Strategic entrepreneurship: mapping a research field

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Abstract
Purpose – Strategic entrepreneurship (SE) depicts the nexus of strategic management and entrepreneurship, suggesting that firms can create superior wealth when simultaneously pursuing advantage-seeking and opportunity-seeking behavior. As the rapid growth in SE research led to a multidisciplinary, scattered and fragmented literature landscape, the authors aim to structure this research field.
Design/methodology/approach – The authors employ a bibliographic coupling and literature review of the strategic entrepreneurship research field.
Findings – The authors identify and describe five major research streams with 15 sub-themes in recent SE research. Based on our findings, the authors propose an integrated research framework and research gaps for future research.
Originality/value – To the authors’ knowledge, this is the first review on SE based on a bibliographic coupling.
Keywords Bibliometric analysis, Competitive advantage, Opportunities, Strategic entrepreneurship
Paper type General review

1. Introduction
To achieve superior firm performance and create wealth, strategic entrepreneurship (SE) combines the strategic logic of pursuing competitive advantages with the entrepreneurial logic of seeking and seizing new opportunities which is usually ascribed to small businesses, and especially startups and not to (large) incumbent firms (Hitt et al., 2001; Ireland et al., 2003; Kuratko and Audretsch, 2009). For incumbents, following a solely advantage-seeking approach does not suffice for sustained competitive performance because their market positions are challenged by new entrants’ competitive and disruptive behavior (Bettis and Hitt, 1995; Strandvik et al., 2018; Tiberius et al., 2020a, b). Incumbents also need innovation and entrepreneurial mindsets (Bettis and Hitt, 1995; Hitt, 1998; Hitt et al., 2010; Kuratko and Audretsch, 2009). Therefore, incumbent firms have to foster their employees’ innovative, proactive and risk-taking, i.e. opportunity-seeking behavior (Covin et al., 2020; Ireland et al., 2001; Kuratko and Audretsch, 2009; Shane and Venkataraman, 2000). Neither a solely strategic nor a solely entrepreneurial behavior is considered to be sufficient (Ketchen et al., 2007). Thus, the primary question SE seeks to answer is how firms “create and sustain a competitive advantage while simultaneously identifying and exploiting new opportunities” (Hitt et al., 2011, p. 57). Firms need to find a balance between both logics to maximize their wealth creation (Ireland et al., 2003). By combining the two spheres of knowledge, SE depicts the ability of firms to navigate through increasingly challenging environments and to manage the associated risk and uncertainty (Kuratko and Audretsch, 2009).

Due to its practical relevance, SE has received growing scholarly attention in recent years, and research on the concept has expanded significantly since its emergence, resulting in a
widespread research and literature domain (Audretsch et al., 2009). Figure 1 shows the annual development of SE publications. Notably, 92% of the publications (201 documents) of our dataset have been published in the last decade, which indicates that SE is a young and growing field. This rapid growth led to a scattered and fragmented literature. This effect is strengthened, as SE research is not only advanced by strategy and entrepreneurship scholars but is spread over multiple disciplines such as "economics, psychology, sociology, along with other sub disciplines in management including organizational behavior and organization theory" (Hitt et al., 2011, p. 57).

Against the background of increased research in the field of SE, the current paper aims to provide a systematic overview of the field by employing a bibliographic coupling to assess the knowledge structure within the field. Bibliometric analyses are commonly used to classify literature and identify main trends of a specific area of research (Adriaanse and Rensleigh 2013; Baier-Fuentes et al., 2019; Bjork et al., 2014; Chabowski et al., 2017; Mas-Tur et al., 2020).

The paper proceeds as follows. The following section explains the bibliographic coupling and literature review. The paper then presents its results. In the discussion, we propose a framework that structures the research field. We then search for research opportunities within the framework.

The study contributes to SE research by providing a citation-based and hence fairly objective overview of its knowledge structure. The proposed research framework, which is based on the results of the bibliographic coupling, assists outlining the current scope and key aspects of strategic entrepreneurship and to identify potential future research directions.

2. Methodology
To achieve the research goal, we employ a bibliometric analysis – in particular: a bibliographic coupling – combined with a literature review, which allows to analyze and display the intellectual structure within the dynamic field of SE research (Kessler, 1963; Noyons et al., 1999). Bibliometric analyses have been increasingly used to map several subfields of entrepreneurship research (Baier-Fuentes et al., 2019; Casillas and Acedo, 2007; Cornelius et al., 2006; Filser et al., 2020; Hota et al., 2020; Kraus et al., 2020; Lampe et al., 2019; Lián and Fayolle, 2015; López-Fernández et al., 2016; Martínez-Climent et al., 2018; Pellegrini et al., 2020; Rey-Martí et al., 2016; Scholdt et al., 2006; Tiberius et al., 2020a, b; Vallaster et al., 2019; Xi et al., 2015). The underlying premise of bibliometric methods is that citations serve as

Figure 1. Evolution of strategic entrepreneurship research

Source(s): Own elaboration based on WoS
an appropriate indication of the influence and quality of research (Culnan, 1987; Noyons et al., 1999; Smith, 1981). Its attractiveness as a research methodology lies in its unobtrusiveness and objectiveness (Culnan, 1987).

Co-citation analysis and bibliographic coupling are the two main science mapping methods. Whereas co-citation analysis looks for documents which are cited together by another document (Small, 1973), bibliographic coupling looks for documents which jointly cite another document (Kessler, 1963). The more references both publications share, the stronger is their bibliometric connection (Egghe and Rousseau 2002; Zupic and Cater 2015). Strongly connected documents form clusters, which are likely to deal with the same research themes (Zupic and Cater, 2015). Whereas co-citation analysis has a focus on the older literature, bibliographic coupling focuses on the more recent research (Baier-Fuentes et al., 2019; Egghe and Rousseau, 2002). As we were interested in a review of the more recent literature, we opted for bibliographic coupling.

