe an economic activity or potentially a framework" (Lecocq et al., 2010, p. 214), which describes how a firm generates profit (Casadesus-Masanell and Zhu, 2010; Gambardella and McGahan, 2010; Yunus et al., 2010). According to Massa et al. (2017), research has included efforts to empirically test hypotheses about the role of business models in explaining differences in firm performance as well as in understanding the sources of value creation in innovative business models. Despite its popularity, there are several ongoing debates about the business model concept's robustness and its theoretical foundation (Massa et al., 2017). Zott and Amit (2013) replied to this criticism by pointing out that business models have developed theoretical roots: "business models can create value through efficiency (anchored in transaction costs economics), novelty (through Schumpeterian innovation), complementarities (anchored in resource-based theory), and lock-in (inherent in strategic networks)" (p. 403).

In order to set our analysis, we utilize the business model conceptualization of Amit and Zott (2001, 2015) owing to its rich theoretical foundation and its capacity to consider a firm's entire activity system. This concept is widely used and accepted. It defines business models as "the content, structure, and governance of transactions de-signed so as to create value through the exploitation of business opportunities" (Amit and Zott, 2001, p. 511) and differentiates among four architectures of an activity system (design elements):

Novelty-focused business models refer to new ways of conducting economic exchanges among various participants (Zott and Amit, 2007, 2010). Furthermore, activity systems can also be arranged for *lock-in*—the power to keep third parties attracted as business model participants. Lock-in can be manifested as switching costs or as network externalities that are derived from the structure, content, and/or governance of the activity system (Zott and Amit, 2010). *Complementarities* are present whenever bundling activities within a system provides more value than running them separately (Zott and Amit, 2010). Finally, *efficiency-focused* business models refer to the measures firms may take to achieve transaction efficiency through their business models (Zott and Amit, 2007).

Additionally, in terms of business model themes that describe the sources of the activity system's value creation, Zott and Amit (2008) define a business model as the (1) structure, (2) content, and (3) governance of transactions between the focal firm and its exchange partners. These themes describe the holistic character of a firm's business model and facilitate its conceptualization and measurement (Zott and Amit, 2008). The design theme *content* refers to the selection of activities (e.g., what is being designed, including the factors that shape the business model and characterize its outcomes). The design theme *structure* describes how the activities are linked (e.g., the sequencing between them) and captures their importance for the business model. Design theme *governance* refers to who performs the activities. Zott and Amit (2010) note that the different parameters of activity systems can occur independently and orthogonally but also interdependently.

In line with Zott and Amit (2013), we decided to keep with this idea and thus to apply their framework of activity systems as illustrated in Fig. 1 as a lens to guide the following analysis of our interviews in the context of hybrid businesses and sustainable entrepreneurship.

3. Data and method

We chose a multiple-case study approach and followed the deductive case study logic of Yin (2014), who regards case studies as "natural experiments" (Welch et al., 2010, p. 746) that facilitate the testing, modification, and refinement of existing concepts and theories. Thus, our research starts from a general, deductively derived analytical framework of business model design and seeks to verify its concrete applicability against the background of the specific conditions and environments of hybrid businesses. We identified case studies as a particularly suitable tool for this effort,

Activity systems	**Design elements (architecture of an activity system)**	**Novelty**	Adopting innovative content, structure or governance
		Lock-in	Building in elements to attract and keep customers
		Complementarities	Bundling activities to generate more value
		Efficiency	Reorganizing activities to reduce transactions costs
	Design themes (sources of the activity system's value creation)	**Content**	What activities are performed?
		Structure	How are the activities linked and sequenced?
		Governance	Who performs the activities, and where?

Fig. 1. Analytical framework.

because there is little empirical work in this area and the qualitative case data provides rich information, which enabled us to delve into the domain of business models in hybrid ventures. While inductive approaches dominate in qualitative case study research, deductive approach are also regularly applied and deemed appropriate here, because the applied framework is well researched and suitable for explaining the commercial orientation in sustainable entrepreneurship contexts (for the general approach, see Barratt et al., 2011). This enables us to analyze the business models more precisely by starting from a well-established framework of business model design. Despite not being as widespread as inductive case studies, a deductive approach can be useful (for reasoning see, for example, Barratt et al., 2011; Bitekin, 2008) and it allows us to explore the existing framework in a new field— hybrid businesses. In doing so, we can provide a detailed subsequent discussion of the suitability of certain forms of business model design to ensure commercial stability in hybrid businesses.

A structured process for case studies guided our research (Stuart et al., 2002), and we applied a purposeful sampling approach, seeking information-rich cases that help answer our research questions (Palinkas et al., 2015). We collected the data during a research project on sustainable entrepreneurs and their respective hybrid businesses, focusing on those ventures in Germany. The sampling was based on a broad understanding of hybrid businesses—that is, businesses that "pursue a social mission while engaging in commercial activities that sustain their operations" (Battilana and Lee, 2014, p. 399). To identify suitable case companies, we conducted an extensive Internet search for potential hybrid businesses in our overall project on hybrid businesses (see also Hahn and Ince, 2016). We utilized news clips, blogs, and social-network posts focusing on keywords such as "hybrid business," "social business," and "social entrepreneurship." Upon identifying potential companies, we continued collecting information on their mission and business model. Here, the main source of information, apart from the mentioned initial sources, about the businesses was their various websites, which were readily available. A company was deemed suitable if it voiced a distinctive nonfinancial mission as being at least of equal importance to its commercial concerns. Furthermore, we searched for organizations that pursued their nonfinancial goals using business logic; that is, the respective businesses were not dependent on donations or similar sources of noncommercial income. Within our multiple-case design, the general unit of analysis (Yin, 2014) was the various ventures with their respective business models. On a subordinate level, following the deductive approach, we specifically investigated the above-mentioned design elements and themes identified for the different case companies as embedded units of analysis.

To gain a high-level understanding of the business models, we conducted interviews with the founders of 18 hybrid businesses. The founders of the respective ventures likely shaped the relevant business model elements, as they were the principle decision makers at the genesis of their companies. Furthermore, targeting the founders enhances reliability, because they are equipped with in-depth knowledge and are able to provide in depth insights into the underlying motives, goal, and processes. At 16 companies, we conducted two interviews within a period of roughly one year to gather in-depth insights into the respective business model, the companies' missions and goals, and development. In two cases, only one interview could be conducted,[1] leading to 34 interviews.

To reduce the likelihood of a confirmation bias on the interviewer and interviewee sides, we did not ask questions specifically targeting certain codes of the deductive framework on business model design elements. Nevertheless, the questions all referred to relevant aspects of a business model and the way the open questions were asked, interviewees were encouraged to engage in a narrative storytelling to elicit information rich statements. The first interviews were guided by questions regarding the general conception of the business model itself ("Can you describe your business model? How would you characterize and categorize your business model?"), the nature of value creation ("How is this profit distributed, and to whom? Do you generate value beyond profit? If so, what kind of value?"), the current stage of development ("When did you start developing your business? What needs to be done in the future?"), and relationships with suppliers, customers, other stakeholders, and so on. The second wave of interviews was conducted to gain further insights on aspects, which were rather neglected in the open answers of the interviewees during the first round of interviews. These interviews thus explored the founding of the business ("What brought about the business idea? How did you identify the opportunity to start your business?") and then moved on to prerequisites, processes, and resources ("What knowledge did you and your co-founders bring to your venture? How would you describe the market environment you are operating in? What would you consider your most important processes and/or inputs?") and general strengths and challenges ("What are the strengths of your company? How do you react to changes and challenges?"). The sum of open questions (and respective) answers led to rich interview data which was transcribed, returned to the founders for validation, and then subsequently coded along with secondary data as illustrated below.

