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Entrepreneurial teams: An input-process-outcome framework

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

*Published Version:*

Bolzani D., Fini R., Napolitano S., Toschi L. (2019). Entrepreneurial teams: An input-process-outcome framework. FOUNDATIONS AND TRENDS IN ENTREPRENEURSHIP, 15(2), 56-258 [10.1561/03000000077].

*Availability:*

This version is available at: <https://hdl.handle.net/11585/693259> since: 2022-04-12

*Published:*

DOI: <http://doi.org/10.1561/03000000077>

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The final published version is available online at:

<http://dx.doi.org/10.1561/0300000077>

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**A review of 30 years of literature on Entrepreneurial Teams:**

**An Input-Process-Outcome framework**

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**30/11/18**

**Abstract**

Entrepreneurship research emphasizes the importance of the individual entrepreneur in both venture creation and growth. However, theory and practice suggest that the vast majority of new ventures are now team-based, and teams play a key role in venture success. As the scholarly interest in this topic has substantially grown in the recent years, the literature has flourished in a rather fragmented way. In this paper, we take a holistic view and systematise more than 250 papers on entrepreneurial teams, published over 30 years. We use a process approach (i.e., Input-Process-Outcome), depicting team evolution phases, from inception to maturity, linking them to firm performance. We identify gaps, highlighting opportunities for future research.

## 1. Introduction

Entrepreneurship research has long emphasized the role of lone entrepreneurs. Although the first scientific contribution challenging this assumption dates back more than 40 years [Timmons, 1975], the individualistic and heroic representation of the entrepreneur is still used in recent entrepreneurship work. However, evidence that most new ventures are team-based should not be neglected: almost 95% of the individuals starting a business either involve others or intend to do so in the near future [Ruef, 2010]. Further, about 80% of new ventures are team-based [Aldrich et al., 2004; Kollman et al., 2016; Lechler, 2001; Ruef, 2010; Watson et al., 1995], and tend to perform better than their solo counterparts [Birley & Stockley, 2000; OECD, 2003]. All this notwithstanding, scholarly research investigating the venturing processes by entrepreneurial teams (hereafter ETs) is relatively recent and characterized by specific and limited areas of attention. For instance, previous reviews on this topic have focused on: (1) the link between ET characteristics and performance [Carland & Carland, 2012; Klotz et al. 2014; Schjoedt & Kraus, 2009a; Vyakarnam & Handelberg, 2005], (2) the antecedents and effects of ET cognition [de Mol et al., 2015], as well as (3) the definition of ETs [Schjoedt & Kraus, 2009a] and their differences compared to top-management teams (hereafter TMTs) [Huovinen and Pasanen, 2010]. Although our work builds on such notable contributions, it also takes a nuanced view of the phenomenon. First, by focusing on its definition and characteristics, this work offers a comprehensive understanding of the construct ‘entrepreneurial team’. Second, by using a process approach (i.e., Input-Process-Outcome), it depicts team evolution phases, from inception to maturity, linking these to firm performance. Our effort relies on 256 scholarly papers that were published over the last 30 years (1985-2016).

The review is structured as follows. We first outline the methodology used to search the relevant literature on the topic and to create meaningful thematic clusters. Second, we present the previous reviews on ETs and illustrate how our effort can be differentiated from these. Third, we focus on the ambiguity of the definition of ETs in previous research, providing our own definition of ETs and identifying areas for future development. Fourth, we present an in-depth analysis of the 14 thematic clusters identified according to the Input-Process-Outcome framework. In each cluster, we review the state of the art on the topic, highlighting limitations and shortcomings. For ‘inputs,’ we review papers dealing with individual/team characteristics and ET formation. For ‘processes,’ we review papers dealing with development and turnover in ETs; ETs and cognition; interactions in ETs; ETs and networks; and, finally, ETs and governance/organization, strategies, and opportunity identification. For ‘outcomes,’ we review

papers dealing with Ets and new firm creation, legitimacy, fundraising, public support, internationalization, and performance. We conclude by identifying opportunities for further research, offering some suggestions on how to contribute to the state of the art of literature.

## **2. Methodology**

### ***2.1 Data collection***

We conducted a systematic literature review of studies on ETs using Scopus<sup>1</sup>. We carried out our search on title, abstract, and keywords of documents, combining two sets of keywords: (1) *entrepr\*/founding/founder\*/cofound\*/co-found\*/nascent venture\*/new venture\*/start-up\*/startup\**; and (2) *team\**. We narrowed our search to journal articles written in English, published before 31 December 2016. We merged the results from different searches, eliminating any redundant documents, which resulted in a sample of 1,328 articles.

Because this search could have retrieved several articles not core to our research interests, we followed a two-pronged strategy. In the first phase, two of the authors skimmed through the titles and abstracts of retrieved articles, coding documents for inclusion or exclusion. This first phase of coding suggested that the retrieved papers adopt a variety of definitions and operationalizations of ETs, so that the two coders reached an inter-rater agreement of about 80% (related to which papers to retain or to exclude). The full team of authors then resolved disagreement by converging on a common preliminary definition of ETs, which refers to individual-level involvement of newly established firms' founders in seizing entrepreneurial opportunities and balancing the cost of such opportunities in term of financial investments and time. We excluded articles that dealt with non-founding TMTs or with teams involved in corporate entrepreneurship because our research goal primarily aimed to understand the constituents of ETs in newly established firms. Building on Wright and Vanaelst [2009], we argue that the concept of ETs has a broader scope if compared to TMTs; even if TMTs are involved in running and managing existing businesses, they may not necessarily focus on the identification and exploitation of entrepreneurial opportunities [Venkataraman, 1997]. Although TMTs may certainly join the venture along the way—for instance, once the opportunity has been seized and validated by the founders—it cannot be assumed that TMTs

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<sup>1</sup> Started in November 2004 and owned by Elsevier, Scopus is recognized by some scholars and bibliometricians as having a wider coverage for the social sciences and humanities than the Web of Science Social Sciences Citation Index (SSCI-WOS) database (e.g., Harzing, 2013; Scitech Stategies, 2012). Scopus indexes over 21,500 titles from more than 5,000 publishers. It includes over 38 million records back to 1996 (63%) and over 22 million records pre-1996 (37%) going back as far as 1823 (Scopus, 2016).

will sustain the entrepreneurial effort along the whole process (i.e., from day one). Similarly, we excluded articles that dealt with teams operating in established organizations. The rationale for this was that, even if teams may engage in (corporate) entrepreneurial behaviours, the personal and team decisions made during the entrepreneurial process are difficult to disentangle from day-to-day corporate activities and from the influences of other corporate levels.

In sum, we excluded articles dealing with: (1) top management teams not corresponding with founding teams (e.g., Auh & Menguc [2005]); (2) teams organized by university/college students in entrepreneurship courses or case studies for entrepreneurship teaching (e.g., Ensign & Woods [2014]); (3) product development or innovation teams in existing organizations; (4) teams in corporate entrepreneurial ventures (e.g., Colombo et al. [2014]); (5) practitioner-oriented publications on founding teams (e.g., Alexander et al. [2012]); (6) celebrative articles of seminal contributions about ETs (e.g., Lorenzen & Carlsson [2014]); and (7) enlarged ETs (e.g., board of directors, VCs, business angels) in support of entrepreneurship in the early stage of the venture (e.g., Ribeiro-Soriano & Urbano [2009]). At the end of this first phase of coding, we retained 405 articles as potentially relevant to our study.

In the second phase of coding, we excluded articles for which we could not find the full text on-line, by contacting the authors, or in any of the available repositories at our institution ( $n = 8$ ). Each of the four authors on the team read about 100 articles, coding the following fields for each article: definition of ET; research question; theory; method (including sample size, industry, country in which the research took place); presence of hypothesized patterns; dependent, independent, and moderating/mediating variables; and key findings. After this task, each author suggested which coded papers should be included or excluded and discussed the findings with the lead author to check for consistent coding practices across the team. As a result of this second step, we further excluded: (1) articles not focused on ETs but dealing with entrepreneurs' endeavours (for example, in entrepreneurial companies or SMEs; e.g., Akehurst et al. [2009]; Audretsch et al. [2011]); (2) articles dealing with investors only (e.g., Dotzler [2012]); (3) descriptive articles that did not use any specific research theory or method (e.g., Bhide [1992]; Mullins [2008]); (4) articles in which the ET was not core to the conceptualizing (e.g., Bamford et al. [2000]); and (5) articles that discussed the role of teamwork or team-orientation in general without explicitly referring to ETs (e.g., Cantzler & Leijon [2007]; Clarkin & Rosa [2005]). At the end of this process, we retained 256 articles. The data collection process is summarized in Figure 2.1.

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## **2.2 Description of the sampled papers**

The articles included in the study were published 1985-2016, with an exponential increase beginning in early 2000 (Figure 2.2).

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Around 53% of articles were published in 15 outlets (Table 2.1): mainly entrepreneurship and small business journals, but also general management and technology transfer outlets (for a full list of publication outlets, see Table A2.1).

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Looking at the empirical and/or theoretical nature of the reviewed papers, 27 articles (11%) were theoretical/conceptual ones. Among these, 8 papers reviewed the ET literature (Table 2.2).

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Regarding theory, although most papers (58%) did not directly describe use of a specific theory, the remaining articles adopted either one or multiple theoretical perspectives. The most commonly used theories were the resource-based view; cognitive and social psychological perspectives; upper echelon theory; social capital theory; human capital theory; and social networks theory. Such heterogeneity suggests the existence of a rather fragmented conceptual landscape, showing a lack of clarity in the theoretical positioning of research on ETs (for details on theoretical perspectives, see Table 2.3).

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Regarding the methodology, the majority of papers (90%) were empirical, either using quantitative (75%), qualitative (21%), or mixed methods (4%). As summarized in Table 4, the research designs used by authors of quantitative papers were mostly based on a single data collection method, such as surveys (59%), secondary data (25%), interviews (6%), or a combination of these. Most qualitative papers employed case-study design methods (74%) followed by in-depth interviews (22%).

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Empirical papers were based on studies focused on companies operating mainly in high-tech industries (46%) or multiple industrial sectors (31%). In addition, several studies covered the financial sector (e.g., banking, venture capital activities) (8%) or science-based companies (3%) (see Table 2.5 for details). In terms of geographical areas, studies mainly focused on European (49%), North American (34%), and Asian (13%) samples (see Table 2.6 for details).

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### **2.3 Data analysis**

To analyse the paper, we applied an Input-Process-Outcome framework, as summarised in Figure 2.3. The papers categorized in the “Inputs” domain dealt with the individual/team characteristics and how they led to ET formation. Papers in “Processes” either addressed ‘team-level’ processes (e.g., development and turnover of ETs, ETs and cognition, interactions in ETs, and networking) or ‘firm-level’ processes (e.g., the relationship between ETs and firm governance/organization, firm strategies, and opportunity identification). Papers regarding “Outcomes” dealt with either ‘strategic’ outcomes (e.g., new firm creation, legitimacy, fundraising, public support, and internationalization) or ‘market-related’ outcomes (e.g., innovation and performance). We reviewed each of these 14 thematic clusters by providing a detailed summary of each paper, identifying the findings, limitations, and gaps.

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*Insert Figure 2.3 about here*  
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### **3. Previous reviews**

Through our review process, we identified 8 papers, published between 2005 and 2015, dealing with reviews on ETs (as detailed in Table A3.1). Among these, two were introductions to special issues [Schjoedt & Kraus, 2009b; Schjoedt et al., 2013]. Below we briefly characterize their key take-aways.

The review by Vyakarnam and Handelberg [2005] analysed the relationship between the entrepreneurial team and organizational performance. They drew on established literature on TMTs to suggest themes to better understand the impact of founding/management teams on firms' performance in the context of new entrepreneurial ventures. Specifically, they suggested that, in addition to team demographic characteristics, four aspects should be considered: specifically, resources (i.e., industry experience, work experience, complementarity of functional backgrounds, team size, joint experience, and networks and contacts), structural and process effects of teams (i.e., social integration within the team, communication frequency, and communication informality), task leadership (i.e., role clarity and shared understanding), and the effects of team members' personal integration into the task process (i.e., commitment, values, and goals).

Schjoedt and Kraus [2009a] laid the foundation for a deeper understanding of the definition of ET and ETs' impact on performance. As for the former, the authors provided the following definition: "An ET consists of two or more persons who have an interest, both financial and otherwise, in and commitment to a venture's future and success; whose work is interdependent in the pursuit of common goals and venture success; who are accountable to the ET and for the venture; who are considered to be at the executive level with executive responsibility in the early phases of the venture, including founding and pre-start up; and who are seen as a social entity by themselves and by others [2009: 515]". As for the latter, in the second part of the review, the authors identified the factors that influenced team performance: (i) external environment (distinguishing between stable and dynamic), (ii) ET composition (in terms of tenure, age, functional experience, education, background, race, cognitive style), and (iii) process (e.g., conflict and communication).

Huovinen and Pasanen [2010] focused on the distinction between entrepreneurial and management teams. The comparison revealed the need to consider the two concepts as being independent and not overlapping. Indeed, although they referred to firms' key actors, a crucial difference was related to the 'shared entrepreneurial risk,' which can be lacking in management

teams. The two types of teams were also different in terms of contexts in which they have been investigated. Management teams were typically analysed in large and complex firms whereas ETs were characteristic of small firms. As for firm performance, the impact of the characteristics of the teams have been investigated in both cases, but the review suggested the need to deeply investigate this stream of research. The review also argued that the main hurdles to understanding and cumulating the results of previous studies are the different definitions of management teams and ETs used in the literature.

The review by Carland and Carland [2012] focused on ETs' and single entrepreneurs' different impacts on firm performance. The authors suggested that teams perform better than individuals because they are more creative, more resilient, more adventurous, wiser, and stronger. This occurs because of a shared entrepreneurial leadership process, as part of which the members of the ET continuously interact with each other, sharing ideas, perspectives, and values, producing an evolving vision for the venture.

Klotz et al. [2014] applied an Input–Mediator–Outcome framework to review prior work on new venture teams. The proposed model allowed for effective navigation of the extant literature on ETs by considering three main blocks. The “Inputs” block considered how team demographic characteristics, composition, and social connections were associated with the development and performance of their ventures. The “Mediators” block analysed two main mechanisms, allowing for links between inputs and outcomes. Team processes referred to activities (e.g., strategic planning, coordination) through which members interacted to convert resources into valuable outcomes. Emergent states, instead, referred to cognitive properties (e.g., trust, creativity, efficacy) that teams possess. Finally, the “Outcomes” block considered possible way to assess the impact of new-venture teams. Different measures of effectiveness were considered: sales growth, profitability, number of employees, innovativeness, satisfaction, and well-being.

Finally, de Mol et al. [2015] focused their review on ET cognition to better understand how and to what extent this facet can explain differences between ETs in their ability to develop teamwork that leads to successful entrepreneurial outcomes. By reviewing 20 years of previous research, the authors defined ET cognition as an emergent state (originating from complex interactions among individuals) embedded in team processes (that convert inputs to outcomes) and involving content-related knowledge (characterized by simultaneous engagement in thought processes among team members). They used an Input–Mediator–Output framework

and, by reviewing 44 papers, they pointed out a limited examination of the antecedents of ET cognition, focusing mainly on individual (e.g., gender, education, experience) and team-level (e.g., shared prior experience and functional diversity) factors. Second, they also argued that ET cognition was embedded in several processes that can be categorized as taskwork processes (i.e., decision-making, coordinating, and planning) and teamwork processes (i.e., motivation, conflict, affect, and confidence building). Finally, the three main outcomes investigated referred to performance indicators (i.e., performance, legitimacy, creativity), team processes (i.e., opportunity recognition, learning, and network creation), and team membership change (i.e., member selection, addition, and exit).

To the best of our knowledge, the only two reviews that have adopted a processual approach, providing a holistic picture of the concept under scrutiny, are those by de Mol et al. [2015] and Klotz et al. [2014]. Our effort, compared to those, aimed to further illuminate the processes that mediate the relationship between entrepreneurial-team-formation and venture performance. Specifically, we distinguished between processes occurring within the ET (i.e., team development and turnover) and business processes for which the unit of analysis is broader, including the effects of ETs' decisions and characteristics on the entire organization (i.e., governance, strategic development). Also, we focused on the activities through which team members operate and make decisions. In the former category, we have included studies addressing research questions such as "How do teams change their composition over time?," "Which cognitive dynamics (i.e., mental modes) characterize team members?," or "How do team members interact with each other and with external parties?" In the latter category, we focused on articles that asked questions such as "How do team characteristics impact firm behaviours?," "Which strategic decisions are more likely to be pursued depending on team characteristics?," and "How does opportunity recognition take place in ETs?" Our review, however, did not overemphasise the thematic block of "Processes" over "Inputs" or "Outcomes"; rather it offers a comprehensive understanding of the foundation (i.e., Inputs), evolution (i.e., Processes), and impact (i.e., Outcomes) of ETs. We were, thus, able to (1) provide a holistic and clear definition of ETs and (2) unpack the thematic blocks identified by our Inputs-Processes-Outcomes approach into different conceptualizations of the ET phenomenon. We also identified papers that analysed the direct relationship between inputs and outcomes, investigating the relationships among team characteristics and final outcomes.

Adding to previous review studies, we highlight that boundary conditions should be considered when analysing team dynamics. First, teams operate in specific industries and

geographic locations. The context in which the company operates is, thus, a critical element to consider to fully understand the essence of ETs. Second, companies evolve following a precise lifecycle, which is characterized by inception, scale-up, and maturity phases. Including a temporal dimension is, thus, critical, to fully understand the dynamics of ETs. Finally, firms can be categorized in different ways based on their organizational structure. Teams in family businesses are different, for instance, from teams in science-based firms. The nature of the company in which teams operate will affect team foundation and dynamics. To the best of our knowledge, this review is the first attempt to conceptualize the dimensions that directly and indirectly affect the relationships among inputs, processes, and outcomes in the evolution of ETs.

#### **4. Defining entrepreneurial teams**

In this section, we describe how we systematized the definitions of the ET construct found in the 256 included articles (categorized according to the authors' definition of ET construct). The categorization was done by coding the papers and verifying whether the authors clearly defined the construct or not. In 125 cases, we found that the construct hadn't been clearly spelled out or defined. For the remaining articles, 64 associated the ET with the founding team, 11 with the new venture team, and 18 with the top management team; by contrast, the remaining 38 provided their own definition of ET. Table 4.1 summarizes the papers.

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##### ***4.1 Not clearly defining the entrepreneurial team***

Although there has been extensive scholarly interest in the topic since the mid-70s, the literature has only recently started to clearly define the ET construct. Our review showed that around 49% of the papers in our analysis did not clearly define ETs. For example, in Westhead and Cowling [1995] and Lafuente and Rabetino [2011], ETs equalled the sum of the resources and capabilities of their members whereas Bjørnåli and Aspelund, quoting Ensley et al. [1998], conceived of ETs as formed also “by those individuals who have a direct influence on strategic decisions [2012, p. 353]”. Likewise, Chen and Wang [2008] gave no formal definition but focused on all individuals who were involved in the venture project during the early stage; by contrast, for Wiersema and Bantel, the team of entrepreneurs was the dominant coalition, defined as “the individuals responsible for determining a firm's direction [1992, p. 91]”.

#### ***4.2 Entrepreneurial team as “founding team”***

In 64 of the papers included in our review, the authors referred to the ET as the team of individuals who established the venture or had been involved in it since its inception (e.g., Delmar and Shane [2006]; Dufays and Huybrechts [2016]; Eesley et al. [2014]; Khavul et al. [2012]; Mueller and Gemüunden [2009]; Packalen [2015]; Sardana and Scott-Kemmis [2010]; Siegel et al. [1993]). Specifically, the ET members were referred to as the founders working in the company [Thakur, 1999] or the group of founding individuals [Bolle, 1995; Ciuchta et al., 2016].

Some articles further refined this view and differentiated between founders who owned firm equity and those who did not. For Bruton and Rubanik [2002], the members of the ETs were those individuals who worked in the firm, invested in the firm, and expected to obtain the proceeds of any profits from the firm. Roure and Maidique [1986] and Roure and Keeley [1990] viewed ET members as the employees who, as indicated in the business plan, are expected (1) to play a key role in the development of the firm (2) to become employee of the company within the first year after the initial founding date, and (3) to share the ownership of the company in a significant manner. To differentiate between owners and managers, Pasanen and Laukkanen [2006] suggested that an ET often consists of firm owners only (who are also founders), whereas a management team involves both owners and hired managers. Similarly, Athanassiou, Crittenden, Kelly, and Marquez [2002] differentiated between founders and TMTs, while Cunningham, Loane, and Ibbotson [2012] distinguished between founders and CEOs or managers. The distinction was like that of Boari and Riboldazzi [2014] who distinguished between the entrepreneurial founding team (i.e., a group of friends and colleagues) and the management team. An ET typically consists of firm owners, often stockholders, who share entrepreneurial risk and hold ownership and control positions [Thiesset al., 2016]. Founders were defined as all individuals who provided equity capital to and had a managerial position in a new-born firm [Boeker & Karichalil, 2002; Clarysse et al., 2007; Colombo & Grilli, 2005; Colombo et al., 2014; Dahl and Reichstein, 2007].

The literature has also emphasized that, in addition to holding equity, ET members participate in the firm’s strategic decision making. For instance, for Ucbasaran et al. [2003] and Ganotakis [2012], ET members were the individuals who owned part of a firm’s equity and were responsible for making strategic decisions at inception. Founders must participate in the decision making and must hold equity shares [Chowdhury, 2005]; membership in the founding team is, according to Brinckmann and Hoegl [2011] and Brinckmann et al. [2011],

defined by three conditions: persons who (1) jointly lead the firm; (2) make key decisions at the executive level together, and (3) share the responsibility for these decisions.

#### ***4.3 Entrepreneurial team as “new venture team”***

Eleven papers included in our review considered ETs to be synonymous with new venture teams. New venture teams were different from founding teams because they came into play not specifically during the pre-founding and founding phase, but also during the subsequent first steps of the new firm’s lifecycle. For instance, Mitteness et al. [2013] saw ETs as the group of individuals who constituted the workforce at the end of the start-up year, including both the original founders, first managers, and rank-and-file employees [Kaiser & Müller, 2015]. The new venture team was also intended as the new venture “key managers” team [Barney et al., 1996; McGee et al., 1995] or as “two or more individuals who jointly establish and actively participate in a business in which they have an equity (financial) interest” [Watson et al., 1995, p. 394]. Klotz et al. [2014] equated the ET with the new venture team: that is, “the group of individuals that is chiefly responsible for the strategic decision making and ongoing operations of a new venture” [p. 227]. A more nuanced conceptualization was given by Lim et al. [2013], who defined new venture teams as "comprising of members who hold significant ownership stakes in the venture and/or are involved in strategic decision-making" [Ucbasaran et al., 2003; p. 109]. They also distinguished between two subgroups: the founders (i.e., the idea-conceiving founders) and the investors (i.e., the equity-based partners).

#### ***4.4 Entrepreneurial team as “top management team”***

Eighteen papers in the review equated ETs with TMTs (e.g., Ensley & Hmieleski [2005]; Federico et al. [2009]; Li and Li [2009]; Li [2008]; Liu et al. [2012]; Mudambi & Treichel [2005]; Vyakarnam & Handelberg [2005]; West [2007]). In these papers, ETs were not identified according to the founders’ monetary and time commitments but, rather, as a function of the effort of the executives or TMTs in the newly established venture [Becker-Blease & Sohl, 2015], regardless of their presence at the time of founding [DeTienne et al., 2005; Vissa & Chacar, 2009; Vyakarnam et al., 1997]. Members of the team may have been individuals ranked as vice president or higher [Beckman, 2006, 2008; Beckman et al., 2007] and/or those who directly reported to the chief executive officer [Boeker & Wiltbank, 2005; Furr et al., 2012].

A more nuanced conceptualization that took the TMT perspective was that proposed by Leung [2003] and Leung et al. [2006]. First, the authors referred to TMTs, then adopted the term "core team," which included individuals, regardless of job title, who reported directly to

the top executive of a new venture and who had a significant impact on the strategies and practices of the firm [Leung et al., 2013].

#### ***4.5 Toward a definition of ET grounded in the state-of-the art of the literature***

The remaining 38 papers provided specific definitions of ETs. One of the earliest came from Kamm and Shuman [1990], who defined ETs as “two or more individuals who jointly establish a firm in which they have a financial interest” [p. 7]. This definition was broadened to include those individuals (e.g., TMTs) who have a direct influence on strategic decisions [Ensley et al., 1998; Nielsen, 2010; Vanaelst et al., 2006]. For example, Cooney [2005] defined ETs as “two or more individuals who have a significant financial interest and participate actively in the development of the enterprise” [p. 229] whereas Collewaert and Sapienza [2016] operationalized ETs as those individuals and angels who, at the time of the study, had an equity stake and were actively involved or played a key role in strategic decision making. However, other definitions encompassed ETs at different phases of the life cycle and were not solely restricted to the founding or pre-start-up phases. For example, Khan et al. [2014] described ETs as a group of two or more individuals who hold shares in the firm, work actively in the venture, and exert influence on the strategic decision making within the venture during the early phase (that is, up to eight years including pre-start-up and founding). Similarly, an ET of two people was defined by Coad and Timmermans [2014] as two individuals who have a formal affiliation to the new venture in the year of founding and invest effort in the form of work—that is, “sweat equity”—in the new venture.

Hence, according to our literature review, and consistent with the definitions offered by Cooney et al. [2005], Ensley et al. [2000], Galkina and Kock [2011] and Harper [2008], three key aspects emerged. First, to be part of an entrepreneurial team, individuals need to engage in the identification and pursuit of business opportunities to establish a firm. Second, entrepreneurial team members should have a significant ownership interest in a newly established firm. Finally, entrepreneurial team members play a significant role in the management of a firm, having a direct influence on the venture’s strategic decisions.