The data for the analysis were sourced from the Web of Science (WoS), which is considered as the most influential database (Hota et al., 2020), especially in social sciences (Norris and Oppenheim, 2007). We used “strategic entrepreneurship” as the topic search term. The search was limited to articles, reviews and book chapters published in English. The data were extracted on April 17th, 2020. Using these filters, the initial data set included 259 documents. To ensure the quality of the retrieved data set, we only included articles published in journals assigned to the first and second quartile according to the Scimago Journal Ranking (SJR). We preferred the SJR over other rankings, as it covers more journals, for example, compared to the InCites Journal Reports. Book chapters were only included if cited once or more times. This resulted in a final data set of 219 documents, including 194 articles, 19 reviews and six book chapters. A citation threshold of one was applied to the data set to ensure a minimal relevance of the included references (Zupic and Cater 2015). As a result, 206 documents met the threshold.

The VOS viewer (Van Eck and Waltman, 2010) was used to cluster the literature and to display the bibliographic map. We then conducted a literature review and read the titles and abstracts of all papers assigned to the resulting clusters and found that all but one were blurry, as they contained several topics. As a consequence, we searched for similarities and differences in the clusters and identified several sub-clusters. This inductive approach allows for an analysis of certain themes or concepts within a given data set and seeks to derive clusters or categories without using preconceived categories (Hsieh and Shannon 2005).

3. Results
The bibliographic coupling analysis resulted in five research clusters, which are depicted in Figure 2. Table 1 summarizes the research clusters and sub-clusters, which are further described in the following. The two sub-clusters 3b and 4d were similar, despite belonging to different main clusters. As the science mapping is based on citation-related statistics, which only suggests but does not guarantee (clearly defined) research clusters, several topics are spread over more than one cluster.

3.1 Cluster 1(red)
3.1.1 1a. Determinants for value creation and entrepreneurial performance. The largest of the five clusters comprises 66 publications which were grouped into five different sub-clusters. The first sub-cluster comprises 28 articles centered around the determinates for value creation and entrepreneurial performance. Amit and Han (2017) investigate how firms use resource configuration to create value in a digitalized world with new and altered resources. The authors present a new conceptual framework centered on how firms access their
resources and propose a system-based and value-creation perspective for firms when deciding how to configure these resources according to the firm’s and its stakeholders’ needs. Their framework uses resource configuration prototypes (the firm as an integrator, collaborator, transactions enabler or bridge provider), sources of value creation (e.g., discovery of needs and resources and their pairing) as well as the underlying processes

![Figure 2. Bibliographic coupling map](image)

**Source(s):** Own elaboration based on VOSviewer

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**Note(s):** NoP: Number of papers
facilitating the creation of value (e.g., continuous testing and streamlining) to introduce new resource configurations in a digitalized world with heterogeneous resources and diverse needs (Amit and Han 2017). Obeng et al. (2014) uses data collected through a survey with 441 entrepreneurs in Ghana to examine determinates of small firm growth in the country, particularly focusing on human and social capital, firm resources and innovation and export strategy. Their results suggest that the determinates for employment growth differ across the country’s main industry sectors with the only findings common across all sectors being related to the firm size and age of the entrepreneur. The study found that larger firms grow faster than smaller firms and hence that firm size is positively related to employment growth. Moreover, the age of the entrepreneur influences the speed of entrepreneurial growth: While firms with younger entrepreneurs experience faster growth, firms with older entrepreneurs grow more slowly (Obeng et al., 2014). Kansika et al. (2012) use a qualitative case study approach to examine the relationship of familiness and entrepreneurial leadership as resources for SE in family firms. The authors discuss familiness along the structural (social contacts and networks), cognitive (shared vision) and relational (relationships and attachments) dimension as well as entrepreneurial leadership along the dimensions of innovativeness, opportunity recognition, proactiveness, risk taking and vision making. While the three case studies showed similarities in entrepreneurial leadership, the authors also found differences between the three examined firms. The results indicate that familiness is related to entrepreneurial leadership though also showing a strong heterogeneity of entrepreneurial leadership in family firms. The study offers new insight for leadership and SE education as well as new research directions (Kansikas et al., 2012). Other articles in this sub-cluster deal with the relationship of entrepreneurial leadership and performance in the context of innovation management (Fontana and Musa, 2017; Huang et al., 2014) and examine the relationship between internationalization and organizational performance and how both are influenced by management control systems and ISO certifications (Conde et al., 2013).

3.1.2 1b. Entrepreneurial agency, its implications and mediating factors. The second sub-cluster includes 15 articles that deal with entrepreneurial activities, their implications and different mediating factors. Ireland and Webb (2009) extend their previous work on SE as a path to increase a firm’s competitive advantage and emphasize the need for firms to manage uncertainty effectively through exploration and exploitation of present and future opportunities. After constituting the limits of SE, the authors highlight and explain the specific challenges firms face when transitioning between explorative and exploitative activities and dealing with the associated highly contingent process. The authors then present a plan of action consisting of the following steps to guide firms through the transitioning process: Form/transform teams, set expectations, establish clear timelines and milestones, develop contingency plans and justify changes (Ireland and Webb, 2009). Both small and large firms can simultaneously pursue and transition between opportunity- and advantage-seeking entrepreneurial actions. While small firms benefit from their creativity and flexibility, they often lack extensive knowledge and market power. Large firms, on the other hand, often profit from their ability to create a competitive advantage, but suffer from organizational inertia and efficiency focus when it comes to the exploration of new opportunities. Ketchen et al. (2007) suggest that collaborative innovation can enable both small and large firms endeavors of SE. Ketchen et al. (2007) integrate both concepts and present their model along four theoretical perspectives using network theory, learning theory, resource-based theory and real options theory. Their integration shows that for the creation of wealth and superior performance, firms need to master four sets of activities: Opportunity-seeking activities within the firm and with other firms as well as advantage-seeking activities within the firm and with other firms (Ketchen et al., 2007). Sirén et al. (2012) introduce strategic learning as a mediating factor to study the link between explorative and exploitative entrepreneurial activities and their impact on firm performance. The authors
conducted a web-based survey and collected data from 206 Finnish software firms between June and August 2009. Their results show that strategic learning fully mediates the influence such as entrepreneurial activities and strategies have on a firm's performance and emphasize the importance of focusing on the right internal processes and activities to improve firm performance (Sirén et al., 2012). Another article by Eftekhari and Bogers (2015), for example, introduces open innovation, i.e. letting knowledge flow deliberately in and out of the firm, as a mean to facilitate new venture creation and survival.