Overall, the data from the 18 cases accounted for roughly 20 h or 140,000 words of interview material. The average length of each interview was about 34 min (anything between 15 and 59 min per interview). In addition to this primary data, we went through extensive secondary data from company internal sources to obtain an in depth picture of the respective company's "story" on the relevant aspects of their business models. This included the websites from all companies (with relevant information on the respective business models such as customers, revenue streams, and partly also key resources or partners etc.) and, where applicable, social media pages, blogs etc. Additionally, we triangulated this data with company external sources (esp. articles, news clips etc.). Interestingly, there was quite extensive third-party material on many companies despite the fact that they were rather small. However, due to the novelty of their approaches and the public interest in the topic of sustainable and hybrid businesses there were, for example, quite many articles on the companies in form of portraits of the ventures or their founder etc. We used these data, for instance, to further locate the commercial orientation within the various business models when it was not explicitly mentioned in the interviews, as in the case of company 7. In a video report, the founder acknowledges that the primary customer appeal lies in freshness and quality of their products (i.e., not in the ecologic value alone), without which the company would not be able to operate. Other than providing a clearer picture, this procedure also helps mitigate potential response bias (Muñoz and Dimov, 2015). In sum, we acquired extensive data from multiple sources and perspectives on each of the 18 case companies (see Appendix A). Overall, the data at hand was suitable for answering our research question of how sustainable entrepreneurs strive for commercial stability in their businesses, to reach multiple sustainability-related goals.

We used qualitative content analysis to examine the data (Duriau et al., 2007) based on the pattern of analytical categories

[1] These two companies, respectively their founders, were not willing to conduct a second interview due to general concerns about such interviews and a multitude of inquires which were addressed toward them by various channels and actors (e.g., media and researchers).

that we had deductively developed beforehand. Mayring (2015) views qualitative content analysis as the systematic, rule-governed, and theory-driven analysis of fixed communication. This approach was our response to Siggelkow (2007) call for a strong theoretical background in case study research that consistently filters data according to conceptual arguments and reduces the data to the most relevant information. Other than in an inductive qualitative study, which builds higher-order categories from an abundance of lower-order codes identified from an open coding (Saldana, 2016; Strauss and Corbin, 1990), our deductive approach started with a given set of analytical categories from the framework of business model design as introduced above. Two of the authors independently attributed any information derived from the interviews and from secondary data to the respective categories in the framework. With regard to the deductively derived analytical categories, these codes were, by definition, constructed codes (Strauss, 1987) as they followed an existing conceptual framework (see again section 2.2). The codes within each category of the deductive analytical framework, however, also contained elements of in vivo codes which explained how specifically the case companies filled the different elements of business model design with life. We then shaped the actual order and coherence of these codes through an axial (structural) coding, in which the identified attributes were refined and connected to gradually arrive at a greater level of abstraction by forming our distinct subcategories (themes) within the existing framework as illustrated in the next section. Through interaction and discussions, in which we discursively assessed differences as well as commonalities of our coding, we then closed the remaining gaps within the identified concepts to arrive at common themes in the final stage of selective coding. Tables 2 and 3 in the following section provide illustrations of the common themes identified or the categories and sub categories along with illustrative quotations.

Finally, we used several measures to ensure the quality of the entire process. We ensured the transparency and replicability of the research design through thorough and detailed documentation. Construct validity is supported by relying on a deductively derived analytical pattern based on the framework by Zott and Amit (2010) and Amit and Zott (2001), which is frequently cited in the scholarly literature and has been used for similar purposes in other contexts (see, e.g., Cheng et al., 2014; Cortimiglia et al., 2015; Mezger, 2014; for an overview see Zott and Amit, 2013). The thoughtful selection of key informants, as well as the careful transcription and validation of the collected interview materials, contribute to high reliability and high internal validity. We carefully checked each case against the original data and through intensive discussions among the research team members and with colleagues during and after various conference presentations (Gibbert and Ruigrok, 2010). Two of the authors are senior academics with an extensive background in business model design and hybrid business, respectively. To reduce potential personal biases and subjectivity, all authors independently reviewed all the data (Barratt et al., 2011). We assessed the few different judgments on a case-by-case basis and resolved them through discussion to gradually assimilate discrepancies in the coders' mental schemes (Seuring and Gold, 2012).

4. Findings on hybrid businesses for sustainability: analysis from the perspective of business model design

Our empirical research aim here is to shed light on our research question of how sustainable entrepreneurs strive for commercial stability in their ventures, allowing them to achieve multiple sustainability-related goals. We identify distinct business model approaches in hybrid businesses through illustrating the clusters of business model types that emerged from the analysis of the 18 cases. Table 1 provides an overview of the case companies' primary elements.

Zott and Amit (2010) describe four sources of value creation in business models: novelty, lock-in, complementarities, and efficiency (see also Amit and Zott, 2001). When investigating hybrid businesses, we must first identify the different forms of value creation. Hybrid businesses seek to simultaneously achieve value in different dimensions—financial as well as social and/or ecological. However, in our analysis, we primarily focused on commercial aspects as the enabler of further value creation in hybrid businesses. The interviews revealed subtle differences in the founders' attitudes concerning the balance between the firms' commercial mission and social mission as follows. All founders seemed to perceive their ventures as existing somewhere in the middle of a continuum between social and financial goals. Some specifically emphasized how the company's financial goals are vital to follow its social mission. Others focused even stronger on the commercial aspects and that they indeed consider themselves as “real” companies, albeit always with strong drives toward achieving social goals. These nuanced differences toward the commercial pillar in the companies at hand, however, did not impact the results of our analysis, because commercial success is generally regarded as a prerequisite (and means) to achieve societal goals by *all* companies in the sample.

In our sample cases, we found a distinct focus on novelty and efficiency as sources of such commercial value creation in hybrid businesses. For the novelty as well as for the efficiency-oriented models, we identified two venture clusters, each with a distinctly different approach, which leads us to different implications, which we will present in this section. Fig. 2 illustrates for the example of the “niche novelty” cluster (see Section 4.1.1) how we arrived at the following findings based on the coding technique introduced above.

4.1. Novelty-focused business models in hybrid businesses

Novelty-focused business models occurred in two clusters in the sample companies. These ventures add some form of sustainability focus to a common good or service sold to different customers in the business to business (B2B) or (mostly) the business to consumer (B2C) segment. Thus, the various businesses directly link their commercial orientation to their social or ecological mission. Here, novelty is constituted by a previously nonexistent (or underdeveloped) sustainability dimension. This sustainability aspect is often a benefit for sustainability-conscious customers and ultimately for other stakeholder groups, which benefit from a more sustainable product.

4.1.1. Niche novelty

In the first cluster, businesses add nonfinancial value by procuring input factors from sources that are more socially or ecologically sustainable compared to the common status quo in that industry. We named this cluster *niche novelty*, because sustainability value is used as an add-on to the general product features and sometimes even as a unique selling proposition for a specific clientele. Thus, sustainability value is directly connected to the commercial orientation in the respective business models. Case company 7, for instance, sells mushrooms with a distinct sustainability trait to restaurants and urban consumers (for additional examples, see Table 2). The mushrooms are grown in urban cellars in Berlin on the remains of coffee production; the company claims to foster a circular economy by putting much organic waste to efficient use, thus mimicking natural ecosystems. The venture consistently uses this ecological feature to enrich an everyday product with a message of local production, recycling, and overall

Table 1
Overview of cases.