Consistently, we define the entrepreneurial team as *a group of individuals who engage in the identification and pursuit of business opportunities to establish a firm, each of whom has a significant ownership interest (10% or higher) in a small, individually owned and operated business, and each of whom plays a significant role in the management and has a direct influence on the strategic choices of the firm at the time of founding.*

## **5. In-depth review of “Inputs” related clusters**

### ***5.1 Individual/team characteristics and entrepreneurial team formation***

Our literature review identified 10 papers that dealt with the characteristics and formation of ETs (details in Table A5.1) and were published between 2002 and 2016.

#### ***5.1.1 Detailed review of papers***

The seminal work by Ruef [2002] presented a structural events analysis as a methodological advancement, with respect to traditional network methods, to study the development of social groups such as ETs. Structural event analysis is based on the compositional properties of social groups and the statistical inferences that can be made from these properties to the underlying features of structural organization. Three sets of social processes guide the composition of groups: (1) homophily; that is, the tendency of members to be similar or different based on ascriptive characteristics (e.g., gender, ethnicity, national origin); (2) functionality; that is, the tendency of members to collectively possess achieved functional characteristics (e.g., higher education, vocational expertise, leadership), which are salient to the development of the group; (3) structural opportunity; that is, the probability that members will be related through prior structural relationships in the population from which they are drawn (e.g., dyadic associations or common group membership). The author studied how these three criteria of group formation applied to an original dataset describing the founding teams in 745 business start-ups, using characteristics such as gender composition, functional foci, and prior founder affiliations. Developing empirical models iteratively via exploratory and explanatory analyses, the paper showed that the most important principle guiding team composition was ascriptive homophily (i.e., choosing gender-similar others as organizational co-founders). Homophily was separated from structurally induced contact opportunities between men and women, revealing a simple additive effect for the two dynamics. Other aspects of team composition were non-additive, and characteristics appeared to interact with one another in some cases (e.g., functionality interacted with homophily) and cancel each other out in others (e.g., certain combinations of functional competences among founders were only explained by structural dynamics and not by functional rules).

Ruef et al. [2003] further studied how achieved and ascribed characteristics of entrepreneurs affected the composition of founding teams and how these characteristics were mediated by the social context of the entrepreneurial effort. From the sociological literature on group formation, the authors identified five processes that could influence team membership:

homophily, functionality, status expectations, network constraint, and ecological constraint. They examined these mechanisms in 816 ETs drawn from a nationally representative panel study of US nascent entrepreneurs, using structural event analysis. Their findings showed that homophily had a strong effect on group composition. In fact, looking at ascribed characteristics like gender, all-male or all-female ETs were more common than teams comprising men and women; for ethnicity, ethnically homogeneous teams were more common, with ethnic minorities having more tendency toward homogeneity than whites. Network constraints based on strong ties also had a pronounced effect on group composition, with family-kinship (i.e., ties among spouses/partners) decreasing the gender homophily of ETs and increasing ethnic homophily. Looking at functionality, larger teams tended to be homophilous in terms of functions (and this was not explained by prior business ties). Prior functional experience determined segregation into industrial sectors (e.g., founders with productive experience chose primary/manufacturing start-ups; administrative/professional experience chose service/professional firms). Social isolation (i.e., exclusion from a group) was more likely to occur as a result of ecological constraints on the availability of similar alters in a locality than as a result of status-varying membership choices, and, therefore, homogeneous teams were more likely to occur under residential/industrial segregation. In addition, the variation of in-group preferences explained different levels of isolation for different entrepreneurs; for instance, ethnic minorities did not exhibit disproportionate levels of isolation, but women and blue-collar workers were likely to become solo entrepreneurs. Status expectation was not found to have a strong influence on group formation or to interact with other characteristics.

O'Connor et al. [2006] investigated the phenomenon of “co-entrepreneurs” (i.e., ETs composed of mixed-sex founding members) in the Irish ICT sector. Through a survey of 23 companies, their descriptive work showed that over half of these small and well-established companies were family businesses. The majority of founders were employed full-time before setting up the company under scrutiny, with no previous experience in start-up but experience or knowledge of the industry. The founders had the most experience in administration and product development and limited experience in marketing and sales. Motivations to establish the company were related to identifying a new business opportunity, increasing wealth, a desire to innovate technologically, and frustration with a previous job. Reasons for adopting a team approach were related to a wide range of skills and knowledge contributing to the company's success, but also due to legal requirements to have two directors for the company; funding, assisting the main founder; or simply chance. Women tended to work more in administration

and finance roles whereas men worked in sales/marketing, product development, and/or general management.

The work by Rosa and Dawson [2006] investigated female founders of UK academic spinout companies. They showed that female academic entrepreneurs were strongly under-represented among founders of academic spinout companies in the UK, and that they were less represented than would be expected from their under-representation in science and universities. Female entrepreneurs answered more dutifully to commercialization arising from external demand rather than internal entrepreneurial drive, especially if they were in a position of seniority. Women faced different obstacles in setting up an academic spin-off with respect to men especially due to different social networks, perceived family responsibilities, and different administrative career paths. However, they did not reveal significant differences in satisfaction or difficulties in running a business. With regard to ETs, women tended to be part of teams involving senior male colleagues, due to the low number of female senior researchers in science departments and their lack of opportunity and time to lead a spinout. In fact, in general women had, on average, more advice on how to fulfil the role of entrepreneurs, found it difficult to balance this role with academic duties, and perceived the experience as stressful.

Diascua Cruz et al. [2013] focused on the formation of family ETs (i.e., groups of related individuals engaging in entrepreneurship) and their role in creating portfolio companies. They drew on social capital theory to analyse how and why family ETs formed, and why family members were included or excluded from membership of family ETs. They analysed seven case studies of teams in Honduras. Their findings showed that the dynamic process of family ET formation was underpinned by a shared vision to be in business together in the long term, within a culture of entrepreneurial stewardship, looking for opportunities that benefit the (nuclear) family assets. These teams were formed as families were hit by succession crises (i.e., interruptions of the expected succession process) and by expansion. The search for entrepreneurial opportunities was a collective effort of senior and junior members, aimed at satisfying entrepreneurial ambitions, interests, and skills of junior family members, and occurring when senior generations were not ready to exit. Family ETs were 100% composed of family members, thereby excluding friends, colleagues, and other non-family individuals. However, family members who did not share the same work values could be excluded. Overall, members were included based on the strength of ties and frequency of interaction (structural social capital), shared values and understandings (cognitive), and trust, norms, and identification (relational).

Deng et al. [2015] presented a methodological development in the measurement of ETs' diversity, specifically focusing on the unidimensionality and reliability of different measures in a Likert-scale format. Using Ridge Maximum Likelihood estimations, they compared average of absolute distances, average of absolute deviations from the mean, and standard deviation as measures of diversity. They used real data from ETs in China, using a 13-item scale referring to information diversity and underlying diversity in teams. Their findings show that the reliability estimates corresponding to standard deviations were the greatest whereas the three measures indicated little difference regarding unidimensionality.

Hellman and Thiele [2015] examined how founder conflicts affected start-up companies, specifically theorizing about what stage would be optimal for founders to contract with each other, how they structured optimal founder contracts, and how this affected team composition, ownership, incentives, and firm performance. The problem of contracting between founders was particularly important because there was a trade-off between upfront contracting--which secures contracting obligations to parties (e.g., preventing idea theft) but potentially results in teams with ineffective founders--and delayed contracting--which risks lack of protection, but decreases the likelihood of teaming with ineffective partners. According to the model, delayed contracting was optimal when there were significant doubts about the skills of founders. In addition, contingent contracts with vesting of shares could be used to make upfront contracting more efficient for team formation but depended on how well milestones correlated with the presence of individual skills. Finally, laws and courts providing protection to implied partnerships (i.e., founders without formal contracts) may unintentionally push founders to contract upfront although they might have preferred to wait.

Packalen [2015] integrated concepts from the literature on founding-team demographics with theories of isomorphism, industry evolution, and regional variation. The author analysed biotechnology ETs in Boston and the San Francisco Bay area as the industry evolved over 30 years, identifying two periods. The results showed that, in the first period (1972-1981), founding teams were significantly more likely to have experience in academia than in the pharmaceutical industry in both regions. In the second period (1982-2004), experience in the pharmaceutical industry increased in both regions, but academic founders continued to be more prevalent in Boston. Therefore, ETs' dynamics in the two regions were differently determined according to theories of industry evolution (San Francisco) or isomorphism (Boston). The author also examined whether there was a financial benefit, in terms of the value of first venture capital investment, for having certain demographic features. The findings showed that venture

capitalists in the two regions valued different aspects, in line with local role models and norms. However, investors did not lock-in on and continue to reward entrepreneurial teams adhering to the most successful model in the first period (i.e., academic-only teams). Founding teams' characteristics seemed to be more important when the industry was novel and poorly understood.

Wing-Fai [2016] presented a descriptive analysis of entrepreneurs who started innovative Internet and mobile technology companies in Taiwan. The study examined the characteristics of entrepreneurs, how social and cultural capital influenced their enterprises, and to what extent they relied on social networks. Reflecting Taiwanese educational and career segmentation in the technology sector, sampled teams mostly comprised men. Of the female sample, 50% had set up companies with their husbands or male partners, a reflection of the lack of opportunity for women to participate in the close social networks of their male counterparts. Nonetheless, gender, family backgrounds, and childcare responsibilities affected both men and women; starting an Internet company was a decision made by the household, with the family playing a strong role in supporting the business. These findings showed strong homophily in the teams, which relied on social and close cultural networks (e.g., school or work). Intersectionality--not just gender--explained founders' decisions to start a company, and the operation and choice of their co-founders, especially in the case of spousal teams.

### *5.1.2 Key findings*

Four key findings emerged. First, the reviewed studies highlighted that entrepreneurs establish teams with trusted others. To do this, they might adopt different strategies; their choices also have legal implications, such as the preference for upfront or delayed contracting with other company partners [Hellman & Thiele, 2015]. In particular, in the reviewed studies, the most important principle guiding team composition was homophily: that is, the tendency of members to group based on ascriptive (e.g., gender, ethnicity, national origin) or achieved (e.g., education, occupation) characteristics--especially gender and occupation [Hart, 2014; Ruef, 2002; Ruef et al., 2003]. The studies also pointed to the importance of network constraints imposed by strong ties, especially family ties [Diascua Cruz et al., 2013; Ruef et al., 2003; Wing-Fai, 2016]. However, this tendency to avoid the inclusion of strangers reduced new and diverse ideas and functional diversity in the company, potentially inhibiting the success of organizations in the long run [Ruef et al., 2003].

Second, the reviewed studies showed the gendered nature of ETs' composition. For instance, women tended to be found in mixed-sex ETs in order to have access to wider resources, and networks, and support from the management of the company [e.g., O'Connor et al., 2006; Rosa & Dawson, 2006; Wing-Fai, 2016], and tended to cover "feminized" functional roles (e.g., administration and finance) [O'Connor et al., 2006].

Third, the composition and evolution of ETs were influenced by environmental-level factors. For instance, inclusion or exclusion from ETs was explained by ecological constraints such as residential/industrial segregation (e.g., Ruef et al. [2003]), or by regional characteristics that established norms about successful team composition (e.g., Packalen [2015]).

Finally, the reviewed studies pointed to the importance of further considering the temporal dynamics that characterize the unfolding of ETs' composition. The changes in the team likely to occur in the post-formation phase are influenced by individual-level changes, such as the generational aspects in family businesses (e.g., Diascua Cruz et al. [2013]); organizational-level dynamic changes, such as the company's life cycle; and environmental-level changes, such as industry or regional evolution (e.g., Packalen [2015]).

#### *5.1.4 Limitations and gaps*

The review of this cluster revealed several limitations and gaps, which can inform future research. First, many of the available studies dealt with team composition as driven by observable (e.g., ascriptive, functional, or structural) characteristics of team members. Cognitive, normative, or instrumental motivations underlying the configurations of ETs were overlooked by current research [Ruef, 2002]. Second, the measures of team composition--for example, team diversity--have been operationalized in a rather limited quantitative manner [Deng et al., 2015]. Third, most empirical analyses, especially the quantitative ones, have a static and cross-sectional nature and are therefore not able to account for the historical context of team formation or the evolution of compositional characteristics over time [Ruef, 2002; Ruef et al., 2003]. Fourth, the majority of studies have been carried out in Western countries (e.g., the U.S.) or specific industries (e.g., high-tech, science-based); therefore, they are likely to have missed the nuanced impact of different environmental-level factors (e.g., institutional, regional, or industry) on the composition of ETs. In Section 8, we elaborate on these limitations and propose solutions to the identified gaps.

## **6. In-depth review of “Processes” related clusters**

### ***6.1 Team-level processes: Development and turnover of entrepreneurial teams***

We counted 15 papers, published between 1995 and 2016, in this cluster (see Table A6.1 for details).

#### ***6.1.1 Detailed review of papers***

The work by Bolle [1995] modelled the formation of ETs as a non-cooperative game, where an entrepreneur has the opportunity to select a team from a set of potential members who require a reward to join the team. According to the model, team members were profit maximisers, and non-monetary payoffs can be expressed in terms of money. Because every team makes a joint profit, the entrepreneur chooses the team that leaves the largest surplus to her/him. The author showed that there were often many equilibria in this two-stage game. However, there was a set of important team members who were unique and determined the efficiency of the team and the chance of getting a positive reward, thus suggesting the relevance of a clear definition of the decision structure.

Boeker and Karichalil [2002] examined the issue of founder departure occurring when new ventures become more established, therefore requiring different management styles and capabilities than those needed at start-up. Drawing on lifecycle perspectives and theories of agency and power, the authors developed a set of hypotheses that they tested on 78 newly established semiconductor producers in Silicon Valley. Looking at company characteristics, the authors showed that a positive relationship between new venture size (number of employees) and founder departure. Both fast-growing and slow-growing new ventures have the most founder departures, signalling a U-shaped relationship between new venture growth (employees and sales growth) and founder departure. New ventures with a higher proportion of founder ownership and higher proportions of inside board members had lower founder turnover. Moreover, they did not find support that founder departure was influenced by new venture age or by the extent of ownership concentration. Looking at the characteristics of team members, founders working in research and development functions and founding chief executives were less likely to exit. Instead, founders' industry experience did not affect the likelihood of leaving the new venture.

Ucbasaran et al. [2003] investigated the topic of entrepreneurial founder team turnover, specifically focusing on the factors influencing entry and exit. Building on human capital theory, the hypotheses were tested on a sample of 92 owner-managed ventures in the UK. Their

findings showed that the size of the founding team was negatively associated with subsequent team member entry. However, they did not find any significant effect of average age of founding team members, family firm teams, and functional heterogeneity of the founding team on subsequent team member entry. Regarding team member exit, they found that family firm teams were negatively associated with subsequent team member exit, and that heterogeneous founding teams, in terms of entrepreneurial experience, were positively associated with subsequent exits. They instead found no support that size of a founding team, average age of founding team members, and functional heterogeneity impacted subsequent team member exit.

Clarysse and Moray [2004] studied how an ET evolves during the early phase of a venture, focusing on the development and turnover of managerial capacity and on the learning processes of the team. The authors studied a case of an academic, research-based enterprise in Belgium, using interviews and participant observation. The findings highlighted that a champion was a crucial person in the pre-start-up and start-up phases, displaying knowledge of the technology. During the start-up phase, an external CEO who is an expert in business management can support the team as a coach, facilitating team collective learning. ET formation evolves through alternating periods of equilibrium--characterized by incremental change--and periods of revolution--characterized by fundamental alterations of business structures. The shift from one stage to another is generated by environmental shocks.

Matlay and Westhead [2005] focused on the emergence of virtual teams (i.e., groups of geographically distributed entrepreneurs who interact through interdependent tasks and are led by common entrepreneurial interests and/or goals) in e-Entrepreneurship in Europe. Based on 15 cases from the tourism and hospitality industry, the authors found that virtual teams were leveraged in relation to several factors affecting innovative entrepreneurial processes: (1) reaction to risk and uncertainty; (2) alertness and willingness to respond to new opportunities; (3) investment in ICTs and commitment to e-Entrepreneurship; (4) recruitment and exploitation of disparate human capital; and (5) association of knowledge endowment with income distribution and reinvestment. In these companies, the cohesion and convergence of virtual team strategies and goals were firmly rooted in entrepreneurial knowledge, drive, and experience of individual team members. Sustainable competitive advantage was achieved through team dynamics and collective contributions towards a common strategy and/or entrepreneurial goal. Finally, the income generated from collective entrepreneurial dynamics was achieved and retained on an individual basis and not pooled and/or distributed cooperatively.

Chandler et al. [2005] studied the (in)stability of emerging and new venture teams by looking at their environmental- (e.g., industry dynamism, task environment dynamism), organizational- (e.g., stage of development of company) and team- (e.g., initial team size, demographics, and functional heterogeneity) level antecedents, and their effect on subsequent business performance. They developed and tested a set of hypotheses using two datasets from a panel study of 408 emerging Swedish ventures and a cross-sectional study of 124 new U.S. ventures. Their findings showed that initial team size was positively associated with member entry (not exits). There was marginal support that heterogeneity in industry tenure and religious affiliation were positively related to exit and that heterogeneity in level of education, industry tenure, and functional specialization were positively related to entry. They did not find support that stage of company development influenced team turnover. Stage of business development enhanced the positive effect of team departures and the negative effect of team additions. Task environment dynamism created a positive effect on team additions and enhanced a negative rather than a positive effect on team departures.

Similarly, Forbes et al. [2006] investigated the dynamic processes of ET formation, by specifically exploring who, why, and when are added to the team. The authors drew on in-depth interviews with three newly established high-tech companies to theorize about the dynamic processes of team creation. The authors identified resource-seeking and interpersonal attraction as primary motivators for new teammate addition but found that these motivations can be complementary in practice. Their empirical data showed that new members added to the team not only affected the content or the capacity of the team through a simple additive effect but, also, changed how the team functioned and worked. It is unlikely that a single motivation could adequately explain the addition of a new member, but multiple explanations can be found according to different team members or external observers. New member additions involve a decision-making process, comprising the processes of identification, selection, and recruitment, which unfold over time and are characterized by political, cognitive, resource-driven dynamics. Finally, the timing and sequence of a team member addition was a critical dimension, which could be driven by the venture's resource needs, personal timelines or team preferences, or by other externally induced events or activities (temporal entrainment or interruptive events).

Vanaelst et al. [2006] studied ETs in academic spinouts by questioning how ETs evolve over the different stages of the spin-out process. Based on an in-depth analysis of 10 cases, their findings suggested that teams were not immutable entities but, rather, evolved over time,

changing in composition and characteristics. In the pre-founding phase, which is characterized by research activities and market opportunity recognition, the team was composed of researchers and “privileged witnesses” (i.e., people who served an advisory function in identifying business opportunities). After this phase, the team might welcome surrogate entrepreneurs and evolve into the founding team, including both a management team and a board of directors. In the following proof of viability and maturity phases, venture capitalists and other investors could enter the board and appoint additional team members (e.g., CEO, business developers). The team’s heterogeneity therefore changed during different stages of the spin-out process, involving greater heterogeneity in the functional and entrepreneurial experience available to the team, but not greater cognitive heterogeneity (i.e., the view of the company’s strategic orientation on doing business). In addition, team exits were related to interpersonal and intrapersonal conflict whereas team entries were driven by the need for additional resources (human, technological, financial). Both exits and entries impacted the different roles performed by team members.

Aldrich and Kim [2007] investigated the role that social networks play in the formation of ETs and the mobilization of resources via social relations. They described three models of network formation, differing with regard to the density of clusters of interacting individuals and the path length between individuals: random networks (no clustering, unlimited access to others, short paths, indirect ties); small world networks (highly clustered, new ties circumscribed by social environment and homophily, short paths, bridging ties); and truncated, scale-free networks (highly structured, hierarchical, short paths). They concluded that the great majority of mundane ETs, unlike creative teams in institutionalized fields in the U.S., emerged out of local clusters characterized by small world networks, but without the bridging ties to reach strangers. These teams tended to be based on embedded ties from pre-existing relations within local clusters, failing to incorporate non-homophilous members (strangers) and therefore tending to be stable. A “competency discount” emerged, which founders extended to potential members whom they knew and trusted. Team searches in small and truncated, scale-free worlds depended on someone’s network location. Therefore, strategic responses to the constraints of clusters required entrepreneurs to break out, using technological assistance as well as deliberately seeking social locations in and around structural holes.

Harper [2008] presented a theoretical paper on the role of ETs in the process of entrepreneurial discovery, specifically questioning the implications of economic theory for team entrepreneurship research and the conditions that are conducive to joint entrepreneurial

action and the formation of ETs. The author built on an agent-neutral definition of entrepreneurial discovery (“a profit-seeking problem-solving process that takes place in real time and under conditions of structural uncertainty,” p. 617) and on an institutional-neutral conception of ET (“a group of entrepreneurs with a common goal which can only be achieved by appropriate combinations of individual entrepreneurial actions,” p. 618). The conditions conducive to the formation of ETs were bounded by structural uncertainty, perceived degree of game harmony, common interest, and strong interdependence. The author predicted that opportunities for team entrepreneurship were likely to be most salient in Pareto coordination games and less salient in Stag Hunt games and Prisoners’ Dilemma games. In this way, the formation of ETs can be endogenously caused by the features of the strategic situation, not only by exogenous factors (e.g., co-membership of a cultural or ethnic group).

Tihula et al. [2009] aimed to understand whether ETs and management teams were a common phenomenon in small firms and to identify differences in the reasons for the formation of these different kinds of joint management. They drew on a survey of and secondary data on small Finnish firms. The results showed that a team was involved in the management of most firms. However, the formation of management teams was motivated by liability distribution and turnover whereas the formation of ETs was motivated by efficiency. Joint management of entrepreneurial and management teams was more common in large firms.

Iacobucci and Rosa [2010] investigated the role of ETs in the formation and dynamics of business groups, building on qualitative insights from semi-structured interviews with portfolio entrepreneurs who had developed 14 business groups. (Related) diversification and expansion in different market segments were portfolio entrepreneurs’ common motivations for establishing business groups, paired with the creation of an ET that gets involved in the management of the new business. Teams were created by changing the ownership structure of the new business (e.g., by giving minority shares to other people). Three patterns of ownership sharing emerged from the study: joint ventures with another established entrepreneur; involvement of employees; and intrapreneurship. In all cases, the portfolio entrepreneur retained control of the new company, giving, however, a stake to others who played key roles in structuring and developing the business. These processes could encounter difficulties when the original business was already founded by a team of entrepreneurs and, thus, not having a single “head” who could direct the new developments.

Kaiser and Müller [2015] analysed the heterogeneity of start-up teams with respect to human capital, focusing on age, education, and wages prior to start-up. Using the population of Danish start-ups established in 1998 and tracking them until 2001, the authors derived a benchmark for new-venture-team heterogeneity and studied the post-foundation dynamics of start-up teams. Their findings showed that founders systematically attempted to establish teams but sought individuals with similar characteristics. Observed teams were relatively more homogeneous at start-up compared to the benchmark. This was explained by homophily and avoidance of affective conflicts (such as for relationship-oriented characteristics like age) or cognitive conflicts (such as for task-related characteristics like education and prior wages). Team heterogeneity increased over time, even if the increase was smaller compared to the benchmark (based on random addition of members); however, the paper showed that new members have different characteristics than initial team members. The findings held across industries; however, knowledge-intensive ventures tended to be more heterogeneous than other start-ups both at inception and over time.

D'hont et al. [2016] examined the influence of friendship on the formation and development of ETs and ventures, and how friendship and professional ties among founders interacted in the entrepreneurial process. Drawing on interviews with ten business founders in Paris, France, the authors found that friendship and professional ties interacted according to a “fusion” (i.e., more or less completely interlinked) and a “separation” (i.e., clear distinction) orientations. The interaction can be characterized by “affective” (e.g., solidarity and benevolence) or “strategic” (e.g., involving business dimensions) orientations. The authors proposed that “affective fusion” favoured the pre-launch and launch phases of the business whereas “strategic fusion” was more beneficial to business survival and growth. “Strategic separation” was intended to protect the business but may compromise the survival and continuity of the business whereas “affective separation” was intended to protect the friendship and might benefit the growth of the company.

### *6.1.2 Key findings*

Several key findings emerged from the review of this cluster. First, ETs were a common feature for the management of different types of ventures: for instance, in small firms (e.g., Tihula et al. [2009]), e-entrepreneurial companies (e.g., Matlay & Westhead [2005]), and business groups (e.g., Iacobucci & Rosa [2010]).

Second, the study of ETs required considering not only their formation but also their turnover and development. The studies that looked at turnover emphasized that additions to the ET were negatively influenced by team size [Ucbasaran et al., 2003] and that entries were allowed for people who displayed entrepreneurial attitudes and capabilities, and were trusted by the entrepreneur (e.g., former employees, other entrepreneurs [Iacobucci & Rosa, 2010]; friends [D'hont et al., 2016]). Exits from the team were driven by venture size, and fast or slow growth of the firm [Boeker & Karichalil, 2002], and heterogeneity in the entrepreneurial experience of the ET [Ucbasaran et al., 2003]. Departures of founders with high ownership shares, inside board members, R&D and founding chief executives were less likely [Boeker & Karichalil, 2002] as were the departures of team members in family firms [Ucbasaran et al., 2003]. In general, cognitive framing, homophily, and networks were strong mechanisms that influenced the development of ETs (e.g., Beckman & Burton [2008]; Kaiser & Müller [2015]). In addition, founding teams influenced the subsequent formation of management teams through path dependence, specifically with the experience of founding teams [Beckman & Burton, 2008].

The dynamic nature of these changes bears important implications from a methodological perspective: investigating ETs requires prospective or longitudinal methodological approaches rather than retrospective or cross-sectional ones [Bolle, 1995; Forbes et al., 2006]. Network approaches can also be useful, but researchers should carefully clarify what kind of network they are positing because different network models might act as a moderating condition [Aldrich & Kim, 2007].

Finally, the reviewed studies showed that the development of the team and team learning processes co-evolved with lifecycle stages of the venture, events in the development of the business, external milestones, and events in the environment (e.g., Chandler et al. [2005]; Clarysse & Moray [2004]; Forbes et al. [2006]; Vanaelst et al. [2006]).