3.1.3 1c. Strategic entrepreneurship conceptualization. The publications in the third sub-cluster include 11 articles that focus on extant SE literature and current conceptualization. While research on SE has significantly grown since the emergence of the concept, mutual consensus and clarity on the definition, scope and central elements of the concept has yet to be achieved. Kuratko and Audretsch (2009) introduce a special issue of the Entrepreneurship Theory and Practice Journal on SE by compiling multiple articles on different perspectives on the construct. The authors explore the two perspectives of strategic management and entrepreneurship before integrating both to further elaborate on the concept of SE (Kuratko and Audretsch, 2009). Simsek et al. (2017) perform a systematic review of extant SE definitions using different criteria to evaluate the clarity and formation of the concept. Particular focus is put on identifying ambiguous definitions and on highlighting the converging and diverging characteristics of these definitions. Based on their assessment, they propose a meta-framework of SE consisting of key decisional issues to be addressed for further clarification and specification of the concept while guiding future research (Simsek et al., 2017). Similarly, Luke et al. (2011) develop a revised conceptual framework of SE. Since the nature of prior frameworks was rather theoretical, they observe a need for a more practical approach. Through a review of existing SE frameworks, the authors identify the central elements of the concept, constituting the foundations of SE. By characterizing and integrating the concepts of strategy and entrepreneurship, they recognize four central elements that make up the foundations of SE, i.e. the strategic context. The conceptual framework is then used as a basis for and further refined through an empirical analysis of entrepreneurial and strategic activity of state-owned enterprises in New Zealand (Luke et al., 2011).

3.1.4 1d. Entrepreneurship in the public sector. The fourth sub-cluster comprises seven publications which primarily focus on entrepreneurship within the public sector. The most cited paper of this sub-cluster is Luke et al. (2010), who center their study around New Zealand state-owned enterprises to analyze the driving forces and mediators of entrepreneurial activity within the public sector. Their findings suggest that entrepreneurial and innovative activities are not limited to governmental policy-making and that state-owned organizations will play an increasingly relevant role within the global market (Luke et al., 2010). Differently, Carnes et al. (2019) deals with the particular hurdles of entrepreneurial change of public organizations that result from poor target setting and performance management due to weaker competitive forces within the public sector. The authors present a five-step process to foster entrepreneurial behavior and change and empirically study the suggested process within a public organization. Their study showed significant improvements in performance, indicated by positive qualitative as well as quantitative results over a period of four years (Carnes et al., 2019). Other articles in this sub-cluster deal with the strategic renewal process of the Swedish Public Employment Service (Högqvist et al., 2018) as well as the ethical principles guiding innovative activity in the public sector (Jordan, 2014).

3.1.5 1e. Implications of business model innovation. The five publications of the last sub-cluster primarily study the implications of business model innovation. The most cited paper of this sub-cluster is the article by Demil et al. (2015). While business models have received attention from researchers in the past, the authors assert that particular theory-building publications and extensive empirical research on business models is lacking and questions
within the domain of SE remain unanswered. Their article includes a selection of publications that contribute to extant the literature on this topic. The authors present and review the most prominent contributions made by these publications and particularly emphasize the reconnection of strategy and entrepreneurship, the necessity to complement the planning focus through implementation as well as the central role of customers within SE frameworks and research endeavors (Demil et al., 2015). Similarly, Carayannis et al. (2015) seek to complement extant literature on business model innovation. Their article studies the effects of business model innovation particularly on achieving organizational sustainability. The authors use a qualitative research approach by conducting an exploratory case study on lightning manufacturers in Thailand. Their findings indicate that to uncover new business opportunities and to achieve competitive advantage, a firm must incorporate resources, dynamic capabilities and entrepreneurship through organizational design and governance capabilities. Moreover, the results show that successful business model innovation requires an emphasis on innovation, flexibility and organizational ambidexterity (Carayannis et al., 2015).

3.2 Cluster 2 (green)

3.2.1 2a. Entrepreneurship theory and economic view on entrepreneurship. The second cluster includes 53 publications which were grouped into four sub-clusters. The first sub-cluster comprises 20 articles that deal with entrepreneurship theory as well as take on an economical view of entrepreneurial activity. The article by Ireland et al. (2003) is the most cited publication within this sub-cluster. The authors build on extant SE theory to gain new insight into and enhance the understanding of wealth creation of firms through SE. The authors define the scope of the strategic management and entrepreneurship disciplines before integrating both to present their theoretical framework. They build their framework on four identified underlying dimensions through which firms create wealth: an entrepreneurial mindset, an entrepreneurial culture and an entrepreneurial leadership, strategically managed resources to simultaneously seek opportunity and advantage as well as innovation through the application of creativity (Ireland et al., 2003). Autio and Acs (2010) take on a rather economical perspective and analyze entrepreneurial growth aspirations of entrepreneurs. Even though entrepreneurial activity and growth play a significant role in economic development and job creation, prior research has dealt little with the drivers of entrepreneurial growth aspirations the authors argue. Therefore, their aim is to examine how the human and financial capital of an individual is influenced by a country’s intellectual property protection laws and how this in turn affects entrepreneurial growth aspirations. They test their multilevel model by using data from 65 countries collected by the Global Entrepreneurship Monitor GEM. Results show that strong intellectual property policies impact the relationship of an individual’s educational background and entrepreneurial growth aspirations negatively while they affect the connection of an individual’s household income and growth aspirations positively (Autio and Acs 2010). Bjørnskov and Foss (2016) seek to study the scarce research on the economic consequences of entrepreneurial activity of firms. They review extant literature and empirical research on economic growth, institutions and entrepreneurship to identify these conceptual, theoretical and empirical research gaps. They attribute these identified gaps to the high complexity of multilevel studies on potential causes and effects of entrepreneurial activity, which results in a lack of detailed micro-level data or missing insight into the interaction between macro-level institutions and firm-level reactions among other things. By identifying these gaps, the authors aim to facilitate the understanding of the interconnection of institutions, entrepreneurship and economic growth and guide future research initiatives (Bjørnskov and Foss, 2016). Other articles in this sub-cluster for example study the entrepreneurial environment of a country by analyzing the
influence of different institutional configurations on the type and rate of entrepreneurial activity (Stenholm et al., 2013).