#	Description of companies overall approach	City	Main customer focus	Main revenue-generating product	Sustainability orientation (social and/or ecological)
1	Marketing of beanies crocheted by the elderly for modern consumers and youngsters while promoting intergenerational contact and positively engaging the elderly.	Kassel	B2C (esp. young people)	Beanies	Integration of seniors in meaningful and entertaining activities
2	Decentralized processing of drinking water using renewable energy at places with insufficient infrastructure.	Kassel	B2B (municipalities, companies …)	Water treatment facilities	Sustainably supplying safe drinking water in developing regions
3	IT consultancy that employs people with Asperger syndrome (autism) as IT consultants, thus providing specialized services to its business customers while giving new meaning to their employees' lives.	Berlin	B2B	IT services	Integrating otherwise unemployed people with Asperger autism in stable employment, thereby improving social connections and appreciation
4	Crowdfunding platform that specializes in energy efficiency projects. It helps to finance projects and thus improve energy efficiency while realizing above-market interest rates for investors.	Frankfurt a. M.	B2C, C2C	Investment platform for crowd investments	Fostering energy efficiency by enabling crowd investments
5	Online platform that presents sustainable companies and their products. In raising publicity for these companies and making them more attractive, it seeks to instigate and accelerate sustainable change within the economy.	Hamburg	B2C	Online marketplace	Raising awareness for sustainable products and consumption
6	Production and distribution of 'organic clothing' – a streetwear and sportswear brand with a modern lifestyle attitude.	Helmbrechts	B2C (especially young people)	Sustainable clothing	Improving social and ecological sustainability in the clothing industry
7	Production of high-quality mushrooms in urban cellars by using coffee grounds as nutrient medium, thus recycling otherwise wasted material and creating local and resource-efficient production.	Berlin	B2B (restaurants); B2C	Mushrooms	Fostering ecological sustainability via urban recycling
8	Design and sales of aquaponic farms for the resource-efficient urban production of vegetables and fish.	Berlin	B2B, B2C	Aquaponic farms (B2B); vegetables and fish (B2C)	Closed-loop production of vegetables and fish in urban locations, which improves ecological sustainability
9	Online marketplace designed as a cooperative for trading organic and fair-trade goods.	Berlin	B2C	Online marketplace	Promoting sustainable production and consumption
10	An online platform for borrowing and buying used products from people in the neighborhood. The aim is to increase products' service lives.	Berlin	B2C	Online sharing platform	Promoting a shared economy by enabling the multiple use and reuse of goods
11	Inexpensive supply of spices from controlled organic farming without intermediaries, thus enhancing producers' incomes.	Berlin	B2C	Spices	Promoting organic production of spices and improving spice producers' incomes
12	Textile agency that distributes organic and fair-trade fabrics and clothes. In offering collective orders, the company enables young designers to procure small amounts of sustainable fabrics.	Berlin	B2B	Organic and fair-trade fabrics	Fostering sustainability in the textile supply chain
13	Seasonal gardens for rent in urban areas. The idea is to make urban households more self-sufficient in food provision by providing them with prepared gardens and specialist advice from regional farmers.	Bonn	B2C	Urban rental gardens for organic vegetables	Promoting the ecological sustainability and self-sufficiency of city dwellers
14	A cooperative that brings together companies, designers, and sheltered workshops to include disabled persons in mainstream employment.	Kiel	B2B	Know-how and network that connect sheltered workshops with customers	Building a network for a sustainable working culture that integrates disabled people
15	The provision of 100% green energy to private households. Further, with each new customer, the company provides clean energy for one family in a developing country.	Munich	B2C	Sustainable energy	Promoting energy transition towards renewables and improving sustainability in developing countries
16	The sale of social beer and sharing of 'social profit' with the neighborhood. The idea is to strengthen the local economy by selling simple consumer products.	Munich	B2C	Beer	Promoting the local economy and regional social structures
17	A citizen shareholder corporation that supports sustainable regional agriculture throughout the value chain. The idea is to create sustainable regional structures through citizen participation.	Freiburg	B2C	Network for agricultural products	Fostering the regional economy and sustainable agriculture
18	Marketplace with special incentive systems for the placement of sustainable products. Education of consumers through a self-developed and easily comprehensible 'sustainability signal light' that informs customers.	Berlin	B2C	Online marketplace	Promoting sustainable products and consumption by raising awareness

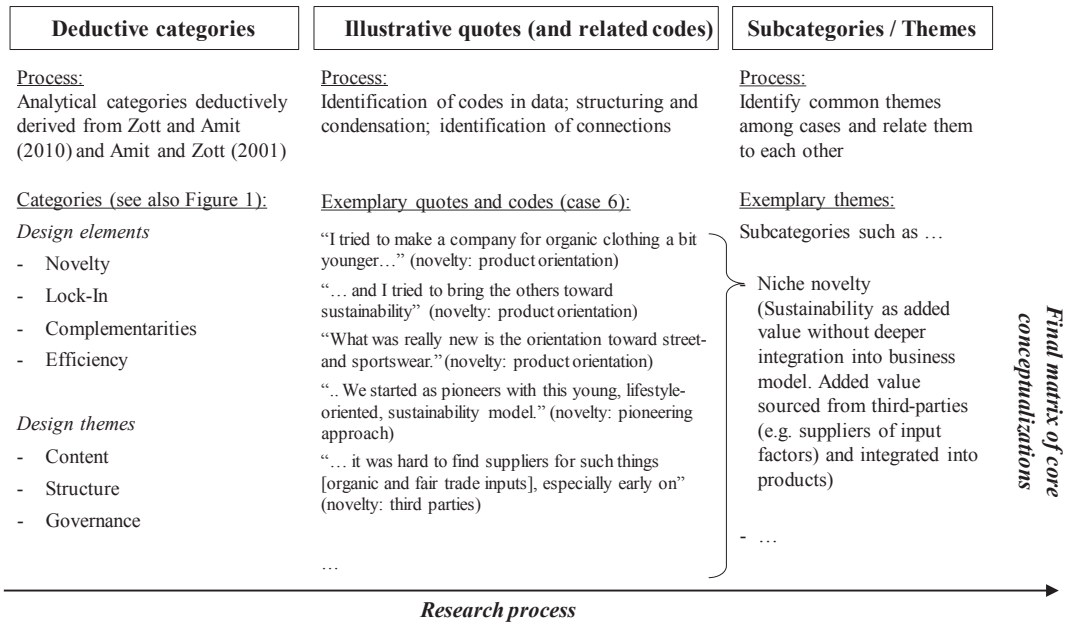

Fig. 2. Exemplary overview of analytical process.

sustainability, as illustrated in the following example:

> "(…) we all eat mushrooms that basically have the nutritional value of cardboard (…). You would only buy high quality mushrooms, if at all, when they are on sale at [a German supermarket chain] for 4 Euros a kilo. That is simply not viable anywhere in Europe. Not even in deepest Romania (…). So, we took a slight turn and said 'ok, if people want that, we provide them with our growing kits for their homes' (…). Traditional mushroom production works with lots of chemicals. Our principle: We take a resource that would be considered waste [used coffee grounds] (…). We want to produce within the region, for the region" (founder, company 7).

Thus, this approach adds a novel orientation of ecological sustainability to the product feature. Therefore, we coded this approach as a novelty approach in the content theme. The example illustrates how the ventures in this cluster put much effort into providing the novel sustainability-oriented approach. The prevalent industry structures often simply do not consider the newly integrated sustainability aspect. Therefore, input factor markets sometimes had to be built from scratch. However, despite these efforts, there is no deeper integration of novelty in the respective business model as can be seen in the example of case company 7. The company was innovative in the sense that the founders actively pursued a recycling approach for growing urban mushrooms. This sustainability trait had to be specifically built into mushroom production, and new raw material sources (i.e., coffee grounds) had to be integrated into the process from scratch. However, this raw material is neither scarce nor difficult to identify; therefore, we did not code this case as novel structure or governance.

4.1.2. Integrated novelty

In the second cluster, hybrid businesses integrate sustainability more deeply into their operations (*integrated novelty*). In this cluster, sustainability is a resource that is, at least to an extent, unique to the ventures in question, compared to the cases of external sourcing of input factors with sustainability traits. Companies achieve organization-specificity, for instance, through vertical integration by incorporating the specific sustainable resource into the organizations' processes or by engaging in activities that are difficult to replicate, for instance, due to specific knowledge about interrelationships or procedures. Case company 14 is an example of this cluster (for additional examples, see Table 2): The venture is set up as a cooperative that connects designers and workshops for handicapped people to develop new products that meet B2B clients' needs with individualized product or service solutions, while integrating people with disabilities into a regular work environment. The founder of the company explains how they achieve this:

> "We are a mix of different types of organization – classic company, cooperative, and, on the other hand, charitable association. These three things come together and form our strength (…). And that is where we see our main field of action in the future; not only in purely economic terms, but also in terms of controlled development or development projects, where we can and should offer our services (…). For this, you must be able to master all the organizational issues that enable you to make it together" (founder, company 14).