### *6.1.3 Limitations and gaps*

The studies showed limitations that challenge our full understanding of ETs. For instance, studies on turnover in teams (e.g., Boeker & Karichalil [2002]; Ucbasaran et al. [2003]) have failed to investigate the motivations leading team members to leave the firm. In addition, studies seemed to rely on a longitudinal approach but either through qualitative accounts or using short time spans (e.g., Chandler et al. [2005]; Kaiser & Müller [2015]). The studies were mainly carried out in Western countries (e.g., Europe or the U.S.), thereby failing to account

for more diversified patterns due to institutional and cultural factors that could potentially influence the development of ETs. In Section 8, we elaborate on these limitations and propose solutions to the identified gaps.

## ***6.2. Team-level processes: Entrepreneurial teams and cognition***

Our review highlighted 13 recent papers dealing with ETs' cognition (details in Table A6.2), published since 2007.

### *6.2.1 Detailed review of papers*

West [2007] argued for the importance of examining cognition at the team level and, using new-venture strategy as a springboard to discuss this topic, developed and tested a method to assess it. According to the author, ET collective cognition was a mediating variable between firm performance and both the environment and individual top managers. ET cognition was influenced by individual team members' cognitions, changes in TMT composition that add/subtract cognitions, organizational and TMT processes, and industry and competition. The structure of ET cognition functioned for teams in much the same way as a structure of knowledge functions for an individual (e.g., determines how info is stored and evaluated; produces biased interpretation and forms heuristics; determines behavioural responses). Two structural dimensions of ET collective cognition were particularly important: differentiation (i.e., the extent to which strategy was a different construct than other constructs) and integration (i.e., the extent to which strategy was construed as similar or different across team members).

Hudnut and DeTienne [2010] explored the issues involved in creating an entrepreneurial venture focused on triple bottom line objectives in "base of pyramid" markets. Specifically, the case examined the ambiguity facing a start-up as it began to develop a technology, a business model, and a management team. The case demonstrated the tension between planning and doing in managing the uncertainty facing a new venture.

Li and Liao [2010] investigated how perceived opportunity and ET attributes affected entrepreneurial orientation in Chinese new-technology ventures. Drawing upon the cognitive perspective of strategy, the authors proposed that entrepreneurial orientation in Chinese ventures was affected by the ET's perceived opportunities in the environment and their attributes relevant to recognition and exploitation of opportunities. Drawing on a sample of 184 Chinese firms, the authors found that perceived industry growth and causal understanding

among ET members were positively correlated to entrepreneurial orientation. Moreover, perceived dysfunctional competition contributed positively to entrepreneurial orientation.

Wu, Kefan, Hua, Shi, and Olson [2010] studied the problem of technological innovation risk-based decision-making from the point of view of an ET. Using system dynamics theory to model a framework from the agent-based modelling perspective, they identified the differences between this team decision-making and a traditional individual decision-making problem, as part of which decisions were mainly affected by the decision-maker's risk and value perceptions, and risk preferences. The approach was validated by a case study of the technological innovation risk-based decision-making in a Chinese automobile company.

Kefan, Gang, Wu, Luo, and Qian [2011] explored the learning mechanism in entrepreneurial risk-based decision-making based on cognitive evolution. Employing a system dynamics model to analyse the ET risk decision-learning, they conducted a case study to demonstrate the influence of cognitive factors over the entrepreneurial process of risk-based decision-making.

Discua Cruz, Hamilton, and Jack [2012] investigated how entrepreneurial cultures were transmitted and continued in family businesses. Previous family business literature highlighted that an entrepreneurial culture, like the identification and pursuit of opportunities leading to establishing or acquiring ventures, resided within the founding generation. Using interpretive methods to analyse 6 family business groups in Honduras and focusing on the family ET as the unit of analysis, they showed that entrepreneurial cultures were transmitted via long intergenerational interaction and continued via involvement of junior generations.

Zheng [2012] investigated the effect of founders' prior shared experience on new venture performance from a team cognition perspective. Building on team familiarity and cognition literatures, the author developed hypotheses that were tested on survey data from 98 Chinese start-ups. The findings showed that founders' prior shared experience had a significant positive impact on new-venture growth, and this relationship was partially mediated by a founding team's transactive memory system that enabled founding teams to effectively and efficiently integrate their members' expertise and skills. In addition, task similarity and intra-team trust further strengthened the effects of transactive memory systems and new-venture performance because these motivated and gave opportunities to team members to use their transactive memory systems. Team cohesion or length of prior shared experience did not represent alternative explanations.

In a related paper, Zheng and Mai [2013] studied how founding teams in emerging economies responded to surprising events and why they responded to surprises in certain ways. The authors developed a set of hypotheses linking founding teams' transactive memory systems and team-level engagement in strategies to respond to surprises. They used survey data from 137 Chinese start-up companies. Their results suggested that, in emerging economies, because market supporting institutions were deficient, founding teams with strong transactive memory systems were less likely to engage in external knowledge acquisition but, rather, were more prone to improvise in response to surprises. In addition, negative surprises negatively moderated the relationship between team transactive memory systems and knowledge acquisition or improvisation.

Bryant [2014] analysed the under-researched topic of how to manage the initial imprinting process by founding teams so that entrepreneurial ventures enhanced their capacity to adapt. The author developed a model of the microfoundations of imprinting that integrated knowledge about autobiographical memory (i.e., the memories people have of their own lives) and transactive memory (i.e., the collaborative storage and retrieval of memories among dyads and groups of people). Autobiographical memory had a major influence on the way people pursued shared goals requiring coordinated action, such as a collective effort in starting a new enterprise. According to the model developed in the paper, ET members collaborating in organized goal pursuit co-created autobiographical memories through the interaction of personal autobiographies among founding members (e.g., storytelling of past experiences, shared new experiences, and intentional remembering), which were reinforced via iterative feedback loops and resulted in the cocreation of transactive autobiographical memory systems. These memories had a significant influence on collective values, goal setting, social bonding, identity, and, ultimately, imprinting. In fact, deep autobiographical memories of this kind tended to be enduring and relatively stable over time. Therefore, by deliberately intervening to manage the formation and imprinting of such memory systems, founders may enhance their venture's long-term capacity to adapt.

Khan et al. [2014] aimed to determine whether internal locus of control and other personality traits at the team level can predict team performance. The empirical analysis was based on data from 44 ETs in business incubators in Austria. The results showed that higher internal locus of control at the team level promoted ET performance, measured as effectiveness and efficiency. However, team efficiency was increased when ETs possessed a high internal locus of control and low diversity of locus of control. In addition, affective trust was identified

as a moderating condition that enhanced ETs' effectiveness, especially when the team had a high internal locus of control.

In a related paper, Khan et al. [2015] further explored whether and how diversity in need for achievement affected team performance, measured as effectiveness and efficiency. Drawing on the same sample above--44 ETs established in Austrian business incubators--the authors found that need for achievement diversity had a negative impact on ET performance. However, it could improve team effectiveness when the prevailing team need for achievement was low. In addition, the authors found that relationship conflicts were detrimental to ET performance; they showed that similarity in need for achievement could help teams cope more successfully with these potentially negative consequences.

Dai et al. [2016] explored the mechanisms necessary to coordinate and integrate a new-venture team's effort to leverage its knowledge and how these mechanisms influenced entrepreneurial orientation. They built on the knowledge-based and cognitive views to theorize that a new venture team's transactive memory system was a cognitive mechanism that spurred the development of an entrepreneurial orientation, and proposed a set of team-, firm-, and environment-level moderating factors. The authors tested their hypotheses using survey data from a sample of 148 new Chinese high-tech companies. Their findings showed that the transactive memory system of a new venture team was positively associated with the entrepreneurial orientation of the firm, and that this relationship was positively moderated (strengthened) by intra-team trust, the structural organicity of the venture, and perceived environmental dynamism.

Nordström et al. [2016] investigated how entrepreneurial tenure and involvement in ETs influenced passion for engaging in entrepreneurship. The authors developed a set of hypotheses that were tested on survey data from 262 Swedish hybrid entrepreneurs (i.e., individuals engaging in entrepreneurship while also maintaining wage work). The findings showed that tenure was negatively related to passion for entrepreneurship; thus, entrepreneurs who had been running their business for a long time were less likely to be motivated by passion than those who had started their business more recently. Passion was less likely to be the main motive behind entrepreneurship among those who were part of an ET. Finally, involvement in an ET strengthened the negative association between entrepreneurial tenure and passion for entrepreneurship.

### *6.2.2 Key findings*

As shown in the papers included in this cluster; and comparing our work with the review on ET cognition by de Mol et al. [2015], we can support the view that cognition at the team level is more than the sum of individual team members' cognitions. The studies showed the following key points. First, individual cognitive characteristics were brought/withdrawn to/from the team through the entry and exit of team members [West, 2007]. In this regard, the role, experience, and values of the individual on the team were not lost but, rather, integrated and interacted with those of other team members to create transactive autobiographical memory systems [Bryant, 2014].

Second, team collective cognition was based on and influenced by both individual-level and environmental-level variables and evolved according to organizational and team processes [Dai et al., 2016; West, 2007]. For instance, team members with prior shared experience can effectively and efficiently integrate their members' knowledge by co-creating autobiographical memories and using transactive memory systems (e.g., Bryant [2014]; Zheng [2012]).

Third, ETs were involved in decision-making processes characterized by risk and uncertainty (e.g., Kefan et al. [2011]): for instance, regarding technological innovation problems (e.g., Hudnut and DeTienne [2010]; Wu et al. [2010]).

Fourth, collective entrepreneurial cognition functioned similarly to a structure of knowledge for an individual: playing a role in information search, storage, and evaluation; influencing interpretations; and driving heuristics and behavioural responses [West, 2007]. In this regard, the structural dimensions of team cognition (e.g., differentiation and integration) [West, 2007] and the affective dynamics in the team (e.g., trust) [Dai et al., 2016; Khan et al., 2014; Zheng, 2012] were important. The characteristics of team cognition were therefore also able to predict team performance such as efficiency and effectiveness [Khan et al., 2014; Khan et al., 2015].

Finally, ET cognition was connected to company-level entrepreneurial orientation [e.g., Dai et al., 2016; Li & Liao, 2010] and influenced the recognition of opportunities (e.g., Diascua Cruz et al. [2012]; Li & Liao [2010];) and the performance of the company [West, 2007; Zheng, 2012]. For instance, there is some evidence that teams with strong transactive memory systems are able to improvise in response to surprises in the external environment, rather than looking for external knowledge acquisition [Zheng & Mai, 2013]. Importantly, team collective cognition formed in transactive autobiographical memory systems can imprint the way new ventures are capable to adapt in time [Bryant, 2014].

### *6.2.3 Limitations and gaps*

Given the difficulties in clearly defining ET cognition, research on this topic has been fragmented [de Mol et al., 2015]. Because of the wider research on ETs, our review adopted a more restrictive definition of team cognition than that proposed by de Mol et al. [2015] and went beyond their work by including papers published more recently and on a wider range of journals. Nevertheless, we shared some key findings, limitations, and gaps in the papers dealing with this topic. First, the review showed that, to date, there have been no studies that have accounted for the antecedents of ET cognition (i.e., team cognition has not been used as a final dependent variable). Second, given the broad possibilities for using different constructs drawn from psychology, the reviewed studies showed a narrow scope of covered themes (e.g., transactive memory systems, personality traits). Third, methodology when studying ET decision making was unclear, especially when investigating conditions of risk and uncertainty. Finally, in terms of empirical research, available studies covered both Western (e.g., Europe) and non-Western countries (e.g., China), but there was still limited knowledge about cultural context's influence on these processes. In Section 8, we have elaborated on these limitations and proposed solutions to the identified gaps.

### ***6.3. Team-level processes: Interactions in entrepreneurial teams***

Our review of the literature identified 24 papers concerned with the dynamics of interaction and organization of ETs (details in Table A6.3). The articles in this group spanned a long period of time; the oldest was published in 1989 and the most recent, in 2016.

#### *6.3.1 Detailed review of papers*

Gilmore and Kazanjian [1989] focused on the developmental transition of decision-making processes in ETs when previous strengths, such as informality, may have become weaknesses. As the venture became more complex, problems were more divergent and less able to be resolved by a single individual or team. Through two case examples, the authors argued that responsibility charting can be a useful tool for both diagnosis and intervention during critical transitions and can help an organization negotiate the difficult structuring choices during a critical growth state.

Watson, Ponthieu, and Critelli [1995] developed a measure to evaluate ET interpersonal processes' effectiveness and showed the relationship of interpersonal processes' effectiveness and partner agreement on specific aspects of interpersonal processes to reports of venture success. Surveying over 190 venture dyads in which each partner evaluated themselves and

their partner on items describing team interpersonal process, they found that the factors that were evaluated as more effective in ventures perceived as successful were leadership, team commitment, and mutual interaction.

Ensley, Carland, and Carland [2000] attempted to verify the existence of lead entrepreneurs, as posited by Timmons [1984, 1994], and to examine their impact on venture performance. The authors used two samples drawn from owners and managers on the list of the fastest growing firms in the United States. The results empirically confirmed the existence of lead entrepreneurs among entrepreneurial firms and suggested that the strength of their entrepreneurial vision--the ability to see what is not there--and their self-confidence set them apart from other ET members.

Balkin and Markman [2001] examined factors that determined the presence of team rewards. Using a sample of 130 entrepreneurial firms, they found that the growth stage of the organizational lifecycle and high-time-commitment teams (i.e., where the employee worked on the team on a full-time basis and with a long-term duration) were positively related to the use of team rewards, but self-managed teams were not. They also suggested that high-time-commitment teams were related to monetary rewards and low-time-commitment teams to non-monetary rewards.

Lechler [2001] investigated the effects of social interactions on new business success in knowledge-intensive dynamic industries. Using data from 159 German ETs, they introduced a measurement model that consisted of six dimensions; they found that the quality of the social interaction within ETs was crucial for the new venture's success. An empirical comparison with the frequently used measurements of team conflicts confirmed that the measurement of conflicts was not a sufficient substitute measurement for social interaction.

Newth and Corner [2009] investigated leadership in new venture ETs and the extent to which this was consistent with a complex systems framework. Through a case study design, they analysed the three complex leadership roles outlined by Uhl-Bien et al. [2007] and found that leadership was rarely about an individual exercising guidance from a formal position in a hierarchy but, instead, was about creating and tapping into intelligence and know-how distributed across members of a group [Marion and Uhl-Bien, 2001].

Ruef [2009] investigated inequality in the distribution of ownership stakes among entrepreneurs, including norms of distributive justice, negotiation constraints, and network constraints. Using a representative dataset of ETs sampled in the U.S. between 1998 and 2000, he analysed the distribution of ownership stakes at both the individual and group levels. No

systematic variation in equality of ownership shares by ET size was found. However, team members who had network connections (e.g., kinship, marriage, brokerage) and those who had higher human capital and financial contributions had larger shares.

Schenkel and Garrison [2009] explored the role that various forms of social capital play in ET performance in a virtual context. Analysing the relationships between various social capital dimensions (relational capital, cognitive capital, entrepreneurial orientation, and team-efficacy) and ET performance, they found that the perceptions of social capital in the form of relational capital, cognitive capital, and entrepreneurial orientation were significantly positive predictors of team efficacy. Moreover, team efficacy was a strong, positive predictor of ET performance in a virtual context.

Sardana and Scott-Kemmis [2010] investigated entrepreneurial learning and the extent to which the context of the learning, prior experiences of the entrepreneur, and characteristics of the ET shaped that learning. They found that prior experience, the "division of (decision-making) labour," and the "knowledge" characteristic of the venture ET shaped learning. In general, the amount of learning was greatest in companies characterized by a strong learning challenge and a context that provided a rich learning milieu like a mixed team with relevant prior experience. In sum, the ET composition moderated the impact of prior entrepreneur experience and the effect of the individual's role on learning outcomes.

Zacharakis, Erikson, and George [2010] studied the effects of conflict on confidence in partner cooperation. Through a survey of 57 entrepreneurs who had received venture capital investments, they found that, contrary to past research that found that VCs viewed task conflict favourably, entrepreneurs did not, which led to reduced confidence in partner cooperation. Furthermore, intragroup conflict within ETs increased conflict between the team and the VC.

Galkina and Kock [2011] explored the influence of entrepreneurial infrastructure on the process of establishing new business relations by comparing the networking activities of ET founding members from Russia and Finland. Following a comparative case study design, they found that the entrepreneurial infrastructures of the two countries: specifically, the stability of the economic climate, availability of and access to support services, and the overall level of trust influence the ratio between formal and informal relations in the entrepreneurial networks of the founding teams studied.

Through a longitudinal study based on participant observation and in-depth interviews, Karataş-Özkan [2011] tracked and analysed the entrepreneurial learning processes of five nascent entrepreneurs who formed an ET. Adopting a multi-layered relational approach, they

discovered that the business venturing process was defined by heedful interrelating of micro- and meso-level aspects. Moreover, the learning experiences enacted by the entrepreneurs within their habitus were closely linked to their personal, economic, and social becoming through accomplishing everyday tasks.

Juvonen [2013] investigated the learning experiences of a cooperative ET during its first year. The study was based on theme-based interviews and direct observations and highlighted how team learning experiences gained during the first year were related to lack of risks and challenges in team building. Contrary to previous studies related to team development that suggested that cooperation and conflict--as well as openness and confrontation--were essential elements for team development, they found that the ET members were avoiding confrontation and conflict.

Patton and Higgs [2013] explored the process of leadership and decision making in new technology-based firms in which a non-founder CEO had been introduced to support the original founder(s) of the company. Based on a case study approach to analyse the factors integral to the appointment of a CEO, the criteria upon which the ET and CEOs made their decisions, and the process by which decisions were made after a CEO had been appointed, they found that, once ET members appreciated the contribution that could be made by the appointment of an external CEO, there was a bias to select individuals who could also show a robust understanding of the technology that underpinned the business offering. It was also evident that, post-selection of a CEO, founders--in all but one case--were keen to remain involved in the decision-making process and viewed the appointment as an opportunity to share knowledge and expertise.

In a conceptual piece, Butler and Williams-Middleton [2014] compared entrepreneurship literature that suggested that learning from diverse perspectives in teams can contribute to entrepreneurial action, and management literature that has shown that conflict in teams often negatively affects creativity. Drawing on recent research streams suggesting that entrepreneurial learning might be better understood by applying an effectual logic perspective, they questioned whether conflict was experienced similarly in ETs versus managerial teams. They underlined that the negative consequences of team conflict found in the management literature may be due to the underlying causal logic, and thus not readily applicable to entrepreneurial learning.

Hill, Craig Wallace, Ridge, Johnson, Paul, and Suter [2014] proposed and tested a process model as part of which they argued that co-founders' inputs related to venture

effectiveness via processes of team member exchange, team learning, and collective efficacy. Using a computerized simulation in which 202 individuals acted as new venture co-founders, they found support for the hypothesized Input-Process-Outcome model such that the intra-team processes of members' exchange, team learning, and collective efficacy fully mediated the relationship between the input of co-founding team climate for innovation and the outcome of co-founded venture effectiveness.

Yang and Aldrich [2014] investigated mixed-sex ETs to unpack the mechanisms by which gender inequality in leadership emerges, despite strong pressures toward merit-based organizing principles. Drawing on a dataset of ETs sampled from the U.S. population in 2005, they demonstrated that merit's effect became much larger when multiple merit-based criteria provided consistent predictions for which team member was superior to others, and when entrepreneurial founders adopted bureaucratic templates to construct new ventures. However, gender stereotypes of leaders pervasively constrained women's access to power positions, and gender's effect intensified when spousal relationships were involved.

Drawing on a multiple-case study approach and data on eight ETs observed over six months, Breugst et al. [2015] developed a dynamic model of the consequences of equity distribution among team members. Perceived justice of equity distribution emerged as a key variable that influenced ET interactions and important entrepreneurial outcomes. High perceived justice triggered positive team interaction spirals whereas low perceived justice triggered negative interaction spirals. Teams exposed to external threats drifted from a positive spiral to a negative spiral despite high perceived justice.

Deng and Yuan [2015] investigated how psychological compatibility affected team performance in successful ETs and was mediated by fairness perception and team cohesion; they also considered whether and how the relationships among these variables and traits changed over the developmental process. The authors developed a method for multigroup SEM with correlated samples and applied it to a longitudinal data set on the development of ET across 4 phases, finding that the effect of psychological compatibility on team performance was completely mediated by fairness perception and team cohesion. Moreover, significant differences existed between phases, most likely due to an increase in heterogeneity of psychological compatibility.

Khan et al. [2015] studied interactions among ET members. The article examined the roles of cognitive and affective trust, and task and relationship conflict on the performance of innovative ETs by drawing on data from 88 teams in Austria. They found that cognitive trust

was the cornerstone of innovative ET performance and, in addition, to maximize efficiency, teams must rely on high cognitive trust and low task conflict. Nonetheless, the guidelines for being effective relied on having high cognitive trust coupled with low task and relationship conflicts, which suggested that ETs benefit most when members trust one another's competence levels.

George et al. [2016] explored the interactions between task, process, and affective conflict in ETs of venture-backed firms. From data based on a survey of 59 firms that received investment from Norwegian venture capital funds, they showed that task conflict was positively related to affective conflict and that this relationship was partially mediated by process conflict. Moreover, they found that team size moderated the relationship between task and process conflict.

Liu [2016] used the data mining method to construct an evaluation index of innovation and ET competency, finding three dimensional indexes: innovation, team and entrepreneurial dimensions. In the team dimension, ETs should focus on improving team cooperation ability; in entrepreneurial dimension, ETs should enhance relationship ability. Overall, they proposed an interesting index system with first-, second-, and third-level indicators of innovation and ET competency evaluation.

Organ and O'Flaherty [2016] explored the impact of the intuitive decision-making of ICT entrepreneurs on team performance and investigated how intuition-based decision style diversity interacted with both the emergence of TMS and team performance. Drawing on data collected from 188 participants across 22 countries and split into 48 ICT ETs, the findings showed strong support for the influence of intuitive decision style diversity on both team level states and team performance.

Zhou [2016] investigated the direct effect of team personality level and team personality diversity on new-venture growth and whether the interaction of team personality level and diversity affected venture growth. Using a sample of 144 ETs in a technology incubator in China, this study explored the moderating effects of personality diversity on the relationship between shared leadership and ET performance. Results indicated that shared leadership improved ET performance; the strength of the relationship, however, depended on the level of team personality diversity; when relationship-oriented personality diversity was high, the relationship between shared leadership and team performance was stronger. Task-oriented personality level positively influenced growth whereas task-oriented personality diversity negatively influenced growth. Relationship-oriented personality diversity positively influenced

new-venture growth. Other traits that influenced growth were openness, conscientiousness, agreeableness, and emotional stability.

### *6.3.2 Key findings*

We can highlight some key findings from the review of the group of papers dealing with the dynamics of ETs. First, growth-driven dynamics were strongly influenced by concerns related to leadership and interactions within the ET (e.g., Ensley et al. [2000]; Gilmore and Kazanjian [1989]; Organ and O’Flaherty [2016]; Zhou [2016]). Leadership was a strong driver of the quality of the interpersonal processes underlying the phase of growth [Watson et al., 1995], which were crucial for the new business success and ET innovation [Khan et al., 2016; Lechler, 2001]. Although the lead entrepreneur can be conceptually set apart from other ET members because of his/her entrepreneurial vision and self-confidence [Ensley et al., 2000], leadership positively influenced ET performance when it was shared [Zhou, 2016] and capable of tapping into the different competences and know-how brought by team members (e.g., Gilmore and Kazanjian [1989]; Newth and Corner [2009]).

Second, contrary to previous results that have suggested that venture capitalists tend to see task conflict within ETs favourably, entrepreneurs did not [Zacharakis et al., 2010], suggesting that the ET internal interactions are important for multiple reasons. For example, team commitment in terms of time influenced the distribution of team rewards [Balkin & Markman, 2001] whereas avoidance of confrontation and conflict was strongly linked to the learning outcomes of the team during the first year [Juvonen, 2013; Sardana & Scott-Kemmis, 2010].

Third, strong predictors of team efficacy were perceptions of social capital endowments such as relational capital, cognitive capital, and entrepreneurial orientation. Social capital has also been found to be a characteristic influencing the distribution of ownership shares among ET members, along with human capital and financial contributions [Ruef, 2009]; similarly, the ability to develop social networks was strongly influenced by the availability of an entrepreneurial infrastructure [Galkina & Kock, 2011]. Fourth, this group of papers underlined the importance of psychological factors and team internal dynamics such as perceived justice of equity distribution among members, the role of fairness perception for team effectiveness, and cognitive trust coupled with low levels of task and relational conflict [Breugst et al., 2015; Deng & Yuan, 2015; Khan et al. 2015].

Finally, another important dynamic highlighted by this group of papers was related to learning: confrontation negatively impacted the ETs' ability to have positive learning outcomes, and its composition moderated the impact of entrepreneurs' prior experience and the effect of individual roles on learning [Juvonen, 2013; Karataş-Özkan, 2011; Saradana & Scott-Kemmis, 2010].

### *6.3.3 Limitations and gaps*

Our review showed that many papers have investigated the topic of ET dynamics. Some limitations shown by this cluster dealt with a lack of clarity about these dynamics in terms of their classification. For example, it is not clear whether the lone entrepreneur is a construct that can be studied, in a cumulative and integrative effort, by tracking the internal dynamics of the team or the distribution of the decisions made by him/her in respect to other ET members. Similarly, phenomena such as learning and leadership cannot be examined under the same theoretical lens, thus hindering cumulative knowledge on the dynamics of ETs. These limitations will be discussed further in Section 8, where we also propose solutions to the identified gaps.

## ***6.4 Team-level processes: Entrepreneurial teams and networks***

Our review of the literature identified 4 papers concerned with the relationships between ETs and networks (details in Table A6.4). They are recent papers; one was issued in 2005 and 3 in 2013 or 2014.

### *6.4.1 Detailed review of papers*

Neergaard [2005] investigated the distribution of networking roles and responsibilities in entrepreneurial founding teams. Through 58 in-depth interviews carried out in 24 new Danish technology-based ventures over a 2-year period, he analysed the distribution of networking activity among founding team members. The article identified six central networking activities and showed that not all ET members were equally active “networkers.”