3.2.2 2b. Entrepreneurs’ experience and knowledge. The second sub-cluster comprises 13 publications that focus on the experience, knowledge and characteristics of entrepreneurs. Kor et al. (2007) is the most cited paper in this sub-cluster. In their article, the authors view the entrepreneuship construct and entrepreneur from a subjectivist perspective which highlights “the non-deterministic, evolutionary nature of dynamic capabilities and entrepreneurial activities” (Kor et al., 2007, p. 1188). A firm’s entrepreneurial opportunities are hence led by an entrepreneur’s subjective perceptions and knowledge that originate from previous experience within specific firm, team or industry settings. In this context, the authors also highlight the impact of such subjectivity of entrepreneurship on the specific and heterogeneous performance of firms and offer suggestions for future research (Kor et al., 2007). On a similar note, Foss et al. (2008) use a subjectivist approach to entrepreneurship, but extend their study to include not only the entrepreneur’s individual perspective but the perspective of a team of entrepreneurs (Foss et al., 2008). Morris et al. (2012) particularly view entrepreneurship and the entrepreneur from an experiential perspective. The authors argue that the entrepreneurial mind-set and cognitive state is highly influenced by the uncertainty and novelty the entrepreneur is confronted with and the entrepreneurial experiences it gathers during venture creation. Therefore, they illustrate the unique characteristics of an entrepreneur’s experience and propose a new perspective for exploring entrepreneurial experiences (Morris et al., 2012). Other articles in this sub-cluster study the origin of entrepreneurial beliefs and strategies (Felin and Zenger, 2009) and the impact of career outlook and management on an entrepreneur’s decision-making and thinking (Engel et al., 2017).

3.2.3 2c. Opportunity discovery and exploitation. The third sub-cluster includes 11 articles, concerning the discovery and exploitation of entrepreneurial opportunities. The opportunity concept within the (strategic) entrepreneurship domain has experienced increased interest of scholarly research, shifting the previous focus from solely the entrepreneur and the entrepreneurial behavior (Short et al., 2010). The most cited article in this sub-cluster is Short et al. (2010), who conducted a thorough literature review on the opportunity concept and its processes and introduce a cross-disciplinary approach to enhance extant research on the concept. Davidsson (2015) argues that extant research on the opportunity concept lacks clarity and differentiation and that fundamental questions (e.g. concerning the dominant characteristics of opportunities) have not been answered. The author hence introduces a re-conceptualization of the concept that includes three distinct constructs “external enablers”, “new venture ideas” and “opportunity confidence” to achieve and foster theoretical precision and future research (Davidsson, 2015). Other papers in this sub-cluster examine the processes of opportunity discovery and exploitation. Foss et al. (2013) conducted a survey among Danish firms to analyze the role of external knowledge sources during the exploitation of opportunities. They found that the access to and use of such sources has a positive effect on a firm’s opportunity exploitation and that a firm’s organizational design influences the use of external knowledge sources (Foss et al., 2013). Other publications, for example Kohlbäcker et al. (2015) center around the role of demographic changes in the discovery and exploitation of entrepreneurial opportunities, while Bayon et al. (2016) investigate the influence of entrepreneurial self-confidence on the exploitation of opportunities.

3.2.4 2d. Motivation and impact of knowledge spillovers, spill-ins and knowledge coordination. The nine articles included in the last sub-cluster deal with knowledge spillovers, spill-ins and coordination. To answer the question how firms link entrepreneurial and strategic actions to simultaneously uncover new opportunities and gain competitive advantage (Ireland et al., 2003), knowledge spillovers have increasingly become a focus point within the SE research community (Agarwal et al., 2007). In this context, Agarwal et al. (2007)
adopt a knowledge spillover perspective of SE and introduce an alternative process of creative construction, emphasizing the role of knowledge spillovers in new venture creation and economic growth. According to their framework, entrepreneurial opportunity is created based on knowledge investments made by organizations. This results in new venture creation, heterogeneity of capabilities and performance and ultimately in economic growth (Agarwal et al., 2007). In another article, the authors compile further implications of the link between knowledge spillovers and strategic entrepreneurship and propose further questions and issues for future research (Agarwal et al., 2010). Kotha (2010) builds on extant research, including the works mentioned above and studies knowledge spillovers and triggered entrepreneurial processes with the aim to shed light on the impact these have on both the originating and recipient organization (Kotha, 2010). The author employs a narrative approach by building a case study from historical raw data focusing on the modern aviation industry to also include industry context and firm situational factors in the study. Results show that knowledge spillovers and spill-ins benefited all major players within the industry at the time and that these spillovers led to both an industry and firm-specific knowledge spillover pool (Kotha, 2010). Other articles analyze deliberate knowledge spillovers of firms to competitors as a strategic tool (Sarkar, 2017) and study knowledge spillovers in the context of transnational entrepreneurship (Veréb and Ferreira, 2018).