The venture occupies a key position between all actors and integrates resources that would be difficult to source on the market. The venture's cooperative structure integrates multiple partners with unique capabilities and expertise. Thus, we coded the venture as an integrated novel approach comprising several sources of value creation according to the framework.

Table 2 illustrates these two novelty clusters with three additional examples and accompanying illustrative quotations, to provide a broader picture of the classification and coding of the different ventures.

4.2. Efficiency-focused business models in hybrid businesses

Efficiency-focused business models in hybrid businesses also occurred in two clusters. In these models, the ventures act as sustainability enablers in various supply chains and their business-efficiency is used to bring together previously unconnected actors and help establish more sustainable solutions in different areas. The ventures leverage their enabling role as a primary offering to

Table 2
Characteristics and Examples of Novelty Clusters*.

Case No.	Description	Illustrative quotes	
6	Procuring ecologically superior fabrics and other input material to introduce sustainability aspects into streetware fashion	*I think we were at the right place at the right time. We started as pioneers with this young, lifestyle sustainability model. … What was truly unique was the focus on streetwear and sportswear.* *The thing is that it was hard to find suppliers for such things, especially early on.*	**Niche novelty**: Sustainability as added value without deeper integration into business model. Added value sourced from third-parties (e.g. suppliers of input factors) and integrated into products
12	Holistic sustainability pioneer in organic and fair trade clothing; sustainability as differentiator in the clothing industry	*I see sustainability as a differentiator to the conventional industry. Our business model is a product innovation in the existing market and it helped us to develop a niche in which we are a pioneer.* *Organic fabrics … produced under fair conditions, which are superior to the average in the producing countries.*	
15	100% green energy for private households with an added donation model in which every customer automatically donates for green electrification in developing countries	*The business model itself is not new. … we are an independent energy provider that sells green electricity and 100% green gas. Our access to 100% green gas based solely on residual material is new; this is our innovation.* *We approach the energy change worldwide … One not only buys green and sustainable electricity and gas, but also do something good. … If you buy our green electricity and gas, a family in Cambodia gets clean energy.*	
1	Engaging elderly people in knitting hip beanies for young customers with the added value of social activities and appreciation for senior citizens; close personal contact as enabler in the 'supply chain'	*We organize trips and other events for these old ladies. generation exchange. … Without this social aspect, we would not have a story, and you simply could not sell beanies for 40 euro each.* *We were totally unprepared when we started, and initially received harsh criticism. They [these old ladies] thought we wanted to teach them to knit, and so on. It cost us much cake and egg liqueur to fix that. … You cannot split functions, because many soft factors are involved.*	**Integrated novelty:** Sustainability as added value integrated into business operations and leveraged as an organizational resource
3	IT services (enriched via the special skills of autistic IT consultants) with added value of social responsibility via integration; builds on own 'innovative' human resources and specific integration skills	*Our business model is IT consulting. … And we create value in terms of respect, tolerance, the diversity topic, and social claims.* *We think of ourselves as a normal IT consultancy, albeit with special employees. … we are the first in Germany to follow this approach.* *We must be very sensitive … we must mentally stabilize them [our employees] and offer tailored communication.*	
16	Sale of 'social beer' by sharing profit with the neighborhood; the company acts as local facilitator in a distinctly regional supply chain and coordinates the donation of generated profits	*Two-thirds of our profits go to social projects and one-third stays with [the company] to cover the costs.* *The new thing is that the profit does not stay with a single person or company; the region benefits. …* *We sell to owner-managed beverage stores. We want to strengthen the local economy. The brewery is a cooperative. … It procures the raw materials locally.*	

Note: * Quotes translated by the authors.

their customers to generate revenue. Thus, in this case, the sustainability orientation is directly linked to the commercial orientation, as we show.

4.2.1. Intermediary approach

In the first cluster, hybrid businesses engage as *direct* intermediaries in the supply chain (the *intermediary approach*). Their personal contact with upstream and downstream actors helps create products that are sustainable. One distinct element of this cluster is a high process knowledge level in that supply chain. The companies function as a bridge between suppliers of certain goods and/or services that previously lacked access to certain markets and B2B or B2C customers who were often previously unaware of the existence of certain sustainability-related goods or services. Case company 11 is an example of this approach (for additional examples, see Table 3):

> "To serve them [the market], you simply need to be transparent and honest. We are not doing it because of that, but because we wanted to know, where it comes from ourselves. We even visit the fields (…). When we started, all products came from wholesalers. Since last year, we successively worked on getting everything directly from the farmers" (founder, company 11).

The company sells organically grown spices from fair trade producers directly to end consumers without intermediaries in the supply chain. The lean supply chain enables the company to transparently trace all its steps and to guarantee the products' sustainability traits. This is ensured through direct relationships with suppliers and customers. The example illustrates how personal contact with both sides of the supply chain enables these ventures to bridge a previous divide. The ventures provide efficiency gains for both sides by reducing transaction costs and by offering exchanges between previously unconnected actors in economically feasible ways, which led to their classification as efficiency-centered activity systems concerning structure and governance in the business model.

4.2.2. Platform approach

The second cluster is characterized by businesses that engage in a *platform approach*. Other than in the intermediary approach, where the companies connected directly and personally, we found

Table 3
Characteristics and examples of efficiency clusters*.

Case No.	Description	Illustrative quotes	
12	Acts as facilitator for buying organic fabrics; brings together designers and producers of fabrics with its know-how on organic and fair trade textiles and supply chains	*Our centralized buying enables our customers to buy small amounts of organic fabrics … We make them available via an organized platform. It is like a reverse-auction model, a sales tool; the community helps us to make the goods available.* *We have key partners … a pioneer designer in green fashion, the Frankfurt trade fair, …the Berlin fashion scene … suppliers in India and Turkey where we build long-term partnerships … collaborations with fashion schools …*	**Intermediary approach**: Hybrid businesses act as facilitators between different actors to enable a more sustainable supply chain
13	Offers organic gardening to urban residents; acts as an intermediary between farmers and consumers by providing added value to both	*In every location, we cooperate with a local farmer who cultivates the [centrally located] vegetable gardens. … Customers rent them for a seasonal fee, which also covers the use of equipment, water, and guidance. Local farmers … bring in agricultural expertise and offer these hobby gardeners consultation hours. And we [the company] bring in business expertise in terms of marketing and distribution.*	
14	Connects companies, designers, and sheltered workshops to include disabled people in mainstream employment	*We work in a project-based way. We assemble and match the right people to projects … We try to connect these workshops for disabled people together with, designers, and companies so that they can develop products or services that find buyers. … We are in the key position. Previously there were no connections.*	
4	A crowdfunding platform as an efficient means to bring together investors and investment seekers; energy efficiency projects are financed by the crowd and energy savings generate returns for investors	*The new thing is the combination of [monetary] savings from energy efficiency projects generating yields for the crowd. … We think of ourselves as network partner for all actors that are needed to implement the energy efficiency measures.*	**Platform approach:** Hybrid businesses as Internet-based central contact points bringing together multiple actors without itself engaging in exchange activities
5	One-stop (online) shop for green product deals; efficient for B2C customers by bundling sustainability-related products on its platform and for B2B customers by offering a low-cost means to generate scope	*We provide our partners with a broad range of customers … even small partners, which are new to the market, get the same reach.* *We link all the customers of the different companies.* *We offer a [virtual] showroom for the most sustainable products.*	
10	A social media platform that facilitates the borrowing of used products in the neighborhood	*We are a social network with a marketplace for rentals and sales.* *The idea was that there are so many things that are used very little in their product life, and that it would be very useful to know where those items are, so that others can also use them. And this takes place through our platform.*	

Note: * Quotes translated by the authors.

companies using an *indirect* method of connecting previously unconnected actors, as can be seen in case company 9 (for additional examples, see Table 3):

> "We simply try to support certain companies. Small companies that offer high quality products that, ideally, are traded fairly or use fairly traded resources. Although that is not an exclusion criterion. We also try to give special visibility to products or suppliers who value sustainability. Of course, consumers can also buy used things. We support that as well" (founder, company 9).