In a conceptual paper, Gurrieri [2013] attempted to fill a theoretical gap in entrepreneurial literature and make the role of the entrepreneurial networking team emerge as key for creating opportunities and new social knowledge. The author argued that ETs and their natural attitudes in producing social knowledge were still unexpressed or not well explicated in literature.

Wei et al. [2013] studied whether firms founded by alumni and former graduate students were more likely to form technology transfer relationships with their alma mater compared to other firms. Through data on 127 Chinese firms operating in the electronic information, health, chemical and energy industries, they found that firms whose founding teams had a higher proportion of alumni and lower proportion of highly educated individuals were more likely to form formal ties with the focal, local alma mater.

Boari and Riboldazzi [2014] investigated how actors positioned in a network can evolve as knowledge brokers, as well as develop new brokerage roles. They observed an Italian comic book publishing house from 1989 to 2009; the study focused on actor behaviour rather than on the structural and positional determinants of the brokerage role. They found that, if all brokerage roles involved transcoding functions, the ability to overcome obstacles through shared imprinting with receiving partners can be useful for developing any brokerage role. Moreover, heterogeneity in the competences and industry experience of hired members of the ET could support the development of new brokerage roles. If a brokerage role involved new actors with no previous allegiance, the signalled status of the broker could have a significant impact by indirectly communicating its superior knowledge.

#### *6.4.2 Key findings*

Findings from the group of studies on the relationship between ETs and networks were scant given the paucity of articles dealing with the topic. Moreover, one of the four articles was a conceptual paper on the networking role of the ET [Gurrieri, 2013]. However, some findings deserve attention. First, ET members distributed their networking activity so that not all ET members were equally active “networkers.” Neergaard [2005], for example, found that members prioritized different networking activities and that one member in particular had extensive networking activities; by contrast, other members of the team were more limited in their networking while some even completely rejected the notion of networking as a useful activity. Second, at the team level of analysis, an interesting finding was that firms whose founding teams had a higher proportion of alumni and lower proportion of highly educated individuals were more likely to form formal ties with the focal, local alma mater, highlighting the role of social capital in ETs that originated in academic contexts [Wei et al., 2013] and in ETs’ strategic networking behaviour in creating opportunities and new social knowledge [Gurrieri, 2013]. Third, the relationship between ETs and networks was not limited to the networking activity of ET members as focal players in their networks or as tie initiators but

also as brokers in contexts in which it was important to connect different and distant actors (e.g., Boari and Riboldazzi [2014]).

#### *6.4.3 Limitations and gaps*

Our review showed that only a limited number of papers have investigated the topic of ETs and networks. With respect to other papers identified in our work, we found that studies in this group of papers tended to adopt very simple measures of ET characteristics (e.g., diversity as operationalized through dummy variables); or to investigate teams as only one among several other variables influencing internationalization outcomes. As we will outline in Section 8, we therefore see a vast potential for further research on this topic.

### ***6.5 Business processes: Entrepreneurial teams and governance/organization***

We found six papers that were focused on the relationship between ETs and firm governance or organization (details in Table A6.5). They are relatively recent papers, most of which were published in 2010.

#### *6.5.1 Detailed review of papers*

Balkin and Swift [2006] examined the pay decisions related to founders and non-founders on the TMT that occurred during the early stages of growth in new ventures, specifically those anticipating rapid growth, such as those in technology-intensive markets. In particular, they examined and developed a set of research propositions about three issues: (1) how to distribute equity among the founding team; (2) how to compensate non-founding executives in order to attract and retain them; and (3) how venture capitalists influence executive compensation. The authors proposed that equity distribution among founders was set according to the perceived contribution of each founder in the skills to address the key resource issues and uncertainties of the new venture. The equity given to non-founder executives was, instead, expected to be less than founders' proportion of equity. The salary provided to non-founder executives was expected to be comparable to the amounts that they would obtain by being employed by larger firms, but the pay incentive components would provide a total compensation that exceeded the amount offered by larger firms. Companies that aimed to obtain venture capital funding were able to retain higher portions of equity if they displayed high levels of team human and social

capital. Maintaining strong relationships between team members and venture capitalists eliminated the need to put an emphasis on pay incentives to motivate team members.

Clarysse et al. [2007] investigated the issue of board composition in high-tech start-ups. Drawing on agency theory, resource dependence theory, and social network theory, they examined the tensions that exist between the founding team and external equity stakeholders in determining the presence of outside board members. In particular, they focused on whether the outside board members had either complementary or substitute human capital in relation to the founding team. They tested their model on a sample of 140 high-tech start-ups in Flanders. Their findings showed that companies without external equity stakeholders were only partially recruiting outside board members with human capital (commercial experience) to substitute for that from the founding team. For academic high-tech start-ups, having technology transfer offices as external shareholders and founding teams with high degrees of R&D experience tended to attract outside board members with complementary human capital (commercial and financial experience). In start-ups where the venture capitalists played a significant role, outside board members contributed with financial experience to complement teams characterized by R&D human capital and substitute teams with financial experience.

Jain and Tabak [2008] studied the factors that influenced the choice of founder versus non-founder CEO for firms issuing IPOs. The authors developed a set of hypotheses about individual, team-, and firm-level factors and tested them on a sample of 231 IPO firms. Their findings showed that founders with output-based functional backgrounds and career experiences (i.e., marketing/sales and product R&D) were significantly more likely to assume the CEO position at IPO firms compared to founders with throughput-based functional backgrounds (i.e., accounting, process engineering, production). There was a negative relationship between founder age and probability of founder CEO at IPO. Larger founding teams were positively related to the probability of founder CEO at IPO because a larger team increased his/her bargaining power and provided firms with a deeper bench of individuals who could become CEO at IPO. A higher proportion of insiders on the board of directors increased the probability of founder CEO at IPO. With increasing independence of the TMT, increasing outside blockholder ownership, and increasing venture capitalist influence, the likelihood of founder CEO at IPO decreased.

Speckbacher and Wentges [2012] dealt with the impact of a firm's governance structure on its management control system, specifically looking at whether the involvement of founding

family members in the TMT influenced the use of performance measures in strategic management and incentive practices. Based on a sample of 304 mainly small- and medium-sized firms, the study showed that founding family involvement in the TMT was associated with the latter making less use of performance measures in its strategic target setting and incentive practices. However, the impact of family involvement was moderated by firm size; in other words, the impact of family involvement on the use of performance measures was weaker in larger firms.

Knockaert and Ucbasaran [2013] studied the role of board service in high-tech start-ups, specifically focusing on the resource endowments of the venture at the time of founding and assessing the extent to which these endowments affected the outside board's engagement in the service role. Hypotheses were derived by building on resource dependency theory and tested on a sample of 140 high-tech start-ups in Belgium. Their findings showed that R&D experience in the founding team significantly and negatively affected the board's service role, as did the degree of team heterogeneity in functional experience and the firm's technological resources. The amount of financial experience in the founding team significantly influenced the board's engagement in the service role. Finally, they found that ventures earlier in the technological development process received higher levels of support from the outside board.

Dufays and Huybrechts [2016] developed a conceptual article to model how and under which conditions the heterogeneity of the ET drove the creation of hybrid organizations. Building on theories of imprinting and institutional logics, they modelled a process through which the presence and bridging of distinct logics internalized by individual team members led to the identification of entrepreneurial opportunities, the combination of logics during the entrepreneurial process, and organization of the new venture. To allow the process to unfold, the authors identified a set of preconditions: (1) different individual team members had different socialization patterns and, therefore, internalized different institutional logics, which then led to institutional logic plurality once the team had been assembled; (2) individual team members must be open to familiarizing themselves with other logics than those they have internalized through socialization; (3) conflicts in logics should be managed in a way that does not result in the marginalization of a logic but, rather, is dealt with using strategies like compartmentalization and/or hybridization.

### *6.5.2 Key findings*

The papers reviewed in this cluster provided interesting insights into the relationships among ETs and organizational or governance issues that have implications firm-wise. First, founders and non-founders, who might be part of the ET or employed in other manners by the company, needed to reach an equilibrium related to equity distribution [Balkin & Swift, 2006]. Ownership agreements were tied to resources and skills that could be brought to the company by these key individuals and were a component of the pay mix that was provided as compensation for running the company. Given the resource constraints that characterized early-stage new ventures, the issue of return distribution and salaries might thus become crucial to determining who participates in the ET and their retention over the lifespan of the venture.

Second, the company's CEO was a key decision, including for those companies run by ETs. In this regard, one study that focused on IPO companies found that larger founding teams were positively related to the probability of founder CEO at IPO, and that team members' functional backgrounds and roles were similarly influential [Jain & Tabak, 2008].

Third, ET members could experience tensions with external equity stakeholders related to the choice of outside board members. The reviewed studies highlighted the role of complementary or substitute human capital and experience of board members with respect to the founding team [Clarysse et al., 2007; Knockaert & Ucbasaran, 2013].

Fourth, the use and management of control systems (e.g., strategic management and incentive practices) can also be impacted by the composition of ETs, such as in the instance of family founding teams [Speckbacher & Wentges, 2012].

Finally, individual-level socialization of ET members can lead to the presence of hybrid institutional logics in new ventures, which can impact the identification of entrepreneurial opportunities, the combination of logics during the entrepreneurial process, and the organization of the new venture, ultimately resulting in new hybrid organizations [Dufays & Huybrechts, 2016].

### *6.5.3 Limitations and gaps*

The small number of papers reviewed in this cluster signalled the potential for limitations and gaps that can be filled by future studies. Two of the reviewed papers were theoretical [Balkin & Swift, 2006; Dufays & Huybrechts, 2016], and have not been followed by empirical applications to date. The empirical papers were characterized by a narrow methodological focus on cross-sectional data in the European context. Two studies concentrated on the

relationship between board and ET and examined high-tech start-ups only [Clarysse et al., 2007; Knockaert & Ucbasaran, 2013]; another study considered IPO firms [Jain & Tabak, 2008]. Therefore, the generalizability of these studies might be limited by the geographical and industry focus, cross-sectional design, and type of company. In addition, empirical papers were set up as hypotheses-testing studies, and therefore missed the possibility of explaining why and how the findings were generated in the studied firms; in addition, they failed to examine contingencies that might nuance the results. We will discuss these limits in further detail in Section 8, proposing possible avenues for future research.

### ***6.6 Business processes: Entrepreneurial teams and strategies***

Our review of the literature identified 19 papers that studied ETs and strategies (details in Table A6.6). The articles contained in this group span a long period of time; the oldest was published in 1989, and the most recent ones, in 2014.

#### *6.6.1 Detailed review of papers*

Knight [1989] examined innovation in both smaller firms and large corporations, to investigate whether R&D was more efficient in smaller firms, as claimed by Cooper [1984]. Comparing a sample of 124 independent high technology entrepreneurs with 112 corporate entrepreneurs involved in developing and introducing high-tech innovations across Canada, they found that although both groups had problems in marketing their innovations, problems were more predominant for independent entrepreneurs. Their firms were usually single-product companies, and issues like commitment to the new venture, mission of the ET, entrepreneurial talents in the firm, and corporate strategy were not of great concern because all members of the ET were fully committed.

Athanassiou et al. [2002] studied how founder centrality affected the top management group members' cohesiveness, examined in terms of the firm's culture, strategic vision, and goals. They also examined how founder centrality and top management member group cohesiveness were related to performance in terms of financial, social, and family-oriented objectives. Drawing on a sample of 42 Mexican family businesses and 201 managers, they found significant relationships between a founder's centrality and the TMG's strategic behaviour.

Beckman [2006] proposed that founding team composition—in particular, members' prior company affiliations—shaped new-firm behaviours. Firms with founding teams whose

members had worked at the same company engaged in exploitation because they had “unified” perspectives and could act quickly. Conversely, founding teams whose members had worked at many different companies had unique ideas and contacts that encouraged exploration. Moreover, firms whose founding teams had both common and diverse prior-company affiliations had advantages that allowed them to grow.

Shrader and Siegel [2007] investigated whether the ET characteristics of new technology-based firms were related to competitive strategies and if the fit between the ET characteristics and strategy was related to financial performance. Based on longitudinal data from 198 high-tech ventures, they found a strong relationship between ET experience and strategy. Although there was a weak direct link between ET experience and performance, the findings suggested that the fit between strategy and experience was a key determinant of the long-term performance of high-tech ventures.

Chaganti et al. [2008] investigated differences in strategy and performance between new ventures with ethnic-immigrant members in the ET and a matched set of ventures with nonethnic-non-immigrant team members. Results showed that new ventures with an ethnic-immigrant presence tended to pursue a more aggressive prospector strategy than those with non-ethnic-non-immigrant ET members and that performance of the two groups of ventures was comparable. However, the positive effects of ethnic-immigrant presence on ETs depended on team size and average age of the members.

Kelly et al. [2008] applied social network and strategic leadership theory to an examination of founder centrality in family businesses. The authors focused on family businesses in Kenya and examined the impact of the founder's influence on ET congruence in the three strategic areas of culture, vision, and goals. They found that, in general, founder centrality was a negative predictor of ET congruence and had a negative relationship with organization performance. However, ET congruence had a positive relationship with financial performance relative to the industry and to the firm's goals, and with performance in terms of corporate social responsibility and family goals.

Cooney [2009] explored the idea that high-growth firms founded by ETs used a unique combination of organic structure and emergent strategy. Through a quantitative study of 445 software development firms in the U.S. and 219 firms in Ireland, he found that, generally, all classifications of firms in the U.S. and Ireland demonstrated a combination of organic structure and emergent strategy at the beginning of their existence. As the U.S. firms aged, they moved towards a combination of organic structure and deliberate strategy whereas Irish firms moved

towards a combination of mechanical structure and deliberate strategy that was hierarchical and organized.

Li and Li [2009] studied how TMT cognitive and affective conflict influenced entrepreneurial strategizing of new ventures. They found that cognitive conflict among TMT members had a positive relationship with entrepreneurial strategy making. Moreover, the positive relationship between cognitive conflict and entrepreneurial strategy making was moderated by dysfunctional competition and team deftness. Conflict influenced entrepreneurial strategizing in new ventures.

Matlay and Martin [2009] provided an illustrative longitudinal case study of a pan-European virtual team of 24 e-entrepreneur members to evaluate emergent collaborative and competitive strategies in small e-Businesses that were led and managed by members. The longitudinal analysis of CTVT confirmed that manual and semi-automated business processes only prevailed for a short period among the five founded e-Businesses. Successful full adoption of platforms, including Electronic Data Interchange (EDI) technologies, enabled these e-entrepreneurs to pursue "revolutionary" development patterns that significantly enhanced collaboration within the virtual team, and facilitated membership expansion and the development of a common platform.

Aabo et al. [2011] explored the influence of founder families in medium-sized manufacturing firms and investigated the impact of such influence on risk management. Using survey data and publicly available data, the authors found that two thirds of medium-sized manufacturing firms were founder-family firms in which the founder or family members were active in the ET, members of the board of directors, and shareholders of the firm. Moreover, the study found no difference between such founder family firms and other firms in terms of the use/non-use of decisions related to foreign exchange derivatives but a marked difference in terms of the extent decision. Thus, founder family firms tended not only to hedge but also to speculate more extensively than other firms.

Ding [2011] investigated the effect of founders' professional and educational background on the adoption of an open-science technology strategy and whether and how this relationship varied across different organizational environments. Using a sample of 512 young biotechnology firms, they found that firms with more Ph.D.-holding entrepreneurs on the ET had a higher probability of adopting open science. In addition, founders' educational backgrounds could mitigate the constraint of organizational environments on strategy. A crowded technological niche provided a more challenging environment for firms to implement

open science. The deterrent effect, however, of such a high-risk environment was smaller among firms founded by more Ph.D.-holding entrepreneurs. Moreover, the founders' educational background had a stronger effect on open science technology strategy in an institutional environment in which open science had yet to become the industry norm.

Hart and Acs [2011] reported the results of a national survey that estimated the rate of immigrant entrepreneurship in a representative sample of firms in high-technology industries in the U.S. They compared high-impact, high-tech firms that reported at least one immigrant in the ET with those that had been founded by native-born entrepreneurs, finding that the two groups of firms were similar with respect to economic and technological performance.

Zolin et al. [2011] investigated the impact of adding previously well-known people into the ET on the human resource flexibility of new ventures. Data collected from German founding entrepreneurs in technology-oriented, incubator-based firms showed that a strong tie joining the ET increased the founder's ability to modify ET members' work roles but reduced this ability when team exit was required. Hence, strong ties both increased and reduced human resource flexibility.

McGowan and Cooper [2012] explored the role of university business plan competitions in stimulating entrepreneurial activity and technology transfer in order to understand how such teams developed commercially robust ventures, given that most had little or no commercial experience. Based on analysis of the top 10 ventures from a business plan competition, they explored the characteristics of the ETs, their choice of product/service offerings, and aspects of the markets that they targeted.

Leung, Foo, and Chaturvedi [2013] examined how characteristics of new-venture ETs influenced internal consistency and distinctiveness of human resources' values at the early-growth stage of the firm. They found that shared organizational experience among ET members positively predicted internal consistency and distinctiveness of the human resource values, whereas functional diversity positively predicted distinctiveness of these values. Contrary to the authors' prediction, when the levels of prior shared organizational experience and functional diversity were high, positive effects turned negative, indicating more complex interaction effects between the two ET characteristics.

Almandoz [2014] explored the influence of founders' institutional logics, specifically financial and community logics, on the degree of risk taking in the organizations they founded. Through archival data from 225 local banks and interviews with 73 bank founders, they found that these logics influenced local bank founders because some saw the bank as an investment

vehicle whereas others were driven to meet community needs. Despite demands from regulators for uniformity of operations, variation existed in banks' risk strategies that seemed connected to values and taken-for-granted predispositions inherent in such institutional logics.

Arrighetti et al. [2014] provided an understanding of the variables that affected the recourse to solutions of multicultural hybridism--that is, reliance on inter-ethnic managerial or labour resources to carry out firms' activities--in the ETs and personnel of immigrant-owned firms. Through interviews of 130 immigrant entrepreneurs in Italy, the results showed that multicultural hybridism was mainly driven by the size of the founding team, the businesses' maturity, the entrepreneurs' host-country language competence, and entrepreneurs' motivation by individual goals rather than community goals.

Colombo et al. [2014] examined the relation between changes in employment and changes in sales for entrepreneurial ventures with and without family ownership. Results from a sample of Italian entrepreneurial ventures in high-tech industries supported the argument that this positive relation was weaker for entrepreneurial ventures with family ownership. Indeed, the goal of preserving socio-emotional wealth made these firms more reluctant to hire (fire) employees in correspondence with an increase (decrease) in sales than their counterparts without family ownership.

Saemundsson and Candi [2014] investigated how the interaction between environmental conditions and ET composition influenced new technology-based firms to select exploration or exploitation as an innovation strategy. Data collected on 145 new technology-based firms revealed that ETs of individuals who had dissimilar backgrounds were more likely to adapt their innovation strategy to the characteristics of the environment than were ETs of individuals with similar backgrounds. Conversely, ETs consisting of individuals with similar backgrounds were more likely to continue to follow their preferred strategy. However, as competitive intensity or environmental dynamism increased, such teams were likely to deviate from their preferred strategy.

### *6.6.2 Key findings*

We highlight some key findings from the review of the group of papers dealing with ETs and strategies. First, a substantive portion of the papers investigated the factors determining firms' strategies or strategic alternatives, such as the role of the founding team composition in the exploration–exploitation dichotomy [Beckmann, 2006; Saemundsson & Candi, 2014], or in the degree of risk-taking [Almandoz, 2014]. Except for Cooney [2009], who found that high-growth ETs tended to use a combination of (organic) structure to put in place an emergent

strategy, this group of papers delved into ET composition and characteristics and their relationship to performance or choices over strategic behaviours; high levels of cognitive conflict in the TMT were positively related to entrepreneurial strategy making [Li & Li, 2009] while ETs' members' background, such as experience [Schrader & Siegel, 2007] or educational and professional background [Ding, 2011], was strongly correlated with more or less open approaches to strategy or to different levels of financial performance. ET composition and origins have been scrutinized also with regards to family ownership or prevalence among ET members: family founders' firms impacted choices related to risk management and tended to make use of speculation on derivatives more extensively than did non-family firms [Aabo et al., 2011]; family ownership had the effect of weakening the positive relationship between changes in sales and changes in employment of entrepreneurial ventures [Colombo et al., 2014]. Interestingly, this result has been interpreted as consistent with the goal of preserving socio-emotional wealth, which made these firms more reluctant to hire or fire employees in correspondence with an increase or decrease in sales than were their counterparts without family ownership [Colombo et al., 2014]. A second finding about ET functioning and internal dynamics was related to group dynamics potentially leading to more effective strategies or positive performances. In this regard, the most interesting results were those exploring the influence of the founder centrality in enhancing the top management group cohesiveness [Athanassiou et al., 2002] or ET congruence [Kelly et al., 2008] and the impact of social capital on the flexibility potentially achieved by ETs [Zolin et al., 2011]. Third, research has studied the effects of the presence of immigrants on the ET on the type of strategy pursued [Chaganti et al., 2008] and performance [Hart and Acs, 2011]; compared to ETs with non-immigrant members, those with immigrant entrepreneurs established a more aggressive prospector strategy, often relying on multicultural hybridism to achieve their ends [Arrighetti et al., 2014], but did not achieve significantly better results in terms of economic and technological performance.

### *6.6.3 Limitations and gaps*

Our review showed that only a limited number of papers have investigated the topic of ETs and strategies. In this regard, we nevertheless acknowledge that the methodology that we followed to select articles, focusing on selected keywords, could have limited our review to papers specifically referring to "ETs" or "teams in new ventures," missing other papers dealing, for instance, with TMTs in born global or international ventures. The major limits of this thematic cluster of papers were as follows. First, strategies were classified according to various

perspectives and research streams, thus hindering the development of comprehensive and cumulative models linking ET composition and realized strategies. Second, such heterogeneity also considered the composition of the ET which referred to different classifications, such as family members or not, immigrant entrepreneurs or native ones, and so forth. Third, many papers were concerned with the composition of the ET and looked at the characteristics of the ego-networks of the ET members; the implication was that, not only are the outreach networks of an ET important but, also, the internal ties and the position of the ET members in the social space composed by the ties of the ET itself. In Section 8, we further discussed these gaps and proposed developmental ideas to fill them.

### ***6.7 Business processes: Entrepreneurial teams and opportunity identification***

Our review of the literature identified three papers that dealt with ETs and opportunities (details in Table A6.7). They were recent papers; all 3 were published in either 2013 or 2014.

#### *6.7.1 Detailed review of papers*

Gruber et al. [2013] studied how the ET experience and knowledge sourcing affected the number and variety of market entry opportunities that comprised the market entry choice set. Data from founders of 496 technology ventures revealed that teams with more diverse industry experience and external knowledge-sourcing relationships identified not only a larger number of but also more varied (distant) market opportunities. However, the variety of the opportunities identified depended on the founders' technological expertise whereas technological expertise was less relevant in identification of the number of opportunities. They also showed that the extent and nature of the firm's pre-entry opportunity set had a significant effect on the likelihood of subsequent firm diversification.

Lehner [2014] studied how the social capital of the ET influenced the “nexus” of opportunity in social causes through the constant exchange of ideas with the crowd, which led to norm-value pairs between investors and entrepreneurs. Based on 36 cases and using the sociological perspectives of Bourdieu's four forms of capital, they found that the transformation of social capital into economic capital was facilitated by a processes of identification and control based on legitimization and constant exchange rather than formal relationships. Therefore, social capital was important for venture success, but actual resource exchange and transformation into economic capital were highly moderated by the cultural and symbolic capital built up during the process.

Lim et al. [2013] theorized about the antecedents of ET composition between founders and investors and the effect on the quality of the business opportunities identified. They developed a theoretical model of how such fault lines in new venture teams were structured by members of the ET.

### *6.7.2 Key findings*

Findings from the group of studies concerned with the relationship between ETs and opportunities were scant given the paucity of articles on the topic. Moreover, one of the three articles was a conceptual paper on the antecedents of the fault line separating founders and investors on new venture teams and how this affected the business opportunities identified [Lim et al., 2013]. Some of the key insights are as follows. First, some ET characteristics were important for explaining how market opportunities were identified prior to the first market entry: diverse industry experience and external knowledge sourcing relationships identified not only a larger number of opportunities but, in particular, more distant market opportunities; technological expertise was more important for the variety rather than for the number of opportunities [Gruber et al., 2013]. Second, the ET social capital was important for balancing the norm-value pair between investors and entrepreneurs and leading to a “breach” in the nexus between the entrepreneur and the opportunity. As a consequence, the exchange of resources different from social and economic capital--such as ideas and symbolic capital--was another important factor for understanding when crowd funding was beneficial for social entrepreneurship [Lehner, 2014].

### *6.7.3 Limitations and gaps*

Our review showed that only a small number of papers have investigated the topic of ETs and opportunities. The major limit of the studies in this thematic cluster was the paucity of frameworks used to comprehend the different conceptual perspectives on opportunities. Indeed, what was suggested by the papers in this cluster was that the existence of cognitive and experiential antecedents to opportunity identification for ETs. Such antecedents may be related to the cognitive characteristics within the team, to the team’s social networks, to team competences and capabilities, and, finally, to team learning. We presented possible research avenues to address the limits in this stream of studies in Section 8.

## **7. In-depth review of “Outcomes” thematic clusters**

### ***7.1 Strategic outcomes: Entrepreneurial teams and new firm creation***

Our review highlighted six papers that linked ETs with the start-up of new ventures (details in Table A7.1). These were recent papers published in or after 2010.

#### ***7.1.1 Detailed review of papers***

Müller [2010] investigated the factors that determine time lags between the founder leaving academia and establishing an academic spin-off. Drawing on a sample of 1,810 German academic spin-offs, a duration analysis showed that a longer time lag was caused by the necessity of assembling complementary skills, either via learning by a single founder or by searching for suitable team members. In general, the time lag was considerably shorter if the venture had been established by a team of founders, not only because of complementary skills acquisition but also because of pooling of financial resources. However, spin-offs assembled with founders with a single academic focus area were established faster than others (e.g., those with founders having engineering and management background), potentially due to the higher search efforts required. In addition, new academic spin-offs were established earlier in time if high-level technology transfer had occurred (e.g., in research-transfer spin-offs), if the founders had access to university infrastructure, or if they received informal support from former colleagues.