3.3 Cluster 3 (blue)

3.3.1 3a. Entrepreneurial orientation and its organizational implications. The third cluster includes 47 articles, 40 of which are included in the first sub-cluster and deal with entrepreneurial orientation, its implication as well as its interplay with other organizational characteristics. Entrepreneurial orientation is recognized as a firm’s strategic posture toward entrepreneurship that depicts the processes and behaviors allowing the firm to act entrepreneurially (Covin and Slevin, 1991; Lumpkin and Dess, 1996). Wales et al. (2011) analyze how and why entrepreneurial orientation occurs and manifests itself differently in firms by introducing a vertical (across hierarchy levels), horizontal (across business units) and temporal (organizational development over time) dimension of pervasiveness. Their resulting models provide insight into the ways of how dynamic pervasiveness of entrepreneurial orientation occurs within firms and offer a starting point for further research to enhance the understanding of entrepreneurship (Wales et al., 2011). Extant research has shown that entrepreneurial orientation influences firm performance positively and that the strength of their relationship is dependent on various circumstances such as external and internal conditions. In particular, firm-level resources and capabilities have found to play an important role in facilitating their relationship and in increasing firm performance (Engelen et al., 2014). Engelen et al. (2014) argue that dynamic capabilities and more specifically a firm’s absorptive capacity, i.e. a firm’s “ability to recognize the value of new, external information, assimilate it and apply it to commercial ends” (Cohen and Levinthal 1990, p. 128) are central to transforming entrepreneurial orientation into enhanced firm performance. The authors test their research model using survey data from 219 small and medium-sized firms in Germany and find that absorptive capacity indeed has strengthening effects on the relationship between entrepreneurial orientation and firm performance in turbulent markets (Engelen et al., 2014). On the same context, Messersmith and Wales (2013) study the moderating effects of managerial practice and philosophy on the entrepreneurial orientation – performance relationship specifically in young organizations. They survey 119 young (less than 10 years old) high technology firms in the US and find that human resource management practices (such as high-performance work systems) and partner philosophy impact the relationship positively. The results indicate that a young firm’s managerial practices and philosophies are core premises to successfully improving performance through entrepreneurial orientation (Messersmith and Wales, 2013). Other articles examine the interplay between entrepreneurial orientation and a
3.4 Cluster 4 (yellow)
3.4.1 4a. Collaboration. The 30 publications included in the fourth cluster were grouped into four sub-clusters. The first sub-cluster comprises 12 articles that study different forms of collaboration in the entrepreneurship context. The paper by Stam and Elfring (2008) is the most cited article in this sub-cluster. The authors study the intra- and extra-industry network ties of entrepreneurs (i.e. their social capital) and the impact these have on the link between entrepreneurial orientation and firm performance. They use data from 90 new ventures in the open source software industry in the Netherlands. The findings indicate that an entrepreneur’s intra- and extra-industry social capital can have both positive and negative effects on the link between entrepreneurial orientation and firm performance: The relationship between entrepreneurial orientation and performance is positively influenced by a combination of high network centrality and considerable bridging ties, a combination of high network centrality and little bridging ties influenced the relationship negatively though (Stam and Elfring, 2008). Rosenkopf and Schilling (2007) compare alliance network structures across different industries to contribute to a better understanding of these structure variations as well as their antecedents and their link to firm performance. They study and compare 32 industry alliance networks and introduce a typology of network structures based on their findings. The authors specify each variation by characterizing each industry in regard to its products and technologies dimensions (e.g. technological uncertainty and architectural control) and linking it to the network structure and its specific characteristics (Rosenkopf and Schilling, 2007). del Mar Benavides Espinosa and MohedanoSuanes (2011) employ an empirical study using 74 joint ventures to examine the role of joint ventures in facilitating corporate entrepreneurship and the corresponding entrepreneurial activities. Their results show that while firms use joint ventures for strategic renewal and corporate venturing, they are not used as a preferable tool for innovation. Hence, firms resort to joint ventures to facilitate and complement some but not all entrepreneurial activities (Del Mar Benavides Espinosa and Mohedano Suanes, 2011).

3.4.2 4b. Entrepreneurial finance. The eleven articles in the second sub-cluster primarily focus on equity and financial investment endeavors in an entrepreneurial context. The most cited publication is the paper by Meuleman et al. (2009), which studies the performance implications of different forms of private equity buyouts. The authors synthesize agency and SE theory to first analyze how various types of buyouts impact post-buyout performance and second how varying experience and involvement of private equity firms impact firms throughout the buyout process. They used a sample of 238 private equity buyouts in the UK.
between 1993 and 2003. The findings show that divisional buyouts, while not majorly impacting profitability in comparison to other forms of buyouts, result in an increase in efficiency. The results indicate that the experience of a private equity firm does not result in higher profitability or efficiency but that it is important for growth in divisional buyouts. Moreover, the findings suggest that post-buyout involvement impacts profitability and growth negatively (Meuleman et al., 2009). Dushnitsky and Lavie (2010) investigate in a firm’s tendency to engage in corporate venture capital endeavors and investments in entrepreneurial ventures. The authors examine the role of strategic alliances in shaping a firm’s corporate venture capital activities by analyzing the link between corporate venture capital activity and alliance formation. Their study is based on a data set of 372 software firms, their alliances and corporate venture capital endeavors in the 1990s. Their findings show an inverted U-shaped relationship between alliance formation and corporate venture capital investments: The number of corporate venture capital investments first increases and then decreases when the number of alliances reaches a threshold. Moreover, internal and external resources of a firm impact the link between corporate venture capital activity and alliance formation. The positive relationship is (negatively moderated) weakened by an increase and maturation of internal resources, assets and experience of a firm (Dushnitsky and Lavie, 2010). Further, Croce et al. (2013) study the causality of superior performance of venture capital backed firms. Lehmann et al. (2012) research the acquisition of high-tech entrepreneurial firms and the corresponding technology transfer process.