The company provides an online marketplace for sustainable and fair-trade products. This marketplace is organized similarly to regular e-commerce websites that provide a space for businesses to offer products to a wide range of customers browsing the online marketplace. However, the venture is organized as a cooperative that claims to be an alternative to the large incumbent e-commerce players with a distinct focus on sustainable and fair-trade products. Such products receive preferred treatment on the website with prominent labels for *fair* or *eco* offerings and reduced transaction fees for respective traders. The company does not produce and sell such goods but provides an e-commerce platform that emphasizes sustainability and thus caters to a specific clientele. In a similar sense, all startups in this cluster do not directly communicate with both sides of the supply chain but offer technical solutions that help the two sides make contact with each other. Specialized sustainability-related social networks, Internet platforms, and online marketplaces can offer efficient means for social or environmental-conscious individuals and producers of sustainability-related goods and services to initiate exchanges. Here again, the companies offer methods for reducing transaction costs and helping create more sustainable ways of doing business, which is why we coded these companies as embracing an efficiency-enhancing architecture that focuses on the structure and governance of creating value. However, instead of direct contact with a few players on both sides, as in the intermediary approach, platform companies attempt to span larger networks through technical solutions. Therefore, we introduced the platform approach cluster with similar business model elements, which differ from the intermediary cluster, as illustrated in these examples and in Table 3, which provides an overview of three additional examples of the two efficiency clusters.

Fig. 3 provides an overview of the main clusters and their relationships to the business model types and activity systems. The numbers in the matrix refer to the cases in Table 1.

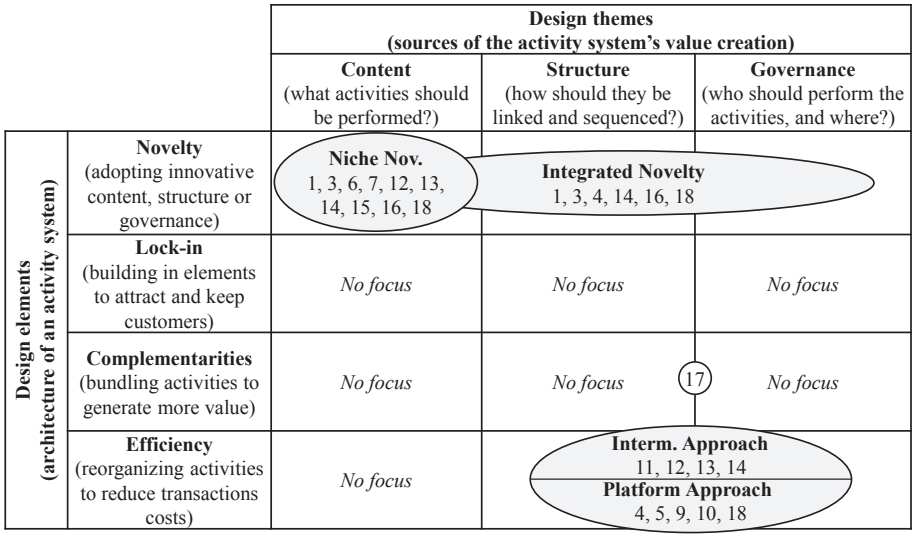

Fig. 3. Matrix of business model clusters in hybrid businesses.

5. Discussion and conclusion

5.1. Theoretical implications

Researchers continue to dedicate considerable attention to hybrid businesses. However, little is known about the commercial orientation of hybrid businesses as a prerequisite for contributing to a more sustainable society. This study thus responds to the calls for research on what the architecture of a hybrid business activity system looks like (Hargadon and Douglas, 2001; Romme, 2003; Venkataraman et al., 2012) in order to design a business model to achieve (economic) sustainability for themselves and to contribute to a more sustainable society (Murphy and Coombes, 2009; Wilson and Post, 2013). We analyzed business models in hybrid ventures from the perspective of business model design to shed light on the question of how sustainable entrepreneurs strive for commercial stability in their ventures, allowing them to attain multiple sustainability-related goals. We find that the case companies fit well into Bocken et al. (2014) conceptual archetypes of sustainable business models. Against this background, the results of the empirical study revealed several notable findings, which also provide fruitful insights for academia.

Specifically, we went beyond conceptual categorization and focused on the prevalent novelty- and efficiency-related design elements of hybrid business models (Zott and Amit, 2007, 2010). Here, we found that novelty-focused business models occurred in two clusters: *niche novelty* and *integrated novelty*. In the niche novelty cluster, sustainability aspects function as an add-on and a unique selling proposition for a specific clientele. In the integrated novelty cluster, sustainability is a resource that is unique to the various ventures' external sourcing of input factors with sustainability traits. This differentiation of two distinctive characteristics of the novelty-focused business model element extends earlier research by Zott and Amit (2010) and Bocken et al. (2014) by providing a more sophisticated view of hybrid businesses from the perspective of business model design. When examining the activity systems in these cases, we found that novel activities in the niche novelty cluster focus primarily on content. We identified a market-based approach in the sense that the various hybrid businesses seem to—at least implicitly—follow a differentiation strategy (Bambenger, 1989; Zott and Amit, 2008) by concentrating on filling a sustainability niche that has not (or not sufficiently) been previously served (Schaltegger and Wagner, 2011), with the added value of sustainability sourced from third parties. Novelty in this case is characterized by relative novelty compared to the status quo of the sustainability orientation of incumbent players (Hockerts and Wüstenhagen, 2010). In the integrated novelty cluster, activity systems concentrated on elements of structure and governance, complementing the novelty of sustainability content. In these cases, added value was not sourced externally but was more deeply integrated in the company's core activities and engagements in the supply chain. While Zott and Amit (2013) relate complementarity-based business model designs to the resource-based view as described by Barney (1991) and Peteraf (1993), we hold this to be true also for the cluster of integrated novelty.

Our case analysis also resulted in two clusters for efficiency-focused business models: *intermediary efficiency* and *platform efficiency*. In the intermediary efficiency cluster, hybrid businesses engage as direct intermediaries in the supply chain through personal contact with upstream and downstream actors, thus enabling exchange relationships for more sustainable products. In the platform efficiency cluster, hybrid businesses indirectly connect previously unconnected actors and offer technical solutions that enable both sides in the supply chain to make contact with each other. The various business models also focused primarily on structure and, in particular, governance. In the intermediary approach, the facilitating role is a valuable resource that is hard to imitate (Barney, 1991). It builds on unique knowledge about partners and the ability to expertly strike the keys in a network of previously unconnected actors, which, when working collaboratively, generate social and/or ecological value that was not previously achieved. In the platform approach, hybrid businesses also assume a facilitating role. Instead of personal contact and exchange, the value of these business models is their ability to leverage their platforms' network effects (Aspara et al., 2013; Chesbrough and Rosenbloom, 2002; Tikkanen et al., 2005).

Finally, some of the case companies were associated with two clusters (see again Fig. 3). The corresponding ventures combined aspects of a novel sustainability focus in a specific (niche) market with an efficiency focus of bridging different parts of a supply chain in economically feasible ways. These double classifications were a direct result of the deductive coding process introduced above and

illustrated in Fig. 2 and point to the complexity of the business models at hand. This extends our understanding of sustainable entrepreneurship and hybrid businesses and is in line with earlier findings by Zott and Amit (2010), who noted that the parameters of activity systems could also be interdependent.