Paré et al. [2011] studied how the human and social capital of founders affected the conception of the enterprise project and, in particular, the degree of ambition and realism of the project. They used 125 business plans from newly established companies to test a set of hypotheses on the effects of team-level human capital (number of founders, gender, age, level and nature of education, functional experience, prior director expertise, serial entrepreneurship) and social capital (alumni network). The results showed that the functional background of team members, the presence of a former director or a serial entrepreneur on the team, and the social resources of the team had positively influenced the results of the project. The proportion of women on the team instead had a negative influence on the project’s goals. The size of the ET and social capital were positively correlated with the realism of the project whereas previous functional background, education, and the proportion of women on the team had a negative effect.

Almandoz [2012] developed a theoretical framework to explain how ET members’ institutional embeddedness, and the related institutional logics, affected the likelihood of new-

venture-team establishment. In particular, the author studied the embeddedness of founders in financial and community institutions for founders of new banks, testing a set of hypotheses using data from 309 applications from founding groups attempting to start banks in the U.S. and additional qualitative evidence. The findings suggested that founding teams with higher proportions of directors embedded in the financial logic were less likely to succeed in establishing a bank whereas those embedded in the community logic were more likely to succeed, thanks to more commitment and capabilities in attracting local support. High embeddedness in both logics simultaneously had a positive effect on the likelihood of establishment in stable economic periods, but a negative effect in turbulent periods, potentially because of the existence of factions in the founding teams.

Lalonde [2013] investigated the influence of Arab culture in the process of starting a new venture, by studying the unique perspective of a multiethnic ET in Canada. The paper suggested that several culturally driven behaviours (such as bluff and dignity, the importance of relationships, group solidarity, the logic of reciprocity, short-term vision and cost management, the family logic, and the influence of religion preferences) affected the ET. While the influence of Arab culture on enterprise creation was similar to its influence on management, there were some differences with regard to defence of dignity, the presence of solidarity and fraternity behaviours, centralized decision-making due to paternalism, attention to cost management, and symbolic adoption by family for family firms.

Durda and Krajčák [2016] described and analysed the role of social capital and social networks in the founding, creation, and development of technology start-ups. Drawing on four case studies in the Czech Republic, the findings showed that social networks were key for the development and creation of start-ups: in particular, for creating the team, recruiting the staff, consulting, creating a network of partners, raising funds, and building legitimacy. With regard to team building, both strong and weak ties (e.g., friendships or links to science and technology parks) were exploited by entrepreneurs.

Lukeš and Zouhar [2016] examined the factors that influenced business early-stage discontinuance in the Czech Republic, comparing them with those in Western countries. Drawing on a longitudinal survey-based dataset, the authors built on hubris theory of entrepreneurship and theory of performance thresholds. The results showed that team members with higher industry experience were more likely to discontinue from nascent entrepreneurship, unlike results from research carried out in Western countries. Solo entrepreneurs with high

growth expectations were more likely to discontinue from their efforts whereas, for teams, the effect was opposite (i.e., disbanded more often when plans for a new venture were not particularly ambitious).

### *7.1.2 Key findings*

The reviewed studies pointed to the relevance of ETs in the decisions and processes leading to new-venture creation and to the existence of some key differences compared to solo entrepreneurial ventures. The presence of ETs can impact start-up either in terms of the generation of the founding event (i.e., establishing/not establishing a company) (e.g., Almandoz [2012]), the ambition and realism of the entrepreneurial project (e.g., Paré et al. [2011]), or the timing to foundation (e.g., Müller [2010]), but also decisions to discontinue the business (e.g., Lukeš & Zouhar [2016]).

Two further insights qualify this general finding. First, the composition of the team (e.g., with regard to functional background, gender, work experience, ethnicity) was important in determining the start-up outcomes. For instance, academic start-ups were established more quickly if teams were assembled by members with the same academic background, rather than complementary or different backgrounds [Müller, 2010]. Teams composed by mainly men, former directors, serial entrepreneurs, and individuals with wider functional backgrounds produced more ambitious entrepreneurial projects; larger and socially well connected teams produced more realistic projects than teams incorporating individuals with wider functional backgrounds and higher education levels, and comprising mainly women [Paré et al., 2011]. The institutional embeddedness of individual team members, which manifested in the networks and received resources, impacted the establishment success of new companies, also depending on environmental conditions [e.g., Almandoz, 2012]. The cultural composition of the ET was also important in influencing internal decision-making and external company representations and networking [e.g., Lalonde, 2013]. Second, not only did the compositional characteristics of the team matter for business start-up but, also, its social connections (e.g., Paré et al. [2011]; Durda & Krajčík [2016]).

### *7.1.3 Limitations and gaps*

The relationship between ETs and start-up event and processes has been analysed in a limited number of papers. Because start-up is a temporally identified event in companies' lives, we see this stream of research as closely connected to the one dealing with team development and

turnover co-occurring with business change or evolution. Dealing with the start-up event poses methodological challenges both in terms of accounting for the left-censoring bias, and measuring the start-up dimension of interest (e.g., timing, likelihood, ambition of start-up). This is important because different methodological approaches will lead to different results and therefore potentially make studies not comparable. The reviewed studies have been mainly carried out in Europe and Northern America; thus, results might not be generalizable to other geographical contexts, presenting different institutional settings that can have an impact on the described patterns. We will further elaborate on these limits in Section 8, highlighting possible ways to move the literature forward.

## ***7.2 Strategic outcomes: Entrepreneurial teams and legitimacy***

Only two papers deal with the topic of legitimacy connected to ETs (details in Table A7.2), both published in 2013.

### ***7.2.1 Detailed review of papers***

The paper by Middleton [2013] examined how legitimacy as an entrepreneur was gained in relation to others during the nascent phase. To this end, teams creating two student-based companies were studied over a 12-month incubation period through participant observation, documentation, and interviews. The environment was that of a technology transfer office where teams of students were assembled to exploit potential business opportunities from idea providers. The author identified how positioning contributed to the nascent entrepreneurs gaining legitimacy by negotiating rights and duties not only with their role-set but with each other as well. At the beginning, students used conforming strategies to fit into the expectation of the “entrepreneur” role, pragmatically conforming to demands of external audiences and other team members and cognitively fitting to models of the entrepreneurial role. At the beginning of the process, the teams also adopted selecting strategies related to the business idea. Finally, as the teams gained experience and control over the project, they utilized their control position to negotiate rights and duties and thus manipulate their roles in order to gain legitimacy as entrepreneurs. Nascent entrepreneurs use pragmatic, moral, and cognitive behaviour as they apply these three strategies to gain legitimacy.

Mittiness et al. [2013] proposed a model to explain how novice entrepreneurs can establish and build the cognitive legitimacy of their emerging organizations. They theorized

that the establishment of stakeholders' cognitive legitimacy can be based on the prestige (i.e., social rank or membership in exclusive social networks) of their new venture team and advisory board members; ultimately, the prestige of the new venture team was also related to the advisory board prestige. In addition, they proposed that advisory board prestige positively moderated the relationship between new-venture-team prestige and cognitive legitimacy; and that the novelty of the business idea positively moderated the relationship between prestige and cognitive legitimacy. Their model foresaw dynamic processes in that they proposed that the process of establishing cognitive legitimacy was reinforcing over time, with increasing prestige over time and gained cognitive legitimacy positively looping to increase new-venture-team and advisory-board prestige.

### *7.2.2 Key findings*

The two papers illustrated different aspects of the process through which ETs can gain legitimacy for themselves or their ventures. Describing the dynamic nature of legitimacy building, they suggested that characteristics and networks of ETs influenced legitimacy [Mitteness et al., 2013], and that members of ETs created legitimacy by adopting strategies in respect to stakeholders' and other team members' expectations like conforming, selecting, and manipulating strategies, or constructing, narrating, and displaying identities [Middleton, 2013].

### *7.2.3 Limitations and gaps*

Our review highlighted a dearth of research on the important topic of legitimacy construction by ETs. The two reviewed studies can only be considered a pioneering effort in the investigation of this topic, highlighting many limitations and gaps that characterize our knowledge in this area. For instance, the reviewed studies still lack an understanding of multi-level factors (e.g., institutional-, organizational-, team-, and individual-level) that impact the formation of legitimacy by ETs. Whereas they propose a dynamic view of these processes, the impact of time at the individual (e.g., personal life events), organizational (e.g., business life cycle), and environmental (e.g., history) levels could be further nuanced. Finally, given the paucity of research on this topic, we lack a more complete understanding of contextual (e.g., region, industry, type of company) effects. In Section 8, we will examine these gaps to elaborate on proposals for future research.

### ***7.3 Strategic outcomes: Entrepreneurial teams and fundraising***

Our review of the literature identified 32 papers dealing with the relationship between ETs and investors, such as business angels (BAs), venture capitalists (VCs), and private equity (PE) as detailed in Table A7.3. There is a long tradition on the topic in entrepreneurship research, with the first studies dating back to the 1980s. The interest, however, has been constant over time, and the majority of these were published in the last decade (2007-2017).

#### *7.3.1 Detailed review of papers*

MacMillan et al. [1985] investigated how VCs evaluate their potential investments: in particular, the criteria considered during their evaluation process. Through a questionnaire to 100 VCs, the authors found that the characteristics of the team (in particular, the experience and personalities of the team members) played a critical role in the venture's ability to attract VC financing. More precisely, they reported the importance of the 'jockey' (the entrepreneur), and not the 'horse' (the product) for the investors' selection process.

In a similar vein, Nancy et al. [1988] profiled a group of BAs on the east coast of the United States. The findings suggest that, like VCs, BAs seriously weigh the ETs' ability to manage the venture as key investment criteria.

Rea [1989] maintained the interest in the investigation of the main criteria used by investors in their investment decisions but shifted the focus from due diligence to the negotiation stage. The author showed that team factors were less important than business factors, such as market opportunity for rapid growth, in this phase. More precisely, even if a qualified team was important, its completeness was not a requirement in the start-up stage.

In line with previous studies, Hall and Hofer [1993], through verbal protocol analysis and interviews with 16 VCs, analysed how VCs screened and assessed their potential business proposals. The main contribution of this work was that the various investment phases that VCs focus on required different decision criteria. More precisely, the process can be divided into two steps: the first was very rapid and aimed to make a short list of potential investments to be assessed more carefully in a second stage. An interesting finding was that, contrary to previous studies, VCs did not attach importance ETs in either stage.

Barney et al. [1996] analysed how new ventures evaluated the benefits provided by VCs in their managerial assistance during the entire investment process. The extent to which ETs positively assessed the inputs provided by VCs depended on the characteristics of the team

itself. In particular, when team members had industry experience and long tenure, they did not welcome business advice from their investors. However, this evaluation of VC assistance was not related to new-venture performance.

Muzyka et al. [1996] investigated the importance of “human factors” in VC investment decisions, considering the European context instead of the well-studied US context, and assuming a multiple hierarchy of decision criteria across different types of VCs. The authors confirmed the importance given by VCs to team characteristics, in addition to reasonable financial and product-market characteristics. In this case, thus, it appears that good financials depended on the correct management team and a reasonable idea.

Higashide and Birley [2002] investigated cognitive and affective conflict in organizational goals and policy decisions during the post-investment relationship between the VC and the ET and related them to performance. The findings suggested a positive relationship between conflict as disagreement and venture performance, but a negative relationship in cases of conflict as personal friction. These relations were particularly strong when the conflict related to organizational goals rather than to policy decisions.

Sørheim [2005] investigated the benefits provided by BAs to new ventures as facilitators for further finance. The analysis of 5 case studies in Norway suggested that BAs do not all provide the same benefits. Only experienced and active BAs can support ETs in their search for additional financing. Under these circumstances, they can be considered part of the ET and able to reduce the “liability of newness” for the entrepreneurial firm.

Through a conjoint experiment design, Franke et al. [2006] tested the hypothesis that the higher the similarity between the profile of a VC and the profile of the ET of a start-up, the more favourable the VC’s evaluation will be. In particular, the 51 VCs analysed in Munich, Berlin, and Vienna revealed that similarity in terms of prior experience and educational field were particularly relevant. On the other hand, similarity biases in terms of age, experience in leading teams, and level of academic education did not occur.

Hsu [2007] investigated the effect of some entrepreneurial characteristics (related to organizational abilities) on the likelihood of obtaining VC financing and on the level of VC’s evaluation. Through a survey of 149 start-ups that applied to the educational program at MIT known as “E-Lab,” the author found that measures of human, social, and organizational capital were positively related to venture valuation.

Gimmon [2008], assuming the investor perspective, performed a meta-analysis of 27 studies to investigate whether and how VCs and BAs considered teamwork in their investment decisions. Even if the analysis of previous studies suggested teamwork as one of the most important investment criteria, from the interviews with investors, this factor did not help investors to screen among investment opportunities.

Makela and Maula [2008] contributed to the literature on cross-border VC syndication by investigating the role of local investors in increasing the venture's cross-border investment readiness through advice to operational management, development of contacts, and knowledge of the local market. In this work, the ET's role was analysed in terms of moderating effect. The results based on a case study analysis in Finland suggested that the positive role of the local investor was less important when the ET was highly experienced.

Franke et al. [2008] provided a fine-grained contribution to the literature on VC investment criteria by investigating the importance of different parameter values for specific team characteristics. This new approach helped to determine the trade-offs among different team characteristics and the level of spread among team members. Furthermore, the author investigated the role of VC experience in the importance attached to team evaluation criteria. The results, based on a conjoint experiment technique, suggested that industry and leadership experience and educational background were the most important team characteristics. The first two did not need to be owned by all the team members and heterogeneous teams were more valuable. From the VC side, team cohesion played a more critical role for experienced VCs whereas novice VCs tended to focus more on individual-level characteristics.

The paper by Dautzenberg and Reger [2010] developed a process model to evaluate ETs by venture capital in new technology-based companies. The authors carried out a literature review of team evaluation highlighting the relevance of individual attributes of team members, team compositional attributes, and the relationship between ETs and VCs. They evaluated 799 requests for funding and 95 existing investments carried out by one of the most important public German VCs. Findings showed that the poor quality of the business plan and unrealistic financial planning were exclusion criteria at the beginning of the process whereas insufficient management know-how, doubts about the founders, and single-entrepreneur teams were more relevant during the decision process. Nearly 90% of positively evaluated companies were founded by a team. The factors with the most significant impact during the investment request and initial examination were international experience, market experience, professional

experience in natural/technical sciences, leadership positions in previous employment, social capital of team members, cognitive attributes such as problem-solving skills, presentation skills, and attention to details; during the due diligence and investment decision phase, these were cognitive attributes and team internal processes of communication, interaction, and social integration.

In a European context, Knockaert et al. [2010] investigated how characteristics of the VC investors explained differences in their evaluation behaviours. The authors, through a conjoint analysis, found that VCs can be clustered into three groups depending on the importance they attach to some investment criteria in respect to others. Financial investors were focused on the financial returns set out in the business plans they reviewed. Technology investors balanced more criteria, such as attractiveness of the business idea, appropriability of the technology, and existence of contacts with members of the ET. Finally, people investors focused more on human factors, such as the leadership ability of the entrepreneur and the complementarity and experience of the team.

Groh and Liechtenstein [2011] analysed whether and how investors' decisions to allocate funds to VC and PE partnerships in the Central Eastern Europe region depended on specific parameters: economic activity, state of the capital market, taxation, investor protection, human and social environments, and entrepreneurial opportunities. They suggested that team independence and the match of fund strategies with the teams' backgrounds explained institutional investors' allocation decisions.

Munari and Toschi [2011] analysed whether VC firms had a bias against investment in academic spin-offs. Based on data from the micro- and nanotechnology sector in the UK, the authors suggested that VCs did not avoid financing university-based companies in favour of industrial companies. However, among the pool of academic spin-offs, those with strong technological resources and commercial capabilities were more able to attract VC funding.

Miloud et al. [2012] empirically studied the factors affecting start-up valuation by VCs. In addition to product and industry elements, the main contribution of this paper was an analysis of founders' characteristics at both individual and TMT levels. The results suggested that VCs valued a new venture significantly higher if the quality of the founder and the TMT, in terms of industry, managerial, and entrepreneurial experience, was high. Furthermore, the same pattern occurred if the venture had been founded by a team instead of a single individual and if the team was complete.

Broughman and Fried [2013] illuminated an unexplored topic: how VCs arranged to sell start-ups in trade sales, even if the ET was against this exit option. VCs generally used sale bonuses to induce executives to cooperate in selling their firms. In other cases, the authors observed the use of threats to founders who refused to cooperate.

Knockaert and Vanacker [2013] contributed to the literature on the analysis of VC investment criteria by linking selection behaviours of investors to their involvement in value-adding activities. The authors further developed a previous work splitting VCs among three different groups on the basis of the emphasis given to specific selection criteria (i.e., financial investors, people investors, technology investors). Based on self-efficacy and collective effort theories and on quantitative analyses on a sample of 68 European VC-backed companies, the findings suggested that people VCs (focused on ET characteristics) and financial investors (focused on financial criteria) were less involved in value-adding activities compared to VCs focused more on technological criteria.

Portmann and Mlambo [2013] focused their attention on a non-explored geographical area in the field of VC--South Africa--and, through a survey exercise, collected data on selection criteria adopted by VCs and PEs. The focus of the paper was twofold: it investigated (a) the differences between VCs and PEs in the criteria used in evaluating new investment opportunities and (b) whether these criteria changed over time. The results confirmed previous evidence that criteria related to the quality of management or the entrepreneur were the most important for both VCs and PEs, and they tended to be constant from a longitudinal perspective.

Carlos Nunes et al. [2014] continued the tradition of analysis of the most important investment criteria used by VCs with a focus on the Portuguese context. The study confirmed that the personality and experience of the entrepreneur and of the management team were the most valued criteria. The authors also differentiated among types of VCs, distinguishing between international versus domestic VCs and VCs with a majority of private share capital versus VCs with a majority of public share capital. Domestic VCs and those with more private-share capital emphasized human capital characteristics in their evaluations. In terms of personality, the most important criteria were honesty, integrity, and long-term vision; for concerns, experience, knowledge of the industry, and market were the most relevant.

Vanacker et al. [2014] focused on entrepreneurs characterized by strong technical expertise but weak business experience (i.e., scientists) to investigate the formation of early investment ties. The authors suggested that these entrepreneurs tended to limit their search for

prospective VC investors within their institutional context because of institutional norms, bounded rationality, and informational asymmetries. Furthermore, instead of acting in a passive role, scientific entrepreneurs were able to influence investment-tie formation. This was particularly true for experienced VCs because they had the ability to better professionalize the entrepreneurs who, in turn, would select potential investors based on a more intentional management.

Vogel et al. [2014] considered different types of team characteristics by distinguishing between task-oriented (i.e., education, leadership experience) and relations-oriented (i.e., gender, nationality) and aggregating them into a comprehensive index of diversity to investigate their impact on VCs' willingness to invest. Adopting an experimental design and econometric analyses, the findings suggested that team diversity in terms of educational background and leadership experience was positively related to willingness to invest whereas the postulated negative effects of gender and national diversity were not significant.

Becker-Blease and Sohl [2015] analysed which aspects of a venture (activities, structures, and outcomes) were associated with legitimacy judgments by potential BAs. Based on a sample of 176 new venture proposals, the authors found that the quality of the TMT, the presence of advisors and the stage of product development (derived by the narrative of the documents) were favourable factors that increased the likelihood of being financed by these investors.

Murnieks et al. [2015] analysed whether the personality of the focal entrepreneur influenced how BAs evaluated the strength of the management team. Based on data gathered through a survey to a BA organization in California, the main message from this study was that personality matters. Through his/her personality, measured through the Big-Five personality instrument developed by Saucier [1994] (which was composed of 40 unipolar adjective markers), the focal entrepreneur had a strong influence on the value that the BA assigned to the whole management team.

Appelhoff et al. [2016] analysed conflict between the ET and investors. The authors suggested that, depending on the decision-making style adopted by the founding team, the level of task-conflict with the investors would be vary. In the presence of a causal decision-making principle, the level of conflict perceived was lower. When, instead, the entrepreneur adopted to the effectual pattern, the expectations were more often misaligned with the investors' expectations.

Collewaert and Sapienza [2016] studied how task conflicts between BAs and entrepreneurs impacted venture innovativeness. Using survey data from a sample of 54 teams of BAs and entrepreneurs in Belgium and California, the authors found a negative relationship between task conflict and innovation. Furthermore, this relation was more evident when the teams had lower levels of agreement on priorities, when there was less diversity of entrepreneurial experience among team members, and when the teams communicated more frequently.

Huynh [2016] focused his attention on the link between ETs and fundraising in the context of academic spin-offs by investigating whether social networks and capabilities of the founding team acted as useful signals of value to attract VC financing. Exploiting a sample of academic spin-offs in the Spanish context, the authors found that social networks allowed the spin-off to improve its capabilities, which in turn increased fundraising ability. In terms of capabilities, the authors considered technology, strategy, human capital, organizational viability and commercial resources. For the measure of human capital, they adopted a four-item measurement that evaluated industrial, managerial, and entrepreneurial experience.

Li et al. [2016]--exploiting the Elaboration Likelihood Model, a dual process theory describing how attitudes form and change--suggested that entrepreneurs' fundraising ability in an equity crowdfunding context in China (measured in terms of fundraising speed, number of followers, and ratio of fundraising completion) was determined by two complementary routes. The central route was defined by ET information (i.e., working age, staff number, number of board members, and ratio of full-time to part-time workers) whereas the peripheral route included lead investors, project information, and social network.

Kuschel and Lepeley [2016] explored the role of women as leaders in copreneurial ventures (i.e., companies founded by a male and female couple) and investigated whether these ventures were growth-oriented or merely met women's needs for a standard of living. The authors investigated, through a grounded theory approach, the skills of the copreneurial team and the growth orientation of the team. Accordingly, with the literature on technology ventures, the results confirmed that start-ups with heterogeneous (functional, educational specialty, educational level, and skills) TMTs performed better and were growth-oriented. Furthermore, the ability to attract equity funding was strictly related to the ability to show investors collaboration between husband and wife in order to ensure coordination among the team members.

Finally, Zerwas and Von Korflesch [2016] defined a conceptual model of entrepreneurial reputation from a VC's perspective. They suggested that entrepreneurial reputation differed to a great extent from corporate reputation and could be modelled over the following drivers: entrepreneur/team, market/industry, products/services, innovation, and finance. For what concerned the first driver, the presence of a balanced team, personality (motivation, commitment, tenacity, ability to handle risk, and ability to present and discuss) and experience (managerial, leadership, industry, and previous experience) were key elements.

### *7.3.2 Key findings*

The review of the link between ETs and investors allowed us to identify some important results.

The most widely researched topic investigated by researchers was the analysis of the main investment criteria adopted by investors to decide whether to invest in a venture. This topic has been investigated by considering different aspects of human capital, such as leadership, personal skills, industry and managerial experience, quality, reputation, and education. In some cases, these attributes referred to the focal entrepreneur (i.e., Murnieks et al. [2015]) whereas, in others, the team was the level of analysis (i.e., Miloud et al. [2012]), so that an emphasis on the level of diversity along these directions and completeness of the team were also investigated (Knockaert et al. [2010]; Miloud et al. [2012]; Vogel et al. [2014]). Considering the topic from a general point view, the extant studies agreed on the importance of human capital as factor to exploit in order to attract the attention of possible investors. However, when the characteristics of the team were analysed under a finer-grain research design, some differences emerged.

There is not consensus about which team VCs value most. Thus, studies focused exclusively on team-level factors [Hsu, 2007; Franke et al., 2008] should be distinguished from studies investigating a broader framework where other characteristics of the new ventures are taken into consideration (i.e., Rea [1989]; Hall and Hofer [1993]; Miloud et al. [2012]; Knockaert and Vanacker [2013]). In the first case, the goal is to reveal utility trade-offs between team characteristics. In the latter case, instead, the aim is to rank different elements, understanding how human resources are positioned in respect to other factors like product, market, and technology. However, also within the same group of studies, there were heterogeneous findings. Previous managerial experience and business experience were regularly among the most important factors that VCs sought (i.e., Franke et al. [2008]; Miloud et al. [2012]; Knockaert et al. [2010]). However, unobservable skills, like personality,

leadership, tenacity, and commitment were also critical determinants of VC engagement (MacMillan et al. [1985]; Groh and Liechtenstein [2011]; Murnieks et al. [2015]; Zerwas and Von Korflesch [2016]). At the same time, there was consensus on the importance of having a balanced team with heterogeneous competences and capabilities (Miloud et al. [2012]; Vogel et al. [2014]). When compared to other company-level factors, team-level characteristics were generally among the most important (MacMillan et al. [1985]; Barney et al. [1996]; Muzyka et al. [1996]), However, in some studies, they were less important than business factors [Rea, 1989] or insignificant (Hall and Hofer [1993]; Gimmon [2008]).

Besides the identification of the most valued criteria, some studies investigated whether there were differences depending on the characteristics of the investors. In this case, there was unanimous agreement about the role played by the experience of the investors and their investment focus [Franke et al., 2008; Knockaert et al., 2010; Vanacker et al., 2014]. A good synthesis of this exercise was the categorization of VCs depending on the emphasis given to specific selection criteria [Knockaert & Vanacker, 2013]. Regarding investors, another important difference was the type of investor analysed, mainly distinguishing between VCs and business angels [Sørheim, 2005; Becker-Blease & Sohl, 2015; Collewaert and Sapienza, 2016]. Because these equity investors were characterized by different decision-making processes, it was expected that they would have attached different importance to investment criteria: in particular, for team-level factors. However, no strong differences were identified by the extant literature [Nancy et al., 1988].