3.4.3 4c. Academic entrepreneurship. The third sub-cluster comprises four articles that focus on academic ventures in the context of (strategic) entrepreneurship. The most cited article in this sub-cluster is Patzelt and Shepherd (2009) and deals with the entrepreneurial perception of policy programs that are aimed at fostering academic ventures. The authors employ a conjoint analysis using data from 98 participants to assess the perceived usefulness of such policy programs. Their results show that policy programs offering access to financial capital are perceived as particularly beneficial and influence the perception of some other measures such as access to non-financial resources and reduction of organizational hurdles positively, while impacting the perception of tax incentives negatively (Patzelt and Shepherd, 2009). Wright et al. (2012) combine the SE perspective and resource orchestration theory to examine the heterogeneous growth of various types of academic ventures. They introduce an integrated framework to show that in order to achieve growth, the way resources are acquired, bundled into capabilities and leveraged to create value needs to be aligned with an adequate growth strategy (Wright et al., 2012). Other articles critically review extant research to analyze the temporal development, growth and performance of academic ventures as well as to assess their descendants and impact (Mathisen and Rasmussen, 2019).

3.4.4 4d. Research reviews and research agendas. The last sub-cluster comprises three publications that offer insight into extant research and an agenda for future research. Phan et al. (2009) highlight prior and key contributions to corporate entrepreneurship research and present possible future research directions, particularly emphasizing a focus on mechanisms and organizational characteristics, facilitating corporate entrepreneurship and entrepreneurial actions (Phan et al., 2009). Ketchen et al. (2014) suggest an agenda for further research on the topics of strategy and entrepreneurship within the informal economy based on a conducted survey and Mazzei et al. (2017) offer future research directions by applying prominent organizational theories to the SE construct.

3.5 Cluster 5 (purple): Input, process and output of strategic entrepreneurship
The fifth cluster contains ten publications. Due to the small size of this cluster and thematical orientation of the included papers, this cluster was not grouped into sub-clusters. The publications in this cluster primarily deal with the input, process and output of the SE construct. Hitt et al. (2011) present an input-process-output model of SE. Their model offers
insight into inputs (individual and organizational resources, environmental factors), processes (resource orchestration) and outputs (creating value, competitive advantage, wealth and benefits) of SE and thus presents a richer and enhanced model compared to prior models (Hitt et al., 2011). On a similar note, Dunlap-Hinkler et al. (2010) study the entrepreneurial process and particularly examine the effect specific entrepreneurial activities involved in the process have on entrepreneurial outcomes of radical and incremental innovations. The authors base their study on about 1,500 commercialized new drugs approved by the US Food and Drug Administration between 1993 and 2002. While the processes for incremental innovation seem to be heterogeneous, their findings show that prior success of radical innovations positively influences the likelihood of a future breakthrough innovation. Moreover, their results indicate that firm age is not a significant indicator for the type of innovation outcome (Dunlap-Hinkler et al., 2010). Other articles in this cluster argue that creativity takes on a significant role within the entrepreneurial process (Zhou, 2008) and take a closer look at frugal innovation as entrepreneurial output and its link to value creation (Farooq, 2017).

4. Discussion
4.1 A proposed framework for SE research
The bibliographic coupling and literature review of the publications within the identified clusters offer insights into the current state of SE research. Based on the findings, Figure 3 proposes a framework that depicts the current state and main streams of research. Cluster 5 and some sub-clusters (1c, 3b, 4d) provide an overview of extant research and general conceptualization of the SE construct. Guided by the input from these, the different components (i.e. streams of research) of the framework are arranged according to their relation to either the input, process, or output of the SE domain. These insights help to locate the different streams within the construct as well as to structure the framework.

A major stream concerning the input of SE deals with a firm’s entrepreneurial characteristics. The publications included in sub-cluster 1a highlight a firm’s resources as determinant for entrepreneurial output and analyze the human, social, physical and financial resources of firms as well as the configuration and management of these (cf. process). Studies further investigate different variables such as dynamic and adaptive capabilities and absorptive capacity (Carayannis et al., 2015; Engelen et al., 2014; Eshima and Anderson, 2017), human resource practices and management (Messersmith and Wales, 2013), entrepreneurial culture and leadership (Ireland et al., 2003; Kansikas et al., 2012), organizational learning (Altimay et al., 2016; Kreiser, 2011), familiness (Kansikas et al., 2012), firm size and experience (Ketchen et al., 2007; Obeng et al., 2014) and organizational ambidexterity (Carayannis et al., 2015). Especially a firm’s entrepreneurial orientation has also been a focus of study since it reflects the degree to which a firm’s strategic posture and actions are entrepreneurial (Sub-Cluster 3a).

In addition to the first stream, the findings highlight the role of an entrepreneur’s individual characteristics as input to SE. Research particularly emphasizes the subjective nature of an entrepreneur’s characteristics including its perceptions, entrepreneurial mind-set and cognitive state, beliefs and knowledge all of which are shaped by previous personal and professional experiences and influenced by the conditions of specific entrepreneurial endeavors (e.g. uncertainty) (Sub-Cluster 2b). Moreover, research addresses entrepreneurial self-confidence (Bayon et al., 2016), creativity (Zhou, 2008) and age (Obeng et al., 2014) of entrepreneurs. These findings inform the driving forces behind the individuals of SE because the heterogeneous characteristics of an entrepreneur directly and indirectly impact a firm’s entrepreneurial opportunity set, choices and hence the firm’s entrepreneurial process and output.
Figure 3. Proposed research framework