5.2. Practical implications

Our results are also relevant for managers and policy makers. Through bridging the gap between the business model domain and the context of hybrid businesses, we provide fruitful insights on how to facilitate commercial grounding of hybrid businesses to enable achieving social or ecological goals. Moreover, we demonstrated that hybrid businesses focus on novelty and efficiency business model approaches in their commercial orientation in order to create social or ecological value. Managers of hybrid businesses striving for a novelty business model approaches seek to accumulating a previously nonexistent or underdeveloped sustainability dimension within the business model. Turning this into practice, this can lead either into an add-on and a unique selling proposition (niche novelty) or to various ventures' external sourcing of input factors with sustainability traits (integrated novelty). For the former case, Zott and Amit (2008) indicate that novelty-centered business models coupled with a differentiation strategy can indeed enhance company performance. However, we posited that companies in the niche novelty cluster source the added value of sustainability from third parties (e.g., suppliers of input factors). If this is not connected to the companies' own distinct resources (such as knowledge, an exclusive partnership, etc.), the novelty focus might erode when followers (Fosfuri et al., 2013) step in or when the entire industry is forced to move toward more sustainable practices and products (Hahn, 2011). If this happens, hybrid businesses are pioneers, which might cease to exist if the niche becomes mainstream, thus ultimately leading to business models that are only temporarily successful owing to eroding revenues following increasing competition. In fact, Haigh and Hoffman (2012) even propose that hybrid businesses actively invite followers and offer insights into successful (and sustainable) product offerings for the benefit of society. In the latter case of integrated novel business model approaches, there is a greater focus on organizational resources that might more difficult to imitate compared to the external sourcing of added value as in the niche novelty cluster.

In the case of acting as sustainability enablers in supply chains, managers could opt for an efficiency business model approach. Here, two ideal types seem to be promising for new hybrid businesses—namely intermediary efficiency and platform efficiency—based on the focus of rather engaging as direct intermediaries in the supply chain or just indirectly connecting previously unconnected actors and offer technical solutions. In the case of the indirect platform approach, the ability of the respective hybrid businesses to reach sustainability-related goals and generate revenues lies in the technical domain of providing a (virtual) contact point for multiple actors. Thus, founders and managers of such businesses are advised to constantly challenge the sustainability performance of their platform partners to ensure that the social or ecological goals do not perish over time.

Finally and from an overarching perspective, managers in traditional businesses are not very often highly in contact with hybrid businesses so that our analysis gives them an inspiring overview on how sustainable entrepreneurs strive for commercial stability in their businesses to reach multiple sustainability-related goals.

5.3. Limitations and further research

This study has helped us better understand business models in hybrid ventures from the perspective of business model design. We emphasized themes and elements to invent new business models with a sustainability-oriented character. However, our research approach has limitations.

Our qualitative method embraced a significant amount of exploration. The focus on the various business models' revenue generation motivated the use of the applied framework, which provides a valuable analytic lens in this regard. However, we cannot claim to have provided a complete picture of business models in hybrid businesses, for several reasons.

First, the limited number of cases in the study, coupled with the qualitative method we employed, does not allow for statistical generalizations beyond the given data and we cannot rule-out that there are hybrid businesses following other design themes. Nonetheless, 18 in-depth case studies exceeds the minimum number of cases (at least four) proposed for such a purpose (Eisenhardt, 1989), and the deductive approach allowed us to overcome the challenges of reporting results for a larger number of cases (exceeding 10; Piekkari et al., 2009). However, to enhance our results' external validity, the scope of cases could be expanded, for instance, to additional industries and/or cultural backgrounds. Future research should also investigate hybrid business approaches in a quantitative research setting in which, for instance, the dimensions of business model themes and elements identified by Zott and Amit (2010) can be used and further specified.

Second, although the data richness arising from the qualitative research design is a key strength of this study, the results are limited by the research approach in terms of its representativeness, unavoidably retrospective nature, and potential informant biases. To diminish potential response biases, we double-checked the interview statements against company-related documents and website research. For this, we drew on a sizable amount of secondary data which was readily available due to the fact that the sample companies, especially (though not exclusively) during their founding stages, were and are at the center of attention of several news outlets, blogs, and social media websites. Thus, to the best of our abilities and diligence, the findings constitute the interviewees' realities in the firms and the basis for the companies' future actions. Although we purposefully concentrated on founders as highly informed interviewees, future researchers could cover different informants from one company and could contact the same companies after periods of significant time and/or growth.

Third, the deductive approach allowed us to decontextualize the excavated pieces of knowledge and to raise them to a higher application level through conceptual abstraction (Avenier, 2010; Gibbert and Ruigrok, 2010). However, the generalizability of the findings is limited by the fact that we concentrated on case studies from one specific economic setting (i.e., hybrid businesses in Western Europe, specifically Germany). We did this purposefully to achieve better comparability within the study and to enhance internal validity. Firms in the same region or country develop implicit social norms and behavioral rules embedded in the social environment and specific to the community (Lorenzen, 2007). Katre and Salipante (2012) illustrate the importance of contextual factors for the success of hybrid ventures (similar to Austin et al., 2006). Our approach eliminated contextual factors based on the country of origin or proximity aspects. However, hybrid businesses in developing countries face a distinctly different economic environment (Seelos and Mair, 2005; Yunus et al., 2010) and, thus, are likely to focus on other social and/or ecological issues in their approach and must likely cope with various obstacles, leading to different business model design implications. To compare results across cultures and contexts as well as to account for (geographical) proximity, multi-sample analysis could be applied.

Fourth, we explored hybrid business models to identify and illustrate different clusters based on their business model themes and elements. However, some companies were associated with two clusters. We also identified three companies that we did not assign to any of the clusters. Reasons for this were that their sustainability-oriented approach was not directly linked to aspects of the business model but instead built on proprietary technical inventions or that we identified a single company to be based on the complementarity design theme for which we decided not to introduce a separate cluster. While these double or non-classifications were a direct result of the coding process introduced above and in Fig. 2, having companies belonging to more than one or no cluster points to a certain fuzziness of the analytical framework at hand.

Lastly, the analysis reveals that hybrid businesses do not seem to focus on activity systems that aim for lock-in or complementarities. None of the case companies seemed to keep third parties attracted as business model participants through switching costs (Zott and Amit, 2010) or bundling activities within a system (Zott and Amit, 2010). However, the explanation may be found in volition, expressed in the general mission of hybrid businesses. Aside from the fact that customers of these types of organization are attracted often by the inherent social value alone, these companies appear to reject the idea of business model architectures that entail high switching costs for customers. As for the bundling of activities, to a certain degree, all hybrid businesses are dependent on an inclusive network of partners and stakeholders. In this regard, complementarity becomes more of a necessity than a conscious design element. However, this needs further investigation beyond a deductive analysis, thus leaving the scope of the present study. Therefore, we cannot offer a perfect taxonomy of archetypal hybrid business models. Nevertheless, these cases move beyond the microperspective of contemporary research on sustainable entrepreneurship and also illustrate the complexity of business models in the cases at hand. Overall, this helps better understand business models of hybrid businesses and provide future research with the means to draw on implications for design and management of these organizations.

Appendix A. Overview of secondary material

#	Company Website	Company Social Media	Articles/ News clips	Blog posts	Published Interviews	Videos
1	Yes	Facebook	2	–	–	1
2	Yes	Facebook	2	–	–	1
3	Yes	Facebook	2	1	1	1
4	Yes	Facebook	2	3	1	–
5	Yes	Facebook	1	4	–	1
6	Yes	Facebook	1	–	1	1
7	Yes	Facebook	2	1	1	
8	Yes	Facebook	1	1	–	1
9	Yes	Facebook, Twitter	1	1	1	–
10	Yes	Facebook	2	–	–	1
11	Yes	Facebook	1	2	–	–
12	Yes	Facebook, Twitter	3	1	–	–
13	Yes	Facebook	3	–	–	1
14	Yes	–	1	–	1	
15	Yes	Facebook	2	–	1	1
16	Yes	Facebook, Twitter	2	1	1	–
17	Yes	Facebook	2	1	–	1
18	Yes	Facebook, Twitter	2	1	–	1
∑	All 18		32	17	8	11

References

Amit, R., Zott, C., 2001. Value creation in E-business. Strat. Manag. J. 22 (6–7), 493–520.