Also, some papers considered different outcomes as functions of ET characteristics: probability of obtaining financing [MacMillan et al., 1985; Haar et al., 1988; Muzyka et al., 1996; Gimmon, 2008; Knockaert et al., 2010; Groh & Liechtenstein, 2011; Munari and Toschi, 2011; Portmann and Mlambo, 2013], estimation of the amount received [Hall & Hofer, 2013; Franke et al., 2008], legitimacy [Becker-Blease & Sohl, 2015], and negotiation success [Rea, 1989]. Regardless of the outcome analysed, these studies provided non-unanimous findings regarding team characteristics as relevant factors, as previously pointed out.

### *7.3.3 Limitations and gaps*

Although the rich literature on the topic has provided interesting insights, there is still room for improvement as shown by the main limitations individuated by the review, as we will further discuss in Section 8.

Most of the studies were developed in large VC markets, especially the U.S. (i.e., MacMillan et al. [1985]; Haar et al. [1988]; Rea [1989]; Hall and Hofer [1993]) and Europe (i.e., Muzyka et al. [1996]; Knockaert et al. [2010]; Groh and Liechtenstein [2011]). In other cases, only one country was investigated [Makela & Maula, 2008; Portmann & Mlambo, 2013; Carlos Nunes et al., 2014], thus, providing limited possibilities of generalizing results across geographical areas. However, given the existence of peculiarities among different VC markets (driven by different institutional logics, exposed to different dynamics and levels of competition among investors and companies), an analysis of how external factors impact the decision-making process of investors could be useful.

The works analysed in this review showed a high heterogeneity in the operationalization of team-level factors. In the majority of cases, simple dummy variables were considered, especially if the unit of analysis was the focal entrepreneur. In a few cases, more sophisticated indices aggregating more variables were used. However, the variety of human resource characteristics requires a higher level of sophistication in the operationalization of the constructs. Furthermore, few papers adopt a team-level perspective, as part of which the characteristics of all ET members were aggregated to assess the level of team heterogeneity.

Most papers focused on the due diligence phase of the investment process. Few works investigated the link between entrepreneurial characteristics and VC decision-making processes in the negotiation stage [Rea, 1989], at the exit [Broughman & Fried, 2013], or during the delivery of the investment itself. However, it is well-known that team composition changes over time, and this internal dynamic needs to be linked with a deeper understanding of the different relevance assumed by criteria along the various investment stages [Hall & Hofer, 1993].

From a theoretical point of view, the resource-based approach, the social capital theory, the organizational learning, or the cognitive resource perspectives were the most common [Barney et al., 1996; Sørheim 2005; Hsu, 2007; Vogel et al., 2014; Huynh, 2016; Scarlata et al., 2016]. However, the topic of the relationship between entrepreneurs and investors could be analysed by adopting different theories or combining more approaches.

Most of the papers were based on direct and linear relationships between team characteristics and an outcome-dependent variable. Few papers added moderating effects in order to provide a more comprehensive picture of the team-investor dynamics [Makela &

Maula, 2008]. However, the interaction between human resources of both the ETs and the investors could be a promising area of research.

Given the limited availability of data for the BA community, papers focused on this type of equity investment were rare; by contrast, the VC community has been more deeply investigated. However, the creation of networks or associations of BAs in different countries should help address this issue by making the researchers more able to gather data on these investors and increase the knowledge of the investment process carried out by BAs.

Finally, the heterogeneous context of entrepreneurship has not been precisely investigated. Among new ventures, there could be companies with different levels of technological intensity, corporate or academic spin-offs, and companies approaching investors at different stages of development. It is likely that, depending on the type of company investigated, there could be differences in the level of specific team characteristics. However, studies generally focused on one or another type [Munari & Toschi, 2011; Huynh, 2016], disregarding a comparative exercise.

#### ***7.4 Strategic outcomes: Entrepreneurial teams and public support***

Our review of the literature identified 6 papers dealing with the relationship between ETs and public support, as detailed in Table A7.4. Except for one paper published in 1990, the other works were relatively young, ranging between 2012 and 2016.

##### *7.4.1 Detailed review of papers*

The paper by Mayer et al. [1990] investigated the performance of 45 young companies founded by the federal program “Support of New Technology-Based Firms” in Germany. In particular, it tried to explain differences among the companies in terms of growth perspectives, by considering several factors: technology, qualification of the ET, need and supply of capital, and activities in preparation of market entry. The findings suggested that market entry depended more on technological characteristics than characteristics of the team (i.e., mainly education and prior professional experience). However, among the ETs, those whose members had worked in small- and medium-sized enterprises showed the best performance.

Cook et al. [2004] analysed the output quality in the development of business plans within a microenterprise training program created in the United States. Among the factors explaining a performance gain, the results suggested that business plans developed by teams obtained higher scores than business plans from solo entrepreneurs. This was consistent with

the adage that “two heads are better than one”; group decisions are usually better than decisions made by single individuals.

Exploiting data from the assistance program known as “Panel Study of Entrepreneurial Dynamics I”, Yusuf [2012] investigated why some entrepreneurs refer to these types of programs whereas others do not. The author suggested that outside assistance programs were considered a valuable option by entrepreneurs when the start-up team and the personal networks of its members were incapable of providing support to their business.

Ammetller et al. [2014], following the same line of research, analysed the utilization of Business Support Services, programs developed to assist entrepreneurs in the development of their business. By complementing the resource-based view with a decision-making framework, the authors suggested a decision process for the use of these programs in which characteristics of the entrepreneur(s) played a critical role in the process. More precisely, the entrepreneur’s personal prior start-up experiences acted as a triggering force within entrepreneurs’ decision-making behaviour.

Yusuf [2014] examined the existence of differences between male and female entrepreneurs in their use of entrepreneurial assistance programs. Exploiting data from the Panel Study of Entrepreneurial Dynamic I, results showed that education, business and entrepreneurial knowledge, and involvement in a technology-based start-up were relevant factors explaining the use of assistance programs by women. On the other hand, personal network size, entrepreneurial experience of the start-up team, and having worked for parents’ businesses were drivers of program use by men.

Finally, Rojas and Huergo [2016] investigated whether and how characteristics of entrepreneurs can act as determinants for the use of public financial support. Using data on the NEOTEC program in Spain, the work suggested that human capital played a critical role. In particular, entrepreneurs with limited experience in management and planning who were more oriented toward growth and had closer ties to the public system of R&D were more likely to participate in the public aid program.

#### *7.4.2 Key findings*

The review regarding the link between ETs and public support showed two main trends. On the one hand, some scholars drove their attention toward the identification of the antecedents explaining the use of public support [Ammetller et al., 2014; Rojas and Huergo, 2016; Yusuf,

2012 and 2014]. In this case, the research questions object of investigation related to the understanding of (i) which entrepreneurial characteristics determined the choice to participate in public support programs and (ii) which differences can be highlighted in the use of these programs by groups of entrepreneurs. The main insights deriving from this line of research showed that ET characteristics were significant antecedents like, in particular, prior start-up experiences [Ammetller et al., 2014] and personal social networks [Yusuf, 2012; Rojas & Huergo, 2016]. However, if in some cases a lack of these characteristics was positively related to the use of public support [Ammetller et al., 2014], in other cases, the presence of the same characteristics seemed to act as antecedents to the use of these programs [Yusuf, 2012; Rojas & Huergo, 2016]. In the first case, the underlying logic seemed to be that a lack of internal competences pushed entrepreneurs to search for external support whereas, in the second case, the entrepreneurs' decision-making behaviour seemed to be more responsive to the importance of referring to these programs.

The second line of research considered, instead, the performance output obtained by ETs that took advantage of public programs [Mayer et al., 1990; Cook et al. 2004]. Of the two papers dealing with this line of research, one focused on the performance output strictly related to the specific assistance program analysed, like the score obtained in the development of the business plan [Cook et al., 2004]. The other adopted a broader perspective by considering growth as performance output [Mayer et al., 1990]. Generally speaking, the limited available evidence did not validate the importance of team characteristics in explaining performance differences. However, the overall composition of the team, heterogeneity of competences, and completeness of capabilities facilitated better performance.

#### *7.4.3 Limitations and gaps*

Our review showed that only a limited number of papers have investigated the topic of ETs and public support. A general concern regards the presence of definitional lack of clarity for ETs that authors should acknowledge in future research. Also, the examples provided of public support were quite heterogeneous and, thus, characterized by different types of support provided. Depending on the support provided, the type of performance output or the characteristics of the team that mainly matter could be different. This heterogeneity should be addressed.

This line of research suffers from a lack of data for the analyses. As a consequence, papers of this cluster were mainly based on the investigation of a single measure of public

support with precise characteristics and fitting only a specific national context. This issue opens a problem of generalizability of the results derived from this research. Also, the team-level dimensions analysed tended to be very simple, operationalized with dummy variables, and covering only a specific dimension of human capital.

Finally, except for two papers, the lack of a precise theoretical framework guiding the research made the papers more data driven than theoretically driven.

### ***7.5 Strategic outcomes: Entrepreneurial teams and internationalization***

Our review of the literature identified 18 papers dealing with the impact of ETs on firm internationalization (details in Table A7.5). They were relatively recent papers, with the first one published in 2005 and the majority having been published since 2012.

#### *7.5.1 Detailed review of papers*

Gabrielsson [2005] studied the factors that determine branding strategies of born global firms. Through case studies of 30 SMEs from Finland, the author underlined that motivations, recognition, global orientation (measured as previous international business experience), and entrepreneurial experience of founders and management team were important factors for achieving global brand recognition. However, they also found that teams lacking these qualities would be able to substitute for them in time through recruitment of suitable managers or through leveraging partnerships with other companies.

Laanti et al. [2007] aimed at understanding the globalization strategies of business-to-business born globals through case studies in wireless Finnish SMEs. Founders and managers were pivotal in this process because they provided the resources and capabilities lacked by new international firms. In particular, they provided competence, vision, and entrepreneurial attitudes, confirming previous studies on the importance of international experience, skills, and entrepreneurial capabilities of the founders.

Rhee [2008] investigated the determinants of entry mode choice (measured as foreign direct investments) and internationalization performance of new ventures. In this paper, the larger the start-up team members' social networks, the greater the propensity to choose wholly owned modes of internationalization; but this did not influence performance.

Federico et al. [2009] analysed the influence of human and relational capital on the likelihood of creating an early internationalising firm. The authors compared young companies

from Latin America and Mediterranean Europe, finding that well-educated entrepreneurs who built larger ETs and had access to larger and more professional networks were more likely to create an early internationalizing firm in Latin America but not in Mediterranean Europe.

Voudoris et al. [2011] studied the processes of entrepreneurial learning in international new high-tech ventures using a single longitudinal case study. Whereas they found that entrepreneurial learning was a process that started at the individual level and progressively encompassed the whole organization and its networks, they also found that it was affected by environmental-level variables (e.g., industry, technological, and international learning orientations), which were, in turn, contingent on the ET's industry, technological, and international learning orientations. They observed learning epochs showing the progressive enlargement of networks of relevant actors recognizing opportunities.

Bjørnåli and Aspelund [2012] addressed the role of ETs and the board of directors in the internationalization of 109 Norwegian academic spin-offs. The authors assessed the impact of ET heterogeneity (functional background, industry background, education, and age) on the firm's ability to gain an international strategic partner and to obtain a binding sales contract in foreign markets. Their findings showed that academic spin-offs were more likely to internationalize when their ETs had industrial experience that was both highly homogeneous (i.e., each member had work experience in the same industry) and highly diverse (i.e., each member had work experience in different industries).

Cunningham et al. [2012] investigated the internationalization strategies of seven small game-development firms from Hungary and Poland through a case study methodology. All of these firms were established by teams of entrepreneurs having specific technical skills, and that used many freelancers to further supply resources and knowledge to the company, especially during early stages. The team composition changed often over time to respond to shifting market opportunities or at different stages of the firm's growth. The team members were either friends, work colleagues, or family members, very often moving from being hobbyists into commercial operations and therefore lacking previous industry and international experience. Nevertheless, these teams were able to make their companies go international through personal and business networks established through intermediary companies (publishers) or web 2.0 technologies. Very often, these activities were taking place in a relatively long pre-incorporation phase, rarely taken into account by research on born global firms.

Ganotakis and Love [2012] studied how the characteristics and experience of the entrepreneurial founding team affected the export orientation and subsequent performance of companies. Besides other variables, they tested the effect of the experiential dimensions (i.e., general, commercial, managerial, technical, sector experience) and the education dimensions (i.e., general, technical, and business education) of ET human capital on export propensity and intensity, and the effect of general ET human capital on firm productivity. Using survey data from 412 U.K. high-tech companies, their results showed that commercial and managerial experience (e.g., useful to gather, evaluate, and act upon information; and mitigate perceptions of risk) were found to increase the probability of becoming an exporter. General experience instead positively impacted export intensity (e.g., through dealing with complex scenarios or problem-solving). General, technical, and business education also impacted export intensity (e.g., to analyse complex situations, supply innovative products/services, or deal with commercial operating practices). In addition, human capital determinants of productivity were similar to those for export propensity, with commercial and managerial experience enhancing firm productivity, and technical education having a marginally negative effect on productivity.

Khavul et al. [2012] attempted to understand how international new ventures from emerging economies responded to the demands of their international customers. The authors developed a model investigating several team- and firm-level determinants of international strategic orientation. They tested their hypotheses on 293 international new ventures from China, India, and South Africa. Regarding ETs, they tested the impact of founding team experience (measured as a formative construct based on years of experience working in the current industry, in a foreign country, in marketing/sales, in product development/production), but found no significant impact. The authors explained the findings by conjecturing that firm-level international experience can act as a substitute of founding teams' experience, but nevertheless called for additional research on this issue.

Hauser et al. [2012] focused on the role of team size and dynamics in the internationalization processes of new ventures. Specifically, building on a survey of 910 German start-ups, they investigated whether the probability of internationalization was influenced by average team size and team size alterations over time (i.e., change in team size: increase or decrease in size). Their findings showed that team changes and especially team exits led to a higher probability of internationalization. The authors explained this finding with the idea that new ventures' teams might be characterized by matching problems and therefore

that the elimination of original team members can help overcoming conflicts and problems and enhance productivity.

Cannone and Ughetto [2014] investigated the drivers of the probability of internationalization and of displaying a high degree of internationalization for high-tech born global firms. Drawing on cross-national survey data from 445 high-tech companies, they found that, among several individual-, firm-, and context-level variables, the ET competences (measured as heterogeneous education background in ET) impacted the probability that a born global company displayed a high degree of born globalness (i.e., geographical scope of international activities), but not on the probability that the company would internationalize after inception.

Hagen and Zucchella [2014] question whether born global firms were also “born to run” companies, and through a case study approach of six companies, showed that ETs’ composition and experiential industry pertinence and diversity had a meaningful influence on identifying a sustainable high-growth business idea and strategy over time. In particular, the continuous development of new and diverse team competences and visions (team “openness,” p. 520) was pivotal to opportunity generation and exploitation. This applied also to team members’ international experience, which was a baseline requirement for internationalization, but must constantly be enlarged to wider international market knowledge to sustain internationalization. Importantly, teams could compensate for their knowledge gaps by using advisory boards. Long-term growth therefore depended on balancing openness and stability of key entrepreneurial and managerial resources and integrating learning at the organization and innovative projects levels.

Loane et al. [2014] investigated the motivations behind exits of ET members and their consequences exits on rapid internationalization. They approached these research questions through a case-study methodology on 12 small international companies. Their data show that exits of team members occur (1) in the start-up phase when the venture is under-resourced, (2) because of conflicts emerging in the early stages of commercialization, (3) due to influence of outside equity, (4) due to personal circumstances or lifestyle changes. Partial exits can also occur whereby an ET member reduced his/her involvement. Importantly, the consensual or conflictual nature of exits can be critical to internationalization. In fact, when conflict-driven exits occurred, there was a corresponding lack of managerial capability with regard to how to manage group processes within the ET. Exits can indeed play a dual role for firm growth –

either allowing occasions for the continued growth and internationalisation of the original firm, either acting as catalysts for new venture creation.

Denicolai et al. [2015] aimed to understand whether small firms can have differentiated entrepreneurial profiles (i.e., innovate or internationalize) and to which extent these were determined by the individual- or team-level entrepreneurial profiles of the company. Using survey data from 302 Italian companies, the authors explored, among other individual-entrepreneur variables, the impact of the composition of ET in terms size (number of active founders and number of family members). The analyses highlighted that three clusters of firms can be identified: namely, the “freshmen” or the typical Italian family firm; the “self-made man” by solitary entrepreneurs, and the “smart entrepreneurs” or team-founded firms. The three groups presented differences in internationalization and innovation behaviours, with family-led firms operating mainly in domestic markets and concentrated on product innovation; solitary self-made man companies developing product and process innovation combined with moderate levels and scope of internationalization; and team-founded firms, combining intensive internationalization with innovative marketing and management practices.

Lafuente et al. [2015] examined the entrepreneurial factors that influenced international entry, sustainability, and de-internationalisation of SMEs. Among other individual-level factors, the authors tested whether the presence of ETs (measured as number of founders) increased the probability of export entry and of export sustainability, using survey data from 319 Romanian SMEs. Their results showed that the number of founders was a relevant factor explaining export initiation.

Meewella [2015] analysed the evolution of new ventures’ international operations in relation to team dynamics of cross-national ETs. Drawing on a single longitudinal case study of a high-tech venture in Sri Lanka, the study illustrated the changing memberships, roles, and responsibilities of the involved team members and their intertwinedness with the venture development. In particular, the study suggested that team formation in international new ventures really seemed to follow unplanned and emergent patterns and that the pre-launch phase of company development was a key period to be further investigated.

Franco-Leal et al. [2016] explored the performance impacts of non-academics in founding teams in 126 Spanish university spin-offs. Their data showed that internationalized spin-offs (vs. domestic ones) were characterized by team members with previous management experience in other firms and with membership in the board or scientific advisory board of

other firms. Their findings showed that the percentage of non-academics in the founding team was positively related to subjective performance, both for domestic and internationalized spin-offs. Overall, the authors concluded that the role of non-academics was crucial for supporting the internationalization of the spin-offs.

Finally, Ughetto [2016] examined the drivers of growth of born-global firms. Specifically, besides the effect of other individual- and firm-level variables, the author investigated the impact of heterogeneity in ET education background using cross-national survey data from a sample of 242 born globals. Findings showed that the size of ET was positively related to firm growth (measured as number of employees) whereas team educational diversity was negatively related to firm growth. This result can be explained by cognitive heterogeneity in opportunity perceptions generated by different educational backgrounds.

### *7.5.2 Key findings*

We can highlight some key findings from the review of this group of papers dealing with the linkages between ETs and international business performance. First, in line with previous literature highlighting the role of the entrepreneur for international decision-making, ET-level motivations, global orientation/international business experience, entrepreneurial experience, learning orientations, and social networks were important factors for achieving internationalization outcomes, working as mechanisms that provide resources and capabilities to the company (e.g., Federico et al. [2009]; Gabrielsson [2005]; Laanti et al. [2007]; Rhee [2008]; Voudoris et al. [2011]).

Second, the type of ET competence influenced different internationalization outcomes/measures. For instance, competences related to education influenced internationalization scope and intensity whereas competences related to experience influenced export propensity [Cannone & Ughetto, 2014; Ganotakis & Love, 2012]. Besides the type of competences, diversity also mattered for internationalization outcomes. For instance, diversity of experience (e.g., industry experience) influenced the likelihood of internationalization [Bjørnåli & Aspelund, 2012; Franco-Leal et al., 2016]; by contrast, educational diversity might be negative for growth [Ughetto, 2016].

Third, ETs supplied key knowledge and resources to the company, but they could be replaced, complemented, or substituted over time. This happened by catering external sources (e.g., Cunningham et al. [2012]; Gabrielsson [2005]; Hagen & Zucchella [2012]; Voudoris et

al. [2011]), changing dynamics of ETs (such as exits) [Hauser et al., 2012; Loane et al., 2014], and a continuous learning orientation of ET members [Hagen & Zucchella, 2012; Voudoris et al., 2011].

Finally, evidence showed that firms founded by teams performed better than did those run by solo entrepreneurs with regard to internationalization strategies (e.g., Denicolai et al. [2015]; Hauser et al. [2012]), and that the size of teams mattered for internationalization outcomes [Denicolai et al., 2015; Federico et al., 2009; Hauser et al., 2012; Lafuente et al., 2015; Rhee, 2008]. In this regard, it is important to also look at how teams' formation and dynamics are already set in the pre-founding phase [Cunningham et al., 2012; Meewella, 2015].

### *7.5.3 Limitations and gaps*

Our review shows that only a limited number of papers have investigated the topic of ETs and internationalization. In this regard, we nevertheless acknowledge that the methodology that we followed to select articles, focusing on specific keywords, could have limited our review to papers specifically referring to "ETs" or "teams in new ventures," but perhaps missing other papers dealing, for instance, with TMTs in born globals or international new ventures. We are, however, confident that our results are informative about past accomplishments in this area. This issue also underlines the presence of definitional lack of clarity that authors should acknowledge in future research. With respect to other papers identified in our work, we found that studies in this group of papers tended to adopt very simple measures of ET characteristics (e.g., diversity as operationalized through dummy variables); or to investigate teams as only one among several other variables influencing internationalization outcomes. As we will outline in Section 8, we therefore see a vast potential for further research on this topic.

### ***7.6 Market-related outcomes: Entrepreneurial teams and performance***

Our literature review identified 87 papers dealing with the relationship between ETs and performance, as detailed in Table A7.6. This topic has been extensively researched over the last 30 years (with the first contribution dating back to 1986). Performance has mostly been operationalized using objective measures such as sales, gross margin, employment, firm survival, and IPO. Qualitative, perceived measures have been used as well, such as exit strategy, innovative activities, social impact, and perceived success. Most papers were

quantitative, using regression techniques ( $N = 71$ ) whereas the minority were descriptive or adopted a case-study methodology ( $N = 16$ ).

### *7.6.1 Detailed review of quantitative papers*

#### *a) Innovative performance*

Liu et al. [2012] used arguments related to the upper echelon theory, showing that TMT members' novel knowledge and experiences contributed to invention performance whereas the intrafirm tenure was negatively associated with it. These relationships were moderated by firm's contextual factors, such as firm age and size, suggesting the existence of an organizational lifecycle effect. Data refers to 185 biotech firms that issued initial public offerings between 1980 and 1997.

The paper by Andries and Czarnitzki [2014], which used data from 305 small firms, challenged the idea that only CEOs' and managers' knowledge was relevant to foster innovation in small firms. This take was also consistent with the upper echelon perspective, which emphasizes the importance of top management's skills and knowledge for firms' innovative performance. The paper showed that non-managerial employees' ideas also contributed to innovation performance in small firms.

Walter, Schmidt and Walter [2016] contributed to this line of research by showing the extent to which founding team characteristics, such as expert knowledge and entrepreneurial orientation, related to firms' innovation performance. Additionally, contextual factors and institutional logics, such as norms and policies meant to regulate innovation activities, moderated the relationship between team-human capital and firm performance. They relied on a matched-sample of 178 science-based firms.

Knockaert et al. [2011] assessed under which conditions tacit knowledge transfer contributed to the performance of academic spin-offs. The case study suggested that tacit knowledge was most effectively transferred when a substantial part of the original research team joined the ET as founders. Teams were also required to have commercial expertise and the cognitive distance between the scientific researchers and the person responsible for commercialization could not be too large.

Khodaei et al. [2016] investigated the influence of entrepreneurial orientation and team efficacy on absorptive capacity. A multiple regression analysis of 95 Dutch academic spin-offs indicated that both types of influence were positively related to potential absorptive capacity

whereas entrepreneurial orientation, team efficacy, and domain-specific industry experience were positively related to realised absorptive capacity. Analyses of the explained variance showed that entrepreneurial orientation and team efficacy provided a higher contribution to absorptive capacity than did domain-specific experience.

Using data on 700 start-ups, Ruef [2002] studied the determinants of innovative activities as a function of entrepreneurs' ability to retrieve non-redundant information from their networks, avoid conformity, and sustain trust in innovative product development. This paper showed how the social structure of ETs related to their ability to deliver innovation.

Similarly, Chen and Wang [2008] examined the effects of social networks on new ventures' innovative capability. Data were collected on 112 technology-based ETs from the 65 research-based incubators in Taiwan. They showed that internal and external social networks impacted innovation performance and that this relationship was moderated by trust within the team. Specifically, a high-level of within-team trust hindered the positive effect of external ties on innovative performance. This result suggested the existence of a "not invented here" syndrome.

Kristinsson et al. [2016] showed that the founder-team's informational diversity was positively related to the firm's innovative performance. They also argued that entrepreneurial decision-making moderated such relationships in a way that, when decision making relied on a strong causation logic, the effect of founder-team informational diversity on innovation performance was stronger. The paper used a sample of 157 new technology-based ventures in a Northern European country and contributed to research on team-cognitive diversity and strategic imprinting.

#### *b) Employment*

Bruton and Rubanik [2002] used data from 45 firms incubated in a techno park in Russia and investigated the impact of founders' characteristics on firm's annual percentage employment growth. ETs were characterized in terms of size whereas the firm's characteristics were described in terms of product innovativeness and timing of market entry. Results suggested that large teams do not perform worse than smaller ones and that firms that pursued more technological products and entered the market later achieved better performance.

Colombo and Grilli [2005] analysed the relationship among human capital of founders, disentangling the effect of wealth and capability of human capital, on the number of firms'

employees. They used data on 506 young Italian firms operating in high-tech industries in both manufacturing and service fields. They suggested that the founders' type of education and prior work experience (technical rather than commercial) influenced growth.

Federico et al. [2012] delivered a cross-country study, comparing Latin American, South-East Asia, and Mediterranean Europe countries. Results suggested that, in Latin American countries, the entrepreneurs' human capital endowments were key for employment growth. Conversely, market-related aspects and financial resource availability were more important in the other two regions. This paper shed light on the importance of contextual and environmental factors in driving newly established firms' performance.

Ganotakis [2012] used data on 412 new U.K. technology-based firms operating in both high-tech manufacturing and services sectors and investigated the role of entrepreneurs' general and specific human capital on firms' performance (operationalized as number of employees). Results suggested that high level of education and prior work experience (i.e., commercial, managerial, or same sector experience) were strongly linked to performance. Results also show that within team diversity, in terms of skills, variety was conducive to high performance entrepreneurship.