Source(s): Own elaboration
The strategic entrepreneurship process deals with opportunities and entrepreneurial activities. SE entails both growth and innovation through product, process and market opportunities (entrepreneurship) as well as establishing and exploiting permanent competitive advantage (strategic management) (Ireland et al., 2001). Note that research deems both disciplines as equally important to a firm’s success and survival. They seem complementary rather than substitutional (Ketchen et al., 2007). While entrepreneurship promotes creative and spontaneous actions, strategic management provides the frame for those actions (Ireland et al., 2001). The activities can be characterized as being opportunity-seeking (focused on growth and innovation) or rather advantage-seeking (focused on establishing and exploiting permanent competitive advantage) (Ireland et al., 2001). Numerous publications across different sub-clusters address aspects of the entrepreneurial process (Sub-Cluster 1b, 2c, 2d, 4a). In the entrepreneurship context, research focuses on the conceptualization of the opportunity concept as well as on the sources, discovery and simultaneous exploration and exploitation of entrepreneurial opportunities (Sub-Cluster 1b). Moreover, Agarwal et al. (2007) introduce creative construction, i.e. the creation of entrepreneurial opportunity based on knowledge investments made by organizations, as a key mechanism to new venture creation, heterogeneous performance and growth. In the context of strategic management, studies highlight the advantage-seeking behavior and associated actions of firms necessary to establish and exploit permanent competitive advantage. Resource configuration and orchestration processes, i.e. firm’s actions to facilitate the effective management of valuable and rare resources, are emphasized as critical to achieving competitive advantage. This includes the acquisition and structuring of resources, bundling them into capabilities and leveraging them to create value, thereby achieving competitive advantage (Amit and Han, 2017; Hitt et al., 2011; Wright et al., 2012). Furthermore, research also deals with the intersection and transition between opportunity- and advantage-seeking organizational activities as well as the associated challenges firm’s face when transitioning between both and managing uncertainty (Ireland and Webb, 2009; Ketchen et al., 2007).

The output (results and impact) of SE is similarly characterized by the two spheres of SE. In the context of entrepreneurship, research indicates that business model innovation is recognized as a result of SE endeavors which affect subsequent output in the form of enhanced firm performance (Sub-Cluster 1e). Sub-cluster 4b shows that research also studies enhanced organizational performance (efficiency and productivity) and growth in the context of financial investment endeavors such as private equity buy-outs, corporate venture capital endeavors and acquisitions. In addition, sub-cluster 4c caters to academic ventures as a specific form of new venture creation and includes research on their growth and performance development. Moreover, numerous publications scattered across other sub-clusters directly or indirectly deal with the outputs of SE. Several articles address specific innovative output (Dunlap-Hinkler et al., 2010; Farooq, 2017), enhanced firm performance (Engelen et al., 2014; Messersmith and Wales, 2013; Stam and Elfring, 2008) and new venture creation (Eftekhari and Bogers, 2015). Concerning the strategic management dimension of SE, studies address future competitive advantage of firms (Hitt et al., 2011; Ireland and Webb, 2009), organizational sustainability (Carayannis et al., 2015), wealth and value creation (Amit and Han, 2017; Ketchen et al., 2007; Sirén et al., 2012) and economic growth (Agarwal et al., 2007; Bjørnskov and Foss, 2016) as output of SE.

A research stream that affects the input, process as well as the output of SE deals with the external conditions and environment. In this context, research addresses the impact of a country’s laws, policies (e.g. intellectual property protection) and specific institutional configurations on the characteristics, type and rate of entrepreneurial activities as well as the results and impact of these (Sub-Cluster 2a). Sub-cluster 1d and publications across other sub-clusters show that SE is relevant across diverse industries and that different industry
settings, characterized by factors such as different driving forces, stakeholders and indirect variables influence SE as a whole.

In addition to the identified main variables of the framework, research also addresses numerous indirect variables (mediators and moderators) which influence the input, process and output of the construct. Studies deal with the role of indirect variables such as strategic learning (Sirén et al., 2012) or external knowledge sources (Foss et al., 2013) and their impact on entrepreneurial behavior and the transition between opportunity- and advantage-seeking activities. Collaboration in the form of network ties (Stam and Elfring, 2008), absorptive capacity (Engelen et al., 2014) or knowledge acquisition (Bojica et al., 2011) for example are addressed as indirect variables that influence the relationship between entrepreneurial orientation and firm performance. However, to provide a concise overview of the research field, the framework primarily focuses on direct variables.

4.2 Future research opportunities

The proposed framework allows for the identification of research gaps and areas that received low research activities so far. In the following, we recommend several issues that are worth further research engagement.

For example, research could benefit from further advancing the subjectivist theory of entrepreneurship, especially in the context of social processes and the dynamics of different team configurations. Such knowledge could be particularly valuable for human resource management regarding the configuration of entrepreneurial teams and the development of (strategic) skills and knowledge within the firm. Moreover, a structured analysis of the relation and fit between organizational and individual characteristics could be an interesting direction of research that could extend the existing studies on personality traits, especially dark personality traits (Bouncken et al., 2020a, b).

SE involves the pursuit of exploration and exploitation as well as simultaneous opportunity-seeking and advantage-seeking behaviors. Yet surprisingly, only a few publications explicitly address ambidexterity as an important organizational characteristic. Research could be extended to provide further insights into how organizational ambidexterity impacts the subsequent (strategic) entrepreneurial processes and outputs. In this context, future studies could analyze how firms can approach their organizational design of internal and external corporate entrepreneurship. Internal spaces, such as maker spaces or co-working spaces, (Bouncken and Reuschl, 2018; Bouncken and Barwinski, 2020) might bring venues in which new ideas for SE can flourish. Similar, firms might form collaboration with externals even their competitors to facilitate innovation, in particular business model innovation (Bouncken and Fredrich, 2016). Alliances have been shown as a vehicle for innovation, yet how it can improve business model innovation is still largely unknown, although firms can bring into the alliance complementary resources for experimenting with new business models. Further, there is more understanding needed how to facilitate exploration, exploitation, hence strategic entrepreneurship and what role other organizational characteristics such as entrepreneurial leadership play in enhancing ambidexterity and dynamic capabilities (Tushman et al., 2010). Further specification and a structured presentation of the capabilities needed for the transition between opportunity-seeking and advantage-seeking activities should be provided for different firm settings and industries or different corporate levels.