Amit, R., Zott, C., 2015. Crafting business architecture: the antecedents of business model design. Strat. Entrepren. J. 9 (4), 331–350.

Aspara, J., Lamberg, J.-A., Laukia, A., Tikkanen, H., 2013. Corporate business model transformation and inter-organizational cognition: the case of nokia. Long. Range Plan. 46 (6), 459–474.

Austin, J., Stevenson, H., Wei-Skillern, J., 2006. Social and commercial entrepreneurship: same, different, or both? Enterpren. Theor. Pract. 30 (1), 1–22.

Avenier, M.-J., 2010. Shaping a constructivist view of organizational design science. Organ. Stud. 31 (9–10), 1229–1255.

Bacq, S., Janssen, F., 2011. The multiple faces of social entrepreneurship: a review of definitional issues based on geographical and thematic criteria. Enterpren. Reg. Dev. 23 (5–6), 373–403.

Bambenger, I., 1989. Developing competitive advantage in small and medium-size firms. Long. Range Plan. 22 (5), 80–88.

Barney, J., 1991. Firm resources and sustained competitive advantage. J. Manag. 17 (1), 99–120.

Barratt, M., Choi, T.Y., Li, M., 2011. Qualitative case studies in operations management: trends, research outcomes, and future research implications. J. Oper. Manag. 29 (4), 329–342.

Battilana, J., Dorado, S., 2010. Building sustainable hybrid organizations: the case of commercial microfinance organizations. Acad. Manag. J. 53 (6), 1419–1440.

Battilana, J., Lee, M., 2014. Advancing research on hybrid organizing – insights from the study of social enterprises. Acad. Manag. Ann. 8 (1), 397–441.

Battilana, J., Lee, M., Walker, J., Dorsey, C., 2012. In search of the hybrid ideal. Stanford Soc. Innovat. Rev. 51–55 (Summer).

Bitekin, A., 2008. Prospective case study design - qualitative method for deductive theory testing. Organ. Res. Meth. 11 (1), 160–180.

Bock, A.J., Opsahl, T., George, G., Gann, D.M., 2012. The effects of culture and structure on strategic flexibility during business model innovation. J. Manag. Stud. 49 (2), 279–305.

Bocken, N.M.P., Short, S.W., Rana, P., Evans, S., 2014. A literature and practice review to develop sustainable business model archetypes. J. Clean. Prod. 65, 42–56.

Boons, F.A.A., Lüdeke-Freund, F., 2013. Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. J. Clean. Prod. 45, 9–19.

Casadesus-Masanell, R., Zhu, F., 2010. Strategies to fight ad-sponsored rivals. Manag. Sci. 56 (9), 1484–1499.

Cheng, C.C., Shiu, E.C., Dawson, J.A., 2014. Service business model and service innovativeness. Int. J. Innovat. Manag. 8 (1), 21–47.

Chesbrough, H., Rosenbloom, R.S., 2002. The role of the business model in capturing value from innovation: evidence from Xerox Corporation's technology spin-off companies. Ind. Corp. Change 11 (3), 529–555.

Cohen, B., Winn, M.I., 2007. Market imperfections, opportunity and sustainable entrepreneurship. J. Bus. Ventur. 22 (1), 29–49.

Corner, P.D., Ho, M., 2010. How opportunities develop in social entrepreneurship. Enterpren. Theor. Pract. 34 (4), 635–659.

Cortimiglia, M.N., Ghezzi, A., Frank, A.G., 2015. Business model innovation and strategy making nexus: evidence from a cross-industry mixed-methods study. R. Manag. https://doi.org/10.1111/radm.12113. Early View.

Dacin, P.A., Dacin, M.T., Matear, M., 2010. Social entrepreneurship: why we Don't need a new theory and how we move forward from here. Acad. Manag. Perspect. 24 (3), 37–57.

Desyllas, P., Sako, M., 2013. Profiting from business model innovation: evidence from Pay-As-You-Drive auto insurance. Res. Pol. 42 (1), 101–116.

Di Domenico, M.L., Haugh, H., Tracey, P., 2010. Social bricolage. Theorizing social value creation in social enterprises. Enterpren. Theor. Pract. 34 (4), 681–703.

Doherty, B., Haugh, H., Lyon, F., 2014. Social enterprises as hybrid organizations: a review and research agenda. Int. J. Manag. Rev. 16 (4), 417–436.

Duriau, V.J., Reger, R.K., Pfarrer, M.D., 2007. A content analysis of the content analysis literature in organization studies: research themes, data sources, and methodological refinements. Organ. Res. Meth. 10 (1), 5–34.

Eisenhardt, K.M., 1989. Building theories from case study research. Acad. Manag. Rev. 14 (4), 532–550.

Fosfuri, A., Lanzolla, G., Suarez, F.F., 2013. Entry-timing strategies: the road ahead. Long. Range Plan. 46 (4–5), 300–311.

Gambardella, A., McGahan, A.M., 2010. Business-model innovation: general purpose technologies and their implications for industry structure. Long. Range Plan. 43 (2–3), 262–271.

Gibbert, M., Ruigrok, W., 2010. The 'what' and 'how' of case study rigor: three strategies based on published work. Organ. Res. Meth. 13 (4), 710–737.

Hahn, R., 2011. Integrating corporate responsibility and sustainable development: a normative-conceptual approach to holistic management thinking. J. Glob. Responsib. 2 (1), 8–22.

Hahn, R., Ince, I., 2016. Constituents and characteristics of hybrid businesses - a qualitative-empirical framework. J. Small Bus. Manag. 54 (S1), 33–52.

Haigh, N., Hoffman, A.J., 2012. Hybrid organizations. Organ. Dynam. 41 (2), 126–134.

Hargadon, A.B., Douglas, Y., 2001. When innovations meet institutions: edison and the design of the electric light. Adm. Sci. Q. 46 (3), 476.

Hock, M., Clauss, T., Schulz, E., 2016. The impact of organizational culture on a firm's capability to innovate the business model. R. Manag. 46 (3), 433–450.