Zhou et al. [2015] studied the direct effects of team personality level, team personality diversity, and their interaction effects on new venture growth. Using a sample of 154 teams in a technology incubator in China, they found that low levels of diversity of team task-oriented personality was beneficial for new-venture founding teams. Diversity of team task-oriented personality hurt new venture growth more when the level of task-oriented personality was low. Relationship-oriented personality diversity, but not the level of relationship-oriented personality, influenced new venture growth.

Hoogendoorn et al. [2013] reported on a field experiment conducted to estimate the impact of the share of women on team performance, with teams consisting of undergraduate business students who were required to start up a venture as part of their curriculum. Findings showed that teams with an equal gender mix performed better than male-dominated teams in terms of sales and profits. Authors explored various mechanisms suggested in the literature to explain this positive effect but found no support for them.

Lafuente and Rabetino [2011] examined the impact that human capital components such as education, previous work experience, employment motivations, the presence of ETs, and the

presence of family members in the firm had on employment growth of small firms. Using a dataset of 635 firms, they found that human capital explained small firms' employment growth. The results also indicated that an entrepreneur's active involvement in managerial tasks increased the intensity with which he made use of human capital, and this led to higher employment growth rates.

*c) Employment and sales*

Hmieleski and Ensley [2007] combined micro and macro perspectives to predict firms' growth (in terms of employment and sales). In particular, they related entrepreneur's leadership and TMT heterogeneity to performance, assessing the strength of this relationship under different levels of industry dynamism. They used data on newly established firms in the U.S. and contributed to the stream of research on leadership, showing the importance of adjusting leadership behaviour conditional upon team and contextual level factors.

Brinckmann and Hoegl [2011] drew on social capital studies to explain firm's growth (in terms of employment, sales, and TMT size). Specifically, they contrasted teamwork and relational capability of the ET, assessing its influence on new firm's development. The former led to founding team member additions, and sales and employment growth. By contrast, the latter bore no effect. They used data on a sample of 212 German firms.

Brinckmann et al. [2011] adopted a resource-based view approach to analyse the importance of ETs' financial management competencies for firm's employment and sales growth. They used data on 212 founding teams in Germany, contrasting the effects of entrepreneurial teams' financing competences (i.e., strategic financial planning, external financing, financing from cash flow, and controlling).

Gottschalk and Niefert [2013] took a demographic perspective to explain the underperformance of female-owned small firms. They used data on almost 5,000 German start-up firms. They observed that female-founded firms had lower performance vis-a-vis the male-founded firms. They also showed that female entrepreneurs, compared to their male counterparts, exhibited lower levels of human capital (education, professional experience), were driven by necessity, and tended to operate in low-tech industries.

Kirschenhofer and Lechner [2012] focused on the role of team and entrepreneurial experience in firm performance of serial entrepreneurs in the multi-media industry. Using a sample of 52 European multimedia companies, results showed a positive impact of relevant

entrepreneurial experience and evidence on both team advantages, such as team diversity, as well as disadvantages, like relative team stability.

Kroll et al. [2007] used data on 524 initial public offerings in order to understand whether the boards of young firms that had recently gone public were best composed of mostly original TMT members rather than independent outsiders. Results supported that (a) such board members possessed valuable tacit knowledge of the firms and their visions and were in the best position to provide oversight and (b) that outsiders should provide resources that firms' TMTs might use to execute their strategies rather than monitor the TMTs.

Sine et al. [2006] examined the effects of formal structure on the performance of new ventures in the emergent Internet sector during 1996 to 2001. Building on Stinchcombe's (1965) arguments concerning the liability of newness, their results supported the hypothesis that new ventures with higher founding team formalization, specialization, and administrative intensity outperformed those with more organic organizational structures.

Stam and Elfring [2008] examined how the configuration of a founding team's intra- and extra-industry network ties shaped the relationship between entrepreneurial orientation and new venture performance. Using data on 90 new ventures in the open source software industry, they found that the combination of high network centrality and extensive bridging ties strengthened the focal link. Among firms with few bridging ties, centrality weakened the relationship between entrepreneurial orientation and performance.

Thiess, Sirén, and Grichnik [2016] studied the performance effects of various types of heterogeneity in experience for ETs. Using the representative U.S.-based PSED II dataset including 519 nascent venture teams, they found that balanced experience types (heterogeneities in management and start-up experience) among nascent venture ET members led to increased early-stage performance.

Visintin and Pittino [2014] analysed the relationship between founding teams and university spin-offs' performance through a multi-level approach to ET demography. The empirical analysis, carried out on a sample of 103 Italian USOs, showed that founding teams with a composition that simultaneously promoted differentiation and integration of academic and non-academic profiles exhibited superior levels of performance in terms of growth.

Vissa and Chacar [2009] investigated the impact of ETs' external networks on ventures' performance through data from Indian software ventures. They found support for their

arguments: namely, that ventures whose ETs spanned many structural holes in their external advice networks experienced higher performance. They proposed that the effects of network ties were contingent on distinct features of ETs. Finally, they also proposed that team demographics and team networks complemented (rather than substituted for) each other.

The study by Zhao et al. [2013] developed and empirically tested a theoretical framework linking founding team capabilities to service venture performance through two strategic positional advantages: scalability and protectability. Results provided insight into previous inconsistent findings regarding founding teams' impact on new venture performance.

Lundqvist [2014] investigated the impact of surrogate entrepreneurs on technology ventures stemming from leading Swedish university incubators. Using data from 170 ventures incorporated between 1995 and 2005, he found that surrogate ventures performed significantly better in terms of growth and revenue compared to non-surrogates. Significantly higher performance of surrogates was also found in the subgroup of academic technology ventures as well as the largest technology subgroup of ICT ventures.

McGee et al. [1995] reported the results of a study of new ventures in which the relationships between performance and the experience of a new venture's management team were examined, along with the team's choice of competitive strategy and its use of various cooperative arrangements. The findings indicated that cooperative arrangements were most beneficial to those new ventures whose management teams possessed the most experience.

Muñoz-Bullon et al. [2015] used a sample of nascent entrepreneurs in the U.S. to show that team resource heterogeneity had a positive impact on profitable firm creation. Moreover, this positive effect was greater when the team had more experience in the industry in which the new business would compete.

Kor [2003] developed and tested a model of the effects of multilevel experience-based TMT competence on a firm's capacity for growth. The results indicated that founders' participation in the TMT and managers' past experience in the industry contributed to the competence of the team in seizing new growth opportunities. Because of conflict, the positive effect of founders' TMT participation on the growth rate weakened as either the shared team-specific or industry-specific experience of the team increased.

Roure and Maidique [1986] reported on the exploratory phase of a research project on prefunding factors influencing the success of high-technology start-ups. The findings of this

research revealed discernible differences between successful and unsuccessful firms. Both successful and unsuccessful ventures targeted high growth markets, anticipated high gross margins, had founders with over five years of relevant experience, had experienced venture capitalists on their boards, and were characterized by a wide range of founder equity shares.

Siegel et al. [1993] defined characteristics that distinguished high-growth from low-growth companies. Examining two pools of companies through a discriminant analysis, the authors found that, in both pools, it was important that management have substantial industry experience; that the high-growth companies were more focused than were their low-growth counterparts; that more revenue was generated by a single product; that growth companies ran leaner than the low-growth companies with fewer managers, slimmer payrolls, and more productive uses of assets; and that rapid market growth and the ability to develop close customer contacts were distinguishing characteristics.

Xiao et al. [2013] investigated the growth-orientation effects of specific entrepreneurial expertise in an emerging economy. Drawing on interviews with entrepreneurs of young high-tech small- and medium-sized enterprises, the findings showed that different types of ETs had different growth intentions depending on team member strengths. Mixed teams optimized performance, “technology entrepreneurial” teams were more profit-oriented, and “business practice” ETs were more export-oriented.

*d) First sale, gross margin, and market share*

Brannon et al. [2013] adopted a social capital perspective, employing social identity theory and shedding light on the importance of family relations within ETs at foundation. They used a sample of 295 nascent teams and distinguished between two types of family relationships: romantic couples and biologically related individuals, assessing their impact on the probability of achieving a first sale.

In a similar fashion, Zhao et al. [2015] studied the determinants of first product sales. They used data on more than 900 Chinese new ventures, assessing the impact of team characteristics (technical and marketing skills as well as start-up experience) on product success. They also argued that firms’ product-positioning strategy (i.e., product differentiation) mediated this relationship.

De Jong et al. [2013] brought together within-team cognitive and diversity research to assess the impact of the lead founder personality on new venture performance. Specifically,

they showed that the effects of the big five personality traits on performance were, to some extent, mediated by task and relationship conflict in the founding TMT. They used data on 323 new ventures in the U.S.

Dubini [1989] characterized ETs in terms of cognitive abilities (e.g., capacity to sustain an intense effort, attention to detail), skills (e.g., familiarity with the market, experience), and the fit between team and product/market characteristics, assessing their impact on firm performance (i.e., sales and market share). They studied a sample of 151 ventures rated by venture capitalists, identifying 4 typologies of entrepreneurial firms (i.e., High-Powered Followers, High-Tech Inventors, Low-Tech Distribution Players, Dream Merchants). For any given cluster, different team characteristics were relevant.

Roure and Keeley [1990] proposed 11 qualities to describe management, the firm's strategy, and its environment, all of which should influence how quickly the venture can act and predict performance. The measures of these attributes were tested on 36 new ventures. Considering each level of analysis, completeness and prior mutual experiences of team members influenced success. Competition in a market segment negatively affected success whereas projected market share had positive effects; number of potential buyers had an inverted U-shaped relationship and product superiority had a positive effect. Considering all 3 levels, the effect of prior joint experience, industry degree of competition, and projected market share were nullified.

#### *e) Exit*

Grilli [2011] studied 179 Italian start-ups before and after an industry-crisis to assess the impact of founders' human capital on exit strategies. In particular, data suggested that founding teams with specific work experience most likely pursued mergers and acquisitions whereas teams with more generic work experience were more likely to experience firm closure.

Eesley et al. [2014] linked within-team functional background variety to performance (operationalized as exit), under different conditions of strategy and business environment. They used a sample of more than 2,000 U.S. firms, correcting for endogeneity in team formation.

DeTienne et al. [2015] developed a typology of exit strategies (namely, financial harvest, stewardship, and voluntary cessation), regressing such decisions on entrepreneurs' psychological characteristics, such as perceived opportunity innovativeness, motivational

aspects and decision-making approaches. Data related to 189 U.S. firms suggested the existence of differential patterns for the three exit strategies.

*f) Survival*

Delmar and Shane [2006] predicted firm's survival and sales using a representative sample of 223 newly established Swedish firms. They argued that founders' human capital, operationalized in terms of industry and start-up experience, had a non-linear effect on performance and this effect varied with age.

In a similar fashion, Dahl and Reichstein [2007] studied the influence of industry-specific experience on the likelihood of firm's survival. In doing so, they brought together human capital and imprinting aspects, contrasting firms that had spun-off from existing parents to de-novo start-ups. The assumptions were tested on a dataset covering the entire Danish labour market from 1980 to 2000. Results suggested that spin-offs from a surviving parent and with a founding team with less industry-specific competencies positively influenced survival.

DeVaughn and Leary [2010] focused on banks' founding teams. They used a sample of 129 U.S. banks, assessing the impact of within-team founding experience (i.e., joint founding experience, industry experience, heterogeneous occupational experience, and shared experience) on firms' survival (operationalized in terms of organizational distress). They found that the higher the level of past founding experience, the lower the likelihood of firm's organizational distress.

Coad and Timmermans [2014] studied within-team heterogeneity, operationalized in terms of age, education, and industry experience and their effects on survival. They also accounted for the within-team hierarchical effects of team composition ('primary' vs. 'secondary' members). Results suggested that within-team functional and demographic diversity bore implications for firm's survival and growth.

De Cleyn et al. [2015] studied the human capital characteristics of venture team members (i.e., founders, top managers, and directors). Data from 185 academic spin-offs from nine European countries suggested that board of directors' legal expertise, larger management teams, and smaller number of founders who were serial entrepreneurs had a positive effect on firm's survival.

Fontana et al. [2016] focused on the effect of teams' past industry experience on firms' survival. They exploited data on 336 U.S. start-ups showing that having a founder with prior

experience in a related upstream industry resulted in lower rates of failure vis-a-vis those with backgrounds in the same industry.

Guenther et al. [2016] used a team dynamic perspective to predict firm survival. They showed that a founder exit was critical for firm survival at the beginning of the firm's lifecycle, regardless of whether a new member entry was more beneficial further down the line. They discussed their findings in light of imprinting theory and the liability of newness.

Agarwal et al. [2016] blended knowledge-based view and human resource approaches to model spin-off firm's survival. They used linked employee–employer data from the census of the legal services industry in the U.S. The authors showed how founder's performance (i.e., earnings) influenced mobility from the parent firm and that its effect on firms' performance (both parent and spin-off firms) was mediated by the size and organizational experience of the entrepreneurial spin-off team.

Shepherd et al. [2000] aimed to identify how venture managers can address the "liability of newness" and the risks that new organizations face. They proposed a theoretical model that used a micro-level perspective to explain new venture mortality, as part of which novelty was viewed in three dimensions--namely, to the market, to the technology of production, and to management--and where the decline in mortality risk occurred as the venture's novelty in each of the three dimensions was eroded by information search and dissemination processes. A series of risk reduction strategies were proposed and their impact on the determinants of mortality risk was considered.

Leary and DeVaughn [2009] identified the ET characteristics that influence the likelihood of success for a new venture launch. Using a sample of prospective start-up banks that applied for a charter application between 1996 and 2005, the study suggested that ETs where (a) the CEO was strongly embedded in the team, (b) no team member held more than 10% of the firm's equity, (c) members had less rather than more industry experience, and (d) more members had prior founding experience were most likely have a successful launch.

Steffens et al. [2012] explored the relationship between new venture team composition and new venture persistence and performance over time. They examined the team characteristics of a 5-year panel study of 202 new venture teams and performance. Using structural event analysis, they found that team members' start-up experience was important in this context. They also found support for the hypothesis that higher team homogeneity was

positively related to short-term outcomes but was less effective in the long term, and that more homogeneous teams were less likely to be higher performing in the long term.

*g) Strategic choice and perceived success*

Fern et al. [2012] used knowledge-based arguments to show how founder's content/structural knowledge and knowledge recency/variety, as well as teams' shared and unique knowledge, impacted firms' strategic choices related to product market, geographic market, and resources. They used data on 120 entrants in air transportation from 1995-2005 and found that a founder's past experience strongly constrained firm's choices, and founder's and teams' past-experience diversity diminished such constraints.

Gruber et al. [2012] studied the determinant of market opportunities and identified four main types of pre-entry human capital endowments, finding that prior entrepreneurial and management experience endowments enhanced--whereas marketing and technological experience endowments constrained--the number of market opportunities identified. Founding team characteristics, in terms of generalized and specialized endowments, moderated such patterns.

Bettiol et al. [2016] used the capability literature and a social capital perspective to show how new ventures acquired knowledge to support their capability growth. Specifically, firm's capability development was supported by both human capital (i.e., the variety of founders' industry experience) and social capital (intense relations with multiple external sources of knowledge) aspects. Evidence was based on a sample of more than 400 Italian high-tech ventures.

Ciuchta et al. [2016] used an imprinting approach to study how first-generation spin-offs' characteristics predicted future second-generation spin-off's activity. Using data on 101 first-generation U.S. university spin-offs, they argued that securing equity investment increased the likelihood of generating second-generation spin-offs, and that the human capital of the founding team moderated such relationships.

Battilana et al. [2015] also uses an imprinting approach to study the determinants of social enterprises' social performance. They argued that social imprinting (i.e., founding team's early emphasis on accomplishing the organization's social mission) and firms' economic productivity drove social performance. They also showed a negative correlation between social

imprinting and economic productivity. They used panel data on French social enterprises between 2003 and 2007.

Farrington et al. [2011] focused on copreneurial businesses (or spousal partnerships), addressing the determinants of firm's perceived success (operationalized as the degree to which the copreneurs believed their firm's activities were beneficial to their family, marriage, and personal development). Using data from 380 firms, they identified some cognitive dimensions (e.g., shared dream, leadership, and personal needs alignment) and human capital aspects (e.g., complementary skills, competencies, and adequate resources) and assessed their impact on copreneurial firms' success.

Mueller and Gemünden [2009] applied founder team interaction quality and the customer and competitor orientation concept to new software venture performance. The results from the survey conducted in 101 young software ventures showed team IQ to be a powerful predictor of both customer orientation and competitor orientation. Furthermore, they found a positive, linear relationship between competitor orientation and technological performance, and a curvilinear U-shaped relationship between customer orientation and all examined success dimensions (i.e., economic, market, and technological successes).

Witt [2004] clarified how entrepreneurial network activities can be measured, and which indicators exist to quantify start-up success. The paper developed an extended model for the relations among entrepreneurial networks and start-up success.

Wu et al. [2009] analysed 211 start-ups in the technology-based sector and verified the relationships among entrepreneur resources, trust, founding team partners' commitments, and start-up competitive advantage. The findings showed that, in technology-based start-ups, competitive advantage was determined by the founding team partners' commitments and the resources that an entrepreneur possesses.

#### *h) Capitalization and financial performance*

Walske and Zacharakis [2009] investigated what type of founding team experience best predicted success in raising venture capital, controlling for firm strategy, firm size, and the environment in which the firm was born. The results showed that venture capital, senior management, and consulting experience aided financing success whereas entrepreneurial experience impeded it.

Wang and Wu [2012] examined the influences of trust and entrepreneur resources on team member commitments and start-up competitiveness during both the initial and growth stages, and then explored the influences of resources and competitiveness during the initial stage on the growth stage. The results showed that, in both stages, competitiveness was positively associated with start-up team member commitments; that team member commitments to the start-up were affected by the members' trust of the entrepreneurs; that entrepreneur resources and start-up competitiveness accumulated across stages; and that competitiveness during the initial stage positively influenced new team members' commitments to growth.

Zheng et al. [2016] used a unique sample of 344 commercial banks founded in the U.S. between 1996 and 2006 to show that industry-specific prior shared experience may be beneficial depending on several founding-team characteristics. The findings showed that, under some circumstances, firms with prior shared experience among founding team members may be no better off than those without it.

### *7.6.2 Detailed review of qualitative and descriptive papers*

#### *a) Conceptual*

Kakarika [2013] explored within-team diversity to understand how start-ups should be staffed and manage issues of diversity in terms of opinion, expertise, and power. The author concluded that ETs need to be assembled with a moderate level of diversity of opinions, a high level of diversity of expertise, and a low level of diversity of power.

Khademi and Ismail [2013] attempted to illustrate the crucial factors that assist the commercialization process of university research results. Findings showed that the success of university commercialization was influenced by several factors including the ET, researchers' perceptions, time, networking activity, technology stage, funding, market research, and the technology transfer office.

Mosakowski [1998] examined the link between a firm's resources and its efficient organizational form with a focus on entrepreneurial resources. Assuming that entrepreneurial resources can be distributed at the individual or team level, agency theory was used to consider how various organizational characteristics differed. The findings showed that, in the individual entrepreneurial form, various decision-making roles and risk bearing were performed by a

single entrepreneur. In the team entrepreneurial form, responsibility for steps in the decision process was dispersed, and the decision process was monitored at the organization's apex. Below this level, team entrepreneurs were responsible for ratifying innovative decisions.

Mustar et al. [2008] adopted a multi-level approach in the examination of the process of university spin-off creation and development in environments outside the U.S. high-tech cluster. The paper analysed universities, technology transfer offices, spin-off firms, finance providers, individual entrepreneurs, and teams, giving policy recommendations related to university spin-offs.

Packalen [2007] investigated the extent to which founders influenced their firms and formulated a framework that considered the interaction between three main facets of founding teams' backgrounds: namely, industry status, entrepreneurs' demographic features, and social capital. The results showed that the presence of one type of capital may reduce dependence on or need for others, and the proposed model was applicable to a variety of industries with uncertain outcomes resulting from the commercialization of early-stage technology or subjective quality.

*b) Quantitative and descriptive*

Ginn and Sexton [1990] contrasted preferences of CEOs/founders of slow-growth firms with those of fast-growth ones. They provided descriptive evidence of differences between them. In particular, they focused on extraversion/introversion, sensing/intuition, thinking/feeling, and judgment/perception. They argued that an assessment of such psychological traits was relevant for venture capitalists and government policymakers.

Bains [2007] provided some descriptive evidence on the effect of a team member exit (i.e., removal) on firm's success. Success was operationalized in terms of shareholders' liquidity, attracting investment and investors, company size, and product portfolio size. They focused on a set of 77 venture-backed U.K. biotechnology companies. Results suggested that early removal hindered firms' performance (across all measures).

Dautzenberg and Reger [2010a] compared teams' size, gender distribution, and educational level of very highly innovative, highly innovative, and innovative firms. They focused on a sample of 1,834 firms in Germany. Results suggested that team heterogeneity had little impact on firm success.

Gurdon and Samsom [2010] presented a longitudinal study of 17 science-based firms, first interviewed in 1989 and followed up with in 2001 (11 survived, 6 failed). They observed that, for the successful ventures, effective management processes and access to capital were key. Those that failed had failed to effectively navigate the transition from the science logic to the commercial one.

Dautzenberg [2012] studied the similarities and differences between very high tech, high tech, and tech firms in Germany. The sample included 4,822 firms operating in Germany. The paper showed a positive correlation between male entrepreneurs and firm size, number of employees, and revenues.

Pasanen and Laukkanen [2006] identified strategic factors differentiating team-managed and individually managed growing SMEs. Analysing data from 108 firms, they found that there were few differences between those two types of SMEs; the variables differing between the two groups were not related to firm performance or strategic choices and the effect of team on strategic choices was not associated with SME size. The findings question the impact of team on firm performance and strategies in the context of growing SMEs, suggesting that team-managed growing SMEs were not a distinct species among growth SMEs.

Nam [2000] used interviews of ten high-tech ventures to examine the roles of incubator organizations. Based on these interviews, firms' experience at incubator organizations and subsequent performance were analysed, and 11 hypotheses regarding the characteristics of incubator organizations were formulated.

Robichaud et al. [2007] examined 2 years of data from GEM Canada to understand the factors driving the performance of female-founded enterprises and how these factors were affected by the firm's stage of development. They found that the greater propensity of men to pursue business growth can be attributed to marital status and the expected depth of the ownership team. Moreover, the performance of male entrepreneurs was influenced by a relatively wide range of variables. For both genders, the mix of relevant underlying factors varied as the venture progressed along the 'nascent–new–established' continuum.

Thakur [1999] examined the interplay of resources, opportunities, and capabilities in new venture growth. Based on nearly 50 case studies, the findings of the article suggested that resource access may itself limit the range of opportunity choice and growth potential. Within

these limits, managerial capability, as related to human resources in particular, could be more significant than hitherto recognized.

Tihula and Huovinen [2010] focused on the prevalence of ETs in the firms owned by habitual and first-time entrepreneurs. The research revealed that management teams were more common in the firms owned by habitual compared to first-time entrepreneurs. Correspondingly, there were more solo entrepreneurs among the first-time entrepreneurs. The results also suggested that a closure experience decreased the probability of solo entrepreneurship.

### *c) Case studies*

Andrén et al. [2003] combined the dynamic capabilities approach and the cognitive aspects of the business to study how teams' entrepreneurial vision and firms' capabilities impacted business model evolution. They used a case-study approach, focusing on 26 Swedish start-ups. They found that human capital (i.e., team's industry experience) and social capital (i.e., interaction with customers, connections with external parties) dimensions influenced start-up's success.

Hedberg and Danes [2012] addressed power relationships in a copreneurial family firm. Evidence suggested that, in copreneurial firms where spouses were seen as equal partners, the decision-making process was more effective, resulting in better decision making.

De Cleyn et al. [2013] addressed five cases of failure of science-based spin-offs. They used the resource-based view and social capital theory to explain how teams' lack of champion, ineffective market development, and lack of marketing competence negatively influenced firm performance.

Abatecola and Uli [2016] addressed how having routines in place and team's entrepreneurial orientation may overcome the liability of newness. They presented three case studies from the service industry, finding that the firm-level dimension (i.e., routines' exploitation mechanisms and initial assets) and ETs' cognitive skills (i.e., the level of entrepreneurial orientation) influenced firm's success.

## *7.6.2 Key findings*

The most important findings of the group of papers studying the relation between ETs and performance related to the way firm performance has been operationalized and the number of theories and approaches used to address the determinants of firms' performance. Firms' performance has been analysed using different criteria and metrics: employment, sales, first product sale, gross margin, market share, probability of exit (IPO, M&A) and of failure, survival, strategic choices, and perceived success. The determinants of firms' performance have been addressed using different theories and approaches: upper echelon theory (e.g., Andries and Czarnitzki [2014]; Liu et al. [2012]; Walter, Schmidt and Walter [2016]); the so-called "liability of newness" and the firm's lifecycle approach (e.g., Bruton and Rubanik [2002]; Guenther et al. [2016]); team demography, used to analyse team size [Bruton & Rubanik, 2002; Dautzenberg & Reger, 2010a; Federico et al., 2012] and team gender distribution [Dautzenberg, 2012]; the resource-based view, used to understand education and prior experience [Andr n et al., 2003, Colombo & Grilli, 2005; Dautzenberg & Reger, 2010a; Ganotakis, 2012; Gottschalk & Niefert, 2013], financial competences [Brinckmann et al., 2011], commercial skills [Dubini, 1989; Zhao et al., 2015], marketing experience [De Cleyn et al., 2013], past experience and familiarity with the market [Grilli, 2011], industry experience [Bettiol et al., 2016; Dahl & Reichstein, 2007; De Cleyn et al., 2015; Delmar & Shane, 2006; DeVaughn & Leary, 2010; Fontana et al., 2016], and knowledge [Fern et al., 2012; Gruber et al., 2012]; imprinting arguments like spin-off from parents [Agarwal et al., 2016; Dahl & Reichstein, 2007] and first- and second-generation spin-offs [Ciuchta et al., 2016]; social imprinting and social performance [Battilana et al., 2015]; institutional logics [Gurdon & Samsom, 2010]; team evolution [Guenther et al., 2016]; cognitive approaches emphasising trust [Chan & Wang, 2008; Ruef, 2002], leadership behaviour [Hmieleski & Ensley, 2007], personality traits [de Jong et al., 2013; Ginn & Sexton, 1990], cognitive ability [Dubini, 1989], perceived opportunities and motivation [DeTienne et al., 2015], shared dreams and leadership [Farrington et al., 2011], power [Hedberg & Danes, 2012], and entrepreneurial orientation [Abatecola & Uli, 2016]. Other theories used to address the relation between ETs and performance were those related to social capital and networks [Andr n et al., 2003; Bettiol et al., 2016; Brinckmann & Hoegl, 2011; Chan & Wang, 2008; Ruef, 2002], social identity theory [Brannon et al., 2013], within-team informational [Kristinsson et al., 2016], skills [Ganotakis, 2012], functional [Eesley et al., 2014; Hmieleski & Ensley, 2007], and functional and demographic [Coad & Timmermans, 2014] diversity.

The literature has also identified several boundary conditions for the determinants of firms' performance such as within-team characteristics like functional backgrounds [Chan & Wang, 2008], task conflicts [de Jong et al., 2013], hierarchical structure [Coad & Timmermans, 2014], generalized/specialized endowments [Gruber et al., 2012], prior entrepreneurial expertise [Ciuchta et al., 2016], firm characteristics like firm age and size [Delmar & Shane, 2006; Liu et al., 2012], firm strategic decision making and strategic imprinting [Kristinsson et al., 2016], product positioning strategy [Zhao et al., 2015], innovation strategy [Eesley et al., 2014], and financial aspects like financial investment [Brannon et al., 2013].

Contextual factors have been studied to scrutinize institutional norms and policies [Walter et al., 2016], culture and regional effects [Federico et al., 2012], industry dynamisms [Hmieleski & Ensley, 2007], and the IP regime [Eesley et al., 2014].

### *7.6.3 Limitations and gaps*

Our review has identified some shortcomings that, as we will discuss further in Section 8, are opportunities for further research. First, the vast majority of papers used a rather static cross sectional approach, and longitudinal-dynamic research designs were the exceptions (for notable examples, see Battilana et al. [2015] and Brannon et al. [2013]). Second, very few papers addressed team dynamics and evolutions (for a notable example, see Guenther et al. [2016]). Third, there was a dearth of micro-studies on the within-team determinants of entrepreneurial firms' performance (for notable examples, see the paper on trust by Chen and Wang [2008] and Ruef [2002] and on leadership by Hmieleski and Ensley [2007]). Fourth, the array of potential impacts and outcomes on firms was broader than those that have been researched so far (e.g., social performance in Battilana et al. [2015]). Fifth, the quasi totality of studies used endogenous boundary conditions. Furthermore, team formation was endogenous (endogeneity has been well addressed by Eesley et al. [2014]). Sixth, single respondent/solo entrepreneurship approaches should be challenged when we study firm's performance. There are multiple actors/facets/levels that may impact decision making and performance; for example, not only CEO/entrepreneurs but also TMTs, non-TMTs, etc. (for notable examples, see Hmieleski and Ensley [2007] for entrepreneurs and TMTs; and De Cleyn et al. [2015] for founders, TMTs, and board of directions). Finally, sampling issues emerged because very few studies used a full-population approach (for notable examples, see Agarwal et al., [2016] and Dahl and Reichstein [2007]).

## **8. Conclusions and directions for future research**

Our review has identified several opportunities to advance state-of-the-art research on ETs. Below, consistent with the proposed Input–Process–Outcome framework, we highlight some directions for future research.

### ***8.1 Inputs***

For *entrepreneurial teams' composition*, researchers are invited to engage in multi-level studies to consider the nuanced impact of individual, organizational, and environmental factors on teams' inception. Second, more efforts should be undertaken in using new and varied measures of diversity--for instance, based on psychometric scales (e.g., Deng et al. [2013])--to study cognitive or normative characteristics of team members. In our increasingly globalized and multi-ethnic societies, more research on ethnic and national diversity in ETs also seems warranted. Third, because the quasi-totality of available studies has been carried out in Western countries (e.g., the U.S., Europe), future studies should explore team dynamics in other geographical areas to gain a deeper understanding of potential institutional and cultural effects on the composition of ETs. Similarly, future studies should also aim to cover more varied industries (i.e., other than high tech), to study any specific industry-level patterns that may influence team composition. Finally, we suggest that scholars examine temporal effects on ET composition: for instance, the historical context of group formation, the life histories of the entrepreneurs involved, and the timing of their affiliations. This could be achieved by using statistical techniques for dynamic analyses (e.g., panel studies, event history analysis).

### ***8.2 Processes***

#### ***8.2.1 Team Processes***

As per *entrepreneurial teams' development and turnover*, our analysis has identified several areas for future research. First, future studies could shed light on motivations to join or leave a team: for instance, looking at individual-level processes (e.g., affective or functional conflict with other team members; cognitive diversity; power imbalances) and environmental-level dynamics (e.g., risk of the industry). Also, future research could further investigate the process that leads to team members' entry and departure (e.g., gossip, power redistribution, affect, emotions, goals, and values).

Second, with specific regard to new team members' entry, research should clarify whether and how networks and cognitive biases influence the process of team enlargement: for

instance, understanding whether it is the network position of entrepreneurs or their ability to navigate it (e.g., search, tie generation) that influences their ability to reach different others; or whether the provision of “entrepreneurial matching markets” [Kaiser & Müller, 2015] is an efficient solution to find eligible team members and under what conditions (e.g., trust, status).

Third, studies should further work on the moderating conditions that may affect the dynamics of team development: for instance, in family firms; pre-start-up and post-start-up ventures; and environmental crises. In a similar fashion, firm-lifecycle-related aspects should be accounted for when dealing with ET development. Indeed, although we know that strong leadership is needed at a firm’s inception, we do not yet know much about how the structure of leadership changes as a firm evolves. An interesting though challenging approach would be to analyse such relationships and compare ETs that have changed to those that have not. Similarly, a potential avenue for future research deals with the influence of the dynamics of ETs on the permanence of leadership roles within the ET. There is a limited understanding of the distribution of leadership among the ET members and several issues related to this research gap, such as: is the leader recognized as such from the start or does his/her role emerge by overcoming the hurdles of the entrepreneurial process? Is there a relationship between founder centrality and leadership in ETs? What are the main activities, competences, and duties of a leader on ETs, and how are these recognized by the ET?

Regarding ETs’ cognitive facets, as suggested by de Mol et al. [2015], a general recommendation for future studies is to clearly define “ET cognition” to avoid fragmentation of research and better operationalization of constructs. Hence, we see the following opportunities for future research. First, we suggest a more in depth investigation of the processes that drive the formation and change of ET collective cognition over time, taking into account additions and subtractions of team members; their socialization and previous experiences; and their motivations, goals, personal values, emotions, and affects. Along these lines, scholars should try to expand the field by using additional constructs and concepts borrowed from psychology. Second, studies should expand their scope by looking at the multi-level nature of ET cognitive processes, as influenced by individual and environmental variables. Connected to this point, there is also the need to further explore this topic in different institutional and cultural contexts.

Finally, although there are several studies investigating entrepreneurial orientation in teams, we think there’s room for contribution here. First, entrepreneurial orientation has been conceived to date as an outcome of processes of shared understanding where culture, country

of origin (native v. immigrant) [Li & Liao, 2010] and family relationship [Discua Cruz et al., 2012] are the main inputs. Thus, the role of culture in the development of an entrepreneurial mindset represents a fruitful avenue for further research, with many challenges in terms of which methods and measures are most appropriate to tackle it. Second, there is a clear need for replication studies of teams and entrepreneurial orientation, cumulating results according to the cultural environment of ET origin. Third, there is a clear lack of understanding about how opportunity recognition can be an effective means to team entrepreneurial orientation, suggesting that a potential direction for future research can be the development of integrative and validated methods to study whether and how the ability to recognize opportunity can be conducive to entrepreneurial orientation at the team level, and vice-versa.

### *8.2.2 Business Processes*

Moving from the key insights suggested by the reviewed papers and their limitations and gaps, we identified some areas for further development in the business processes cluster.

Specifically, by bridging between team and business processes, we offer some directions for future research on the relationship between ETs and opportunities. First, there is a clear lack of understanding about the role of ETs' social capital and how this influences ETs' ability to identify and seize opportunities. Similarly, we don't know much about the nature of the opportunities identifiable by the ET and whether these are related to the market, technology, or the business opportunity per se. Thus, there is a clear need for cumulative studies on the role of ET social capital and how this influences which types of opportunities are pursued by ETs.

Second, the review revealed that opportunity identification cannot be only an outcome of the use of ETs' social capital but, also, a consequence of the expertise and competences developed by the ET. Research on this topic could also shed light on how the different environments in which such expertise and competences are developed influence ETs' ability to identify and seize opportunities; indeed, many ETs are formed in professional, scientific, or corporate environments capable of providing shared experiences that can lead to the formation of team competences especially geared to identifying and quickly seizing opportunities for venture growth.

We also envisage some opportunities to address ETs and decision-making. First, future research should provide more cumulative studies on ET decision-making in order to enrich the agent-based model of entrepreneurial risk-taking [Wu et al., 2010]. Furthermore, there is a clear paucity of studies that investigate the process of venture structuration and the decision-making

hurdles experienced by ETs. Indeed, very few studies have investigated the relationships between ETs and organizational or governance issues (at both team and firm levels). Hence, future studies could take a more inductive approach to understand in greater detail how and why ETs influence organizational and governance issues in their companies: for instance, linked to the division of ownership, the composition of the board, the choice of CEO, or pay structures of founding and non-founding members. In addition, future studies might identify boundary conditions that influence these processes (e.g., type of firms, industry, location). Second, this area could be further connected to the literature on ET heterogeneity: for instance, by drawing on cognitive, social network, or institutional theories. Third, future studies should go beyond cross-sectional approaches and engage in longitudinal analyses of organizational and governance processes because they eventually co-evolve with changes in ETs and other events in the company and in the environment.

Finally, there's room for improvement in studies addressing ETs' and firms' strategies. For example, being part of a virtual or a distant team and the effectiveness of the strategy performed by virtual teams are recent though emerging and unknown phenomena that have been scantily explored by the literature on ETs (e.g., Matlay and Martin [2009]). This suggests that some more designed approaches to virtual or distant teams are needed. A second direction for further research relates to a limited understanding of the internal frictions and interactions between members about the positioning strategies to be implemented by new ventures. Future research on this topic can lead to fruitful results conditional on the appropriateness of the methods used to tackle the related research questions. Third, there is a clear lack of understanding on how these internal dynamics are informed and moulded by (a) the influence of the professional background of ET members and (b) the social position of members in terms of centrality and connectedness in their social and professional networks. Research on this side can lead to interesting results in terms of connections between ETs and investors and can increase our understanding on how ET-managed businesses and funders can be matched and based on what understanding.

## **8.3 Outcomes**

### **8.3.1 Strategic Outcomes**

As for strategic outcomes, several opportunities emerged from our review of the connection between *entrepreneurial teams and firm creation*. First, future studies could shed light on the pre-start-up phase, possibly adopting a prospective rather than a retrospective account of the

timing and unfolding of entrepreneurial decisions by the team. This could be achieved, for instance, by drawing on historical perspectives (e.g., life histories of entrepreneurs, timing of their affiliation, development of the team, historical context) or psychological theories (e.g., entrepreneurial intentions, motivation). Second, future studies should adopt a multi-level perspective to further understand how individual, organizational, and environmental factors interact with team-level factors to determine start-up decisions. Third, given that institutional arrangements have been highlighted as an important element in the socialization of team members and the adoption of logics influencing start-up and company organization, future studies should explore different countries and industries, and examine the moderating or boundary conditions that affect the dynamics of team decision-making in start-up processes.

Extant research has also addressed *organizational legitimacy* as a consequence of ETs' characteristics and dynamics. Legitimacy is a key facet in new organizations, which is needed to overcome the liability of newness [Stinchcombe & March, 1965] and attract the necessary resources to grow [Suchman, 1995]. Given the paucity of studies that link ETs to organizational legitimacy, our review highlights several areas for future research on this topic. More conceptual clarity is needed to properly deal with the multiple sources of legitimacy (e.g., pragmatic, moral, and cognitive; Suchman [1995]), and its connection to other individual- and organizational-level constructs, such as storytelling and identities. First, because perceived legitimacy is embedded in the institutional arrangements that characterize the organizations' environment, future studies will need to examine multiple institutional and contextual settings for a complete understanding of the topic. Second, the multi-level and dynamic nature of legitimacy processes will need to be accounted for by scholars interested in understanding and theorizing about this topic, also influencing the methodological approaches to be adopted.

Several suggestions for future research arise from the limited number of articles dealing with *entrepreneurial teams and networks* as well. For example, Gurrieri [2013] stressed the role of entrepreneurs as creators of entrepreneurial opportunities and new social knowledge. Moreover, as suggested by Boari and Riboldazzi [2014], the networks involving teams of entrepreneurs should also be studied by looking at teams as knowledge brokers, to increase our understanding of how teams learn and perform. There is also a clear need of replication studies on the distribution of networking roles and responsibilities in ETs. This would build on the work of Neergaard [2005], illuminating how team members prioritize different activities, who's more active in networking, and the overall opinion of the members about the usefulness of networking.

A rich body of research has addressed the link between *entrepreneurial teams and firms' decision to internationalize*. All this notwithstanding, our review has identified a few gaps, opening up avenues for future research on the topic. In particular, we see potential in the investigation of ET turnover and the impact of replacement or substitution of team members to achieve internationalization, such as in terms of resources, competences, and roles. In addition, scholars might further investigate how the diversity in international business skills and experience of team members act as a substitute for firm-level experience in international markets, and how strategic international decision-making varies depending on team members' cognitive biases or power distribution.

Finally, the very rich body of research addressing ETs' ability to engage *investors* has extensively addressed the phenomenon. However, we still see room for contribution. Specifically, most studies adopted an investors' perspective to investigate how they pick different investment opportunities. However, a less explored area focuses on understanding which human characteristics allow the ET to better exploit the benefits provided by investors [Barney et al., 1996], to effectively dialogue with investors by creating a trust-based relationship [Appelhoff et al., 2016; Collewaert & Sapienza, 2016; Higashide & Birley, 2002], or to influence the search of investors [Vanacker et al., 2014]. Because opportunistic behaviours are common in this context, a deeper investigation of the mediating role of human factors in the entrepreneur-investor relationship is a relevant but still unexplored area of research.

Second, in a context where the relationship between two actors (i.e., the entrepreneurs and the investors) is relevant, it could be extremely valuable to investigate how team-level factors are evaluated by investors in a univocal direction; also, the similarity between the two parties or the interaction between team-level and investor-level features could be inform the dynamics of the relationship. Future research should, thus, proceed in this direction by providing a more comprehensive picture of how entrepreneurs and investors interact and how individual characteristics may play a critical role in designing their relationship.

Another interesting line for future research is the investigation of the existence of trade-offs between different characteristics of the ET. As pointed out by different papers, ETs are dynamic: during the seed and start-up stages, they rarely possess all the competences required to facilitate business growth, but with the provision of financing (especially from BAs and VCs), they can change their internal composition to address the capability gaps that they have been exposed to. Addressing questions like “what characteristics do ETs need during different

stages of the business?” should to be explored. Another dimension of heterogeneity is also provided by the types of companies searching for external financing. For instance, academic spin-offs, technology-intensive ventures, and early-stage companies could be stronger in terms of technical skills but less in terms of business expertise when compared to corporate spin-offs, non-technology-intensive companies, and later-stage companies. This diversity should be considered in future research.

Linked to this but from the investor perspective, providing a holistic and dynamic picture of how team-level factors evolve in importance during the investment process from due diligence to the provision of investment and exit could be very informative. Surprisingly, the extant literature has mainly directed its attention toward the screening phases of the investment process, disregarding subsequent stages.

Finally, the venture capital market and, in minor part, the business angel community, are the main contexts analysed for investigating the link between entrepreneurial characteristics and investors. However, the popular method of crowdfunding [Li et al., 2016] could be an interesting context to investigate. Through this internet-based financing tool, the ET is more exposed to the audience, and ET information has to be detailed during the campaign. Understanding how investor empathy in a project is driven by characteristics of the ET is interesting, especially if compared with the dynamics characterizing the VC market.

In a similar fashion, ETs’ ability to apply for and receive institutional and public support has been extensively researched. Public policy is indeed a valuable mechanism for alleviating the imperfections of the capital market. It is, thus, a promising topic that needs to be improved from both theoretical and methodological perspectives. The limited number of papers available signals a significant opportunity to contribute to the field, but at the same time highlights the possible directions for improving the research.

From a theoretical point of view, deeper theorizing should be informative as to why and how public support is considered by ETs. The resource-based view, the decision-making approach, and the signalling theory are just a few examples of frameworks that could be used to better explain the research design of papers in this area.

From a methodological perspective, it is well known that studies on human capital need to be developed through sophisticated measures to capture the different types and the levels of capabilities characterizing ETs. Teams are built of individuals who, in turn, are characterized by different experiences, different educational background, and different cognitive constructs. Future research should, thus, analyse team heterogeneity in a more comprehensive way to

capture the effect on public support. The concept of team member cohesion is another topic that has been marginally investigated. However, the extent to which team members are attracted to one another and committed to the team's tasks could be an important antecedent of public support and performance. Also, because public support mechanisms tend to be generally suitable for new ventures in their early stages of development, future research should use different metrics of performance (other than growth) that better fit different phases of the entrepreneurial process.

In terms of research design, more effort is needed to perform econometric analysis based on a wider data-gathering process. The prevalence of research focused on single case studies neither allows for generalization of the results nor provides policy implications that can be replicated in different contexts. Having a larger sample of companies as well as information about rejected applications would make it possible to extend the existing research.

### 8.3.2 *Market-related outcomes*

Finally, our review also highlighted some room for contribution in conversations addressing *entrepreneurial teams and market-related firm performance*. As mentioned above, several criteria have been used to analyse market-related outcomes: employment, sales, first product sale, gross margin, market share, and probability of exit (IPO, M&A) and of failure/survival. However, rather than highlighting opportunities for any given metric, we'll refer to market-related firm performance in general.

Conceptually speaking, we see at least three opportunities for further contributions. First, because there is a dearth of micro-studies on the within-team determinants of entrepreneurial firm performance [Chen & Wang, 2008; Hmieleski & Ensley, 2007; Ruef, 2002] and very few papers that address team dynamic and evolutions [Guenther et al., 2016], we invite more research addressing these facets. Second, most research still adopts an upper-echelon approach. Because we see value in it, we also invite future researchers to challenge this perspective, focusing on non-managerial employees' characteristics and on their impact on performance [Andries & Czarnitzki, 2014] as well. Third, the array of potential impacts and outcomes on firms is broader than those that have been researched thus far. Social performance and impacts should also be considered [Battilana et al., 2015].

As for methods, we see ample room for advancing state-of-the-art research. In particular, most papers used a rather static cross-sectional approach, and longitudinal-dynamic research designs were exceptions [Battilana et al., 2015; Brannon et al., 2013]. Second, the

quasi totality of studies did not address endogeneity in team formation and in specifying the boundary conditions for the relationship between ETs and firm performance. Future research should address this issue carefully [Eesley et al., 2014]. Third, consistent with the aforementioned point about the upper-echelon approach, single-respondent approaches should be challenged when studying firm performance. Multiple actors/facets may impact decision making and performance [De Cleyn et al., 2015; Hmieleski & Ensley, 2007]. This has resulted in a dearth of studies using a full-population approach [Agarwal et al., 2016; Dahl & Reichstein, 2007].

## **9. Conclusion**

In this paper, we reviewed 256 papers on ETs, published between 1985 and 2016 in business, management, and economics journals. Consistent with an input-process-outcome framework, we proposed a conceptual representation of how ETs form, evolve, and have an impact. We provided a definition of ET rooted in state-of-the-art literature, identifying opportunities for further research in the field. Consistent with the research gaps highlighted in the paper, in the near future, we hope to see more research emphasizing multi-level, process theories of entrepreneurship that employ longitudinal, dynamic, population-based research designs.

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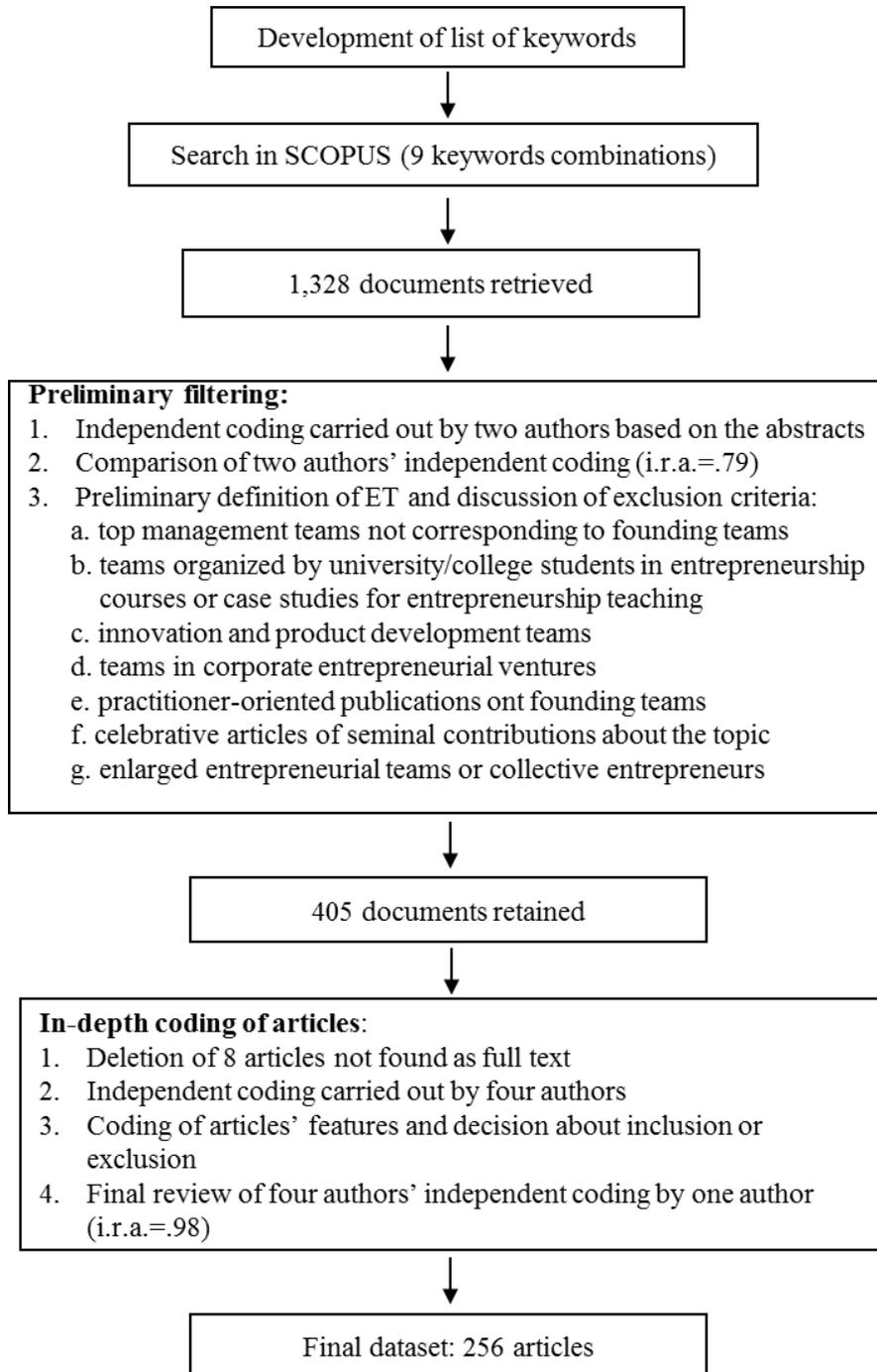
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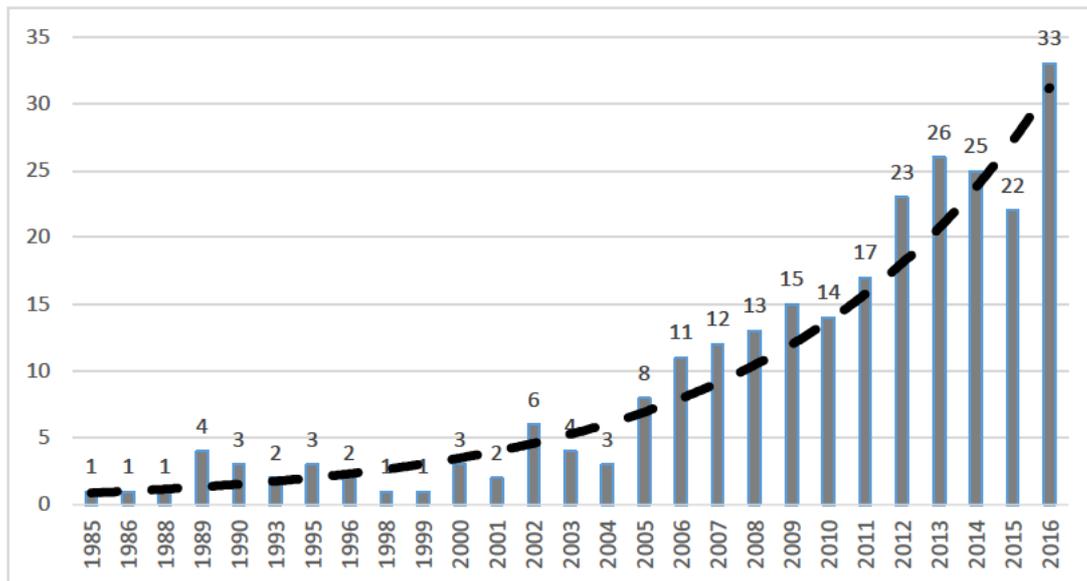
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## EXHIBITS