While extant research stresses the need for a balance of simultaneous opportunity-seeking and advantage-seeking activities, it is lacking insight into appropriate tools to manage their transition and the associated uncertainty of the process. Future research could sharpen our understanding of the major factors (e.g. firm characteristics and external conditions) that affect how firms balance both sets of activities. Moreover, research could provide a systematic overview of appropriate tools specifically in the context of SE. These could include
tools that help a firm to understand its current (strategic) position such as activity maps, market analysis or competitive value maps as well as tools to systematically sense the future and manage uncertainty such as strategic foresight and road mapping or scenario planning. A structured planning approach could help firms master exploration and exploitation of opportunities as well as the transitioning process.

While the number of studies has increased significantly throughout the years, there is further research potential to improve our understanding of the opportunity concept. While extant research has offered insight into the nature, antecedents and outcomes of opportunities (Short et al., 2010) and has hence contributed to the general conceptualization of the concept, research on the assessment of opportunities offers great potential for future studies within the SE context. Future research could also benefit from a broader, rather economic perspective. Interesting areas of research could be how the concept of opportunity differs across industries and even countries or cultures. In relation to this, studies examining the influence of institutional configurations and policy programs on the creation, recognition and exploitation of opportunities could be a fruitful direction of research.

Business environments are increasingly complex and global, advancements in digitization and other new trends in technology (e.g. robotic process automation or machine learning) affect the need for and availability of resources. How does this impact the resource configuration processes of firms, specifically the bundling of resources into capabilities? What (new) skills are necessary to leverage resources and to create value? What role does technology development play and how do digital empowerment and digital identity help to support the digital technology implementation in innovation and business models (Bouncken and Barwinski, 2020)? The connection between digital technology and SE could pose interesting research question for the future.

Only a few studies include considerations concerning the specific types of innovation (e.g. radical, incremental and frugal innovation, business model innovation and product or process innovation) in the context of SE output. Further insight into how the subsequent results within the strategic management sphere mentioned above (e.g. organizational sustainability, wealth and value creation) are impacted by and related to a specific type of innovative output could be valuable. In this context, studies analyzing if and how a firm’s SE output and growth strategy correlate and how the output differs across industries could reveal interesting findings.

While previous studies analyze various indirect variables within the SE construct, a concise and systematic overview of moderators and mediators is still missing and requires further detailed research. Lastly, industry settings are often highly heterogeneous and market structures and forces hence differ significantly across industries. Further research is necessary to understand the external conditions, entrepreneurial environment and their implications for SE in specific industries better. Research could focus on different environmental settings (e.g. spatial, regional, national and international) to understand the barriers to and facilitators of SE in regard to the regulative environment, market structure, stakeholders and the local innovation knowledge. Comparative studies might even lead to generalizable findings that could provide a systematic overview and practical implications for firms.

4.3 Limitations
Like other bibliometric research, the presented bibliographic coupling is associated with a number of potential limitations. The bibliometric data used as a basis for the analysis was obtained from the WoS database through a topic search. While this study aimed to provide an elaborate overview of the SE research field, the dataset might partly be too broad (compared to a title search) and incomplete (compared to other databases). Future studies could use additional databases and apply a different search method. However, it is not necessary to
cover an exact quantity of documents, but a representative one, which should be the case here.

In general, science mappings derived from bibliometric analyses are based on citation links and not on the content of articles. Therefore, clusters derived are not always accurately delimitable. To allow a better interpretation of results, the derived clusters were grouped into sub-clusters through a qualitative literature review. The sub-clusters are therefore subject to the assessment and interpretation of the authors. Other researchers may have grouped and labeled them differently. Another general limitation of bibliometric analyses relates to citation cartels and the Mathew effect (highly cited papers attract more citations just because of their popularity) (Lariviére and Gingras, 2010; Wang, 2014), which can distort the statistics and lead to a biased perception of scientific quality and relevance. As our study does not include proceedings or uncited publications, the results may change as research evolves (Randhawa et al., 2016).

5. Conclusion
This study presented a comprehensive overview of the SE research field by using bibliographic coupling, which resulted in five clusters which were further grouped into sub-clusters based on a literature review. Based on the findings, a research framework was proposed that summarizes and structures the SE research field. The framework comprises five main components (i.e. streams of research): The firm’s and individual’s entrepreneurial characteristics and resources, entrepreneurial opportunities and activities, results and impact as well as external conditions and environment. These were arranged according to their relation to either the input, process, or output of SE.

Based on the analysis, several recommendations for future research were presented. Further expanding research on the subjectivist theory in the SE context would benefit human resource management, e.g. in the configuration of entrepreneurial teams, the development of skills and knowledge and in understanding the relation and fit between organizational and individual characteristics for SE. Further research on organizational ambidexterity in the SE context is required. Moreover, the associated organizational designs, the role of other organizational characteristics such as entrepreneurial leadership as well as of the capabilities needed to facilitate SE and transition between opportunity-seeking and advantage-seeking behavior need further research attention. In this context, researchers should also provide practical tools and techniques for SE. Regarding the opportunity concept, research should specifically focus on the assessment of opportunities and conduct comparative studies for different industry, country or culture settings. More insights into the influence of institutional configurations and policy programs on the creation, recognition and exploitation of opportunities would also be valuable. An assessment of current resource needs and availability is necessary to analyze how they impact the resource configuration processes of firms today and what (new) skills are needed to leverage them. The relation between a specific type of innovative output and the subsequent results within the strategic management sphere as well as the correlation between a firm’s entrepreneurial output and growth strategy needs to be explored further. In a broader context, future research should aim to facilitate our understanding of the barriers to and facilitators of SE regarding the regulative environment, market structure, stakeholders and thus expand our insight into the external conditions and environment and their implications for SE. It should also address moderator and mediator variables more systematically and provide a concise and comprehensive overview.

References


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