Hockerts, K., Wüstenhagen, R., 2010. Greening Goliaths versus emerging Davids —

theorizing about the role of incumbents and new entrants in sustainable entrepreneurship. J. Bus. Ventur. 25 (5), 481–492.
Katre, A., Salipante, P., 2012. Start-up social ventures: blending fine-grained behaviors from two institutions for entrepreneurial success. Enterpren. Theor. Pract. 36 (5), 967–994.
Keskin, D., Diehl, J.C., Molenaar, N., 2013. Innovation process of new ventures driven by sustainability. J. Clean. Prod. 45, 50–60.
Lecocq, X., Demil, B., Ventura, J., 2010. Business models as a research program in strategic management: an appraisal based on Lakatos. M@n@gement 13 (4), 214–225.
Lorenzen, M., 2007. Social capital and Localised learning: proximity and place in technological and institutional dynamics. Urban Stud. 44 (4), 799–817.
Mair, J., Battilana, J., Cardenas, J., 2012. Organizing for society: a typology of social entrepreneuring models. J. Bus. Ethics 111 (3), 353–373.
Mair, J., Martí, I., 2006. Social entrepreneurship research: a source of explanation, prediction, and delight. J. World Bus. 41 (1), 36–44.
Massa, L., Tucci, C., Afuah, A., 2017. A critical assessment of business model research. Acad. Manag. Ann. 11 (1), 73–104.
Mayring, P., 2015. Qualitative Inhaltsanalyse: Grundlagen und Techniken. Qualitative Inhaltsanalyse.
Mezger, F., 2014. Toward a capability-based conceptualization of business model innovation: insights from an explorative study. R. Manag. 44 (5), 429–449.
Moizer, J., Tracey, P., 2010. Strategy making in social enterprise: the role of resource allocation and its effects on organizational sustainability. Syst. Res. Behav. Sci. 27 (3), 252–266.
Morris, M., Schindehutte, M., Allen, J., 2005. The entrepreneur's business model: toward a unified perspective. J. Bus. Res. 58 (6), 726–735.
Muñoz, P., Dimov, D., 2015. The call of the whole in understanding the development of sustainable ventures. J. Bus. Ventur. 30 (4), 632–654.
Murphy, P.J., Coombes, S.M., 2009. A model of social entrepreneurial discovery. J. Bus. Ethics 87 (3), 325–336.
Osterwalder, A., Pigneur, Y., 2010. Business Model Generation: a Handbook for Visionaries, Game Changers, and Challengers. John Wiley & Sons, Hoboken, NJ.
Pache, A.-C., Santos, F.M., 2010. When worlds collide: the internal dynamics of organizational responses to conflicting institutional demands. Acad. Manag. Rev. 35 (3), 455–476.
Pache, A.-C., Santos, F.M., 2013. Inside the hybrid organization: selective coupling as a response to competing institutional logics. Acad. Manag. J. 56 (4), 972–1001.
Palinkas, L.A., Horwitz, S.M., Green, C.A., Wisdom, J.P., Duan, N., Hoagwood, K., 2015. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. Adm. Pol. Ment. Health 42 (5), 533–544.
Parrish, B.D., 2010. Sustainability-driven entrepreneurship: principles of organization design. J. Bus. Ventur. 25 (5), 510–523.
Peteraf, M.A., 1993. The cornerstones of competitive advantage: a resource-based view. Strat. Manag. J. 14 (3), 179–191.
Piekkari, R., Welch, C., Paavilainen, E., 2009. The case study as disciplinary convention: evidence from international business journals. Organ. Res. Meth. 12 (3), 567–589.
Renko, M., 2013. Early challenges of nascent social entrepreneurs. Enterpren. Theor. Pract. 37 (5), 1045–1069.
Romme, A.G.L., 2003. Making a difference: organization as design. Organ. Sci. 14 (5), 558–573.
Sabatier, V., Mangematin, V., Rousselle, T., 2010. From recipe to dinner: business model portfolios in the european biopharmaceutical industry. Long. Range Plan. 43 (2–3), 431–447.
Santos, F.M., 2012. A positive theory of social entrepreneurship. J. Bus. Ethics 111 (3), 335–351.
Saldana, J., 2016. The Coding Manual for Qualitative Researchers, third ed. California Sage, Thousand Oaks, Calif.
Schaltegger, S., Hansen, E.G., Lüdeke-Freund, F., 2016. Business models for sustainability: origins, present research, and future avenues. Organ. Environ. 29 (1), 3–10.
Schaltegger, S., Wagner, M., 2011. Sustainable entrepreneurship and sustainability innovation: categories and interactions. Bus. Strat. Environ. 20 (4), 222–237.
Schneider, S., Spieth, P., 2013. Business model innovation: towards an integrated future research agenda. Int. J. Innovat. Manag. 17 (1), 1340001.
Seelos, C., Mair, J., 2005. Social entrepreneurship: creating new business models to serve the poor. Bus. Horiz. 48 (3), 241–246.
Seuring, S., Gold, S., 2012. Conducting content-analysis based literature reviews in supply chain management. Supply Chain Manag. Int. J. 17 (5), 544–555.
Siggelkow, N., 2007. Persuasion with case studies. Acad. Manag. J. 50 (1), 20–24.
Smith, W.K., Gonin, M., Besharov, M.L., 2013. Managing social-business tensions: a review and research agenda for social enterprise. Bus. Ethics Q. 23 (3), 407–442.
Spieth, P., Schneckenberg, D., Ricart, J.E., 2014. Business model innovation - state of the art and future challenges for the field. R. Manag. 44 (3), 237–247.
Stevens, R., Moray, N., Bruneel, J., 2014. The social and economic mission of social enterprises: dimensions, measurement, validation, and relation. Enterpren. Theor. Pract. https://doi.org/10.1111/etap.12091. Early View.
Strauss, A.L., 1987. Qualitative Analysis for Social Scientists. Cambridge University Press, Cambridge, UK.
Strauss, A.L., Corbin, J.M., 1990. Basics of Qualitative Research: Grounded Theory Procedures and Techniques. Sage, Newbury Park, Calif.
Stuart, I., McCutcheon, D., Handfield, R., McLachlin, R., Samson, D., 2002. Effective case research in operations management: a process perspective. J. Oper. Manag. 20 (5), 419–433.
Tikkanen, H., Lamberg, J., Parvinen, P., Kallunki, J., 2005. Managerial cognition, action and the business model of the firm. Manag. Decis. 43 (6), 789–809.
Todeschini, B.V., Nogueira Cortimiglia, M., Callegaro-de-Menezes, D., Ghezzi, A., 2017. Innovative and sustainable business models in the fashion industry: entrepreneurial drivers, opportunities, and challenges. Bus. Horiz. https://doi.org/10.1016/j.bushor.2017.07.003. Online First.
Upward, A., Jones, P., 2016. An ontology for strongly sustainable business models: defining an enterprise framework compatible with natural and social science. Organ. Environ. 29 (1), 97–123.
Venkataraman, S., Sarasvathy, S.D., Dew, N., Forster, W.R., 2012. Reflections on the 2010 AMR decade award: whither the Promise? Moving forward with entrepreneurship as a science of the artificial. Acad. Manag. Rev. 37 (1), 21–33.
Welch, C., Piekkari, R., Plakoyiannaki, E., Paavilainen-Mäntymäki, E., 2010. Theorising from case studies: towards a pluralist future for international business research. J. Int. Bus. Stud. 42 (5), 740–762.
Wells, P., 2016. Economies of scale versus small is beautiful: a business model approach based on arhcitecture, principles and components in the beer industry. Organ. Environ. 29 (1), 36–52.
Wirtz, B.W., Pistoia, A., Ullrich, S., Göttel, V., 2016. Business Models: origin, development and future research perspectives. Long. Range Plan. 49 (1), 36–54.
Wilson, F., Post, J.E., 2013. Business models for people, planet (& profits): exploring the phenomena of social business, a market-based approach to social value creation. Small Bus. Econ. 40 (3), 715–737.
Yin, R.K., 2014. Case Study Research: Design and Methods, fifth ed. Sage Publications, Los Angeles, Calif.
Yitshaki, R., Kropp, F., 2015. Motivations and opportunity recognition of social entrepreneurs. J. Small Bus. Manag. https://doi.org/10.1111/jsbm.12157.
Yunus, M., Moingeon, B., Lehmann-Ortega, L., 2010. Building social business models: lessons from the grameen experience. Long. Range Plan. 43 (2–3), 308–325.
Zahra, S.A., Gedajlovic, E., Neubaum, D.O., Shulman, J.M., 2009. A typology of social entrepreneurs: motives, search processes and ethical challenges. J. Bus. Ventur. 24 (5), 519–532.
Zott, C., Amit, R., 2007. Business model design and the performance of entrepreneurial firms. Organ. Sci. 18 (2), 181–199.
Zott, C., Amit, R., 2008. The fit between product market strategy and business model: implications for firm performance. Strat. Manag. J. 29 (1), 1–26.
Zott, C., Amit, R., 2010. Business model design: an activity system perspective. Long. Range Plan. 43 (2–3), 216–226.
Zott, C., Amit, R., 2013. The business model: a theoretically anchored robust construct for strategic analysis. Strat. Organ. 11 (4), 403–411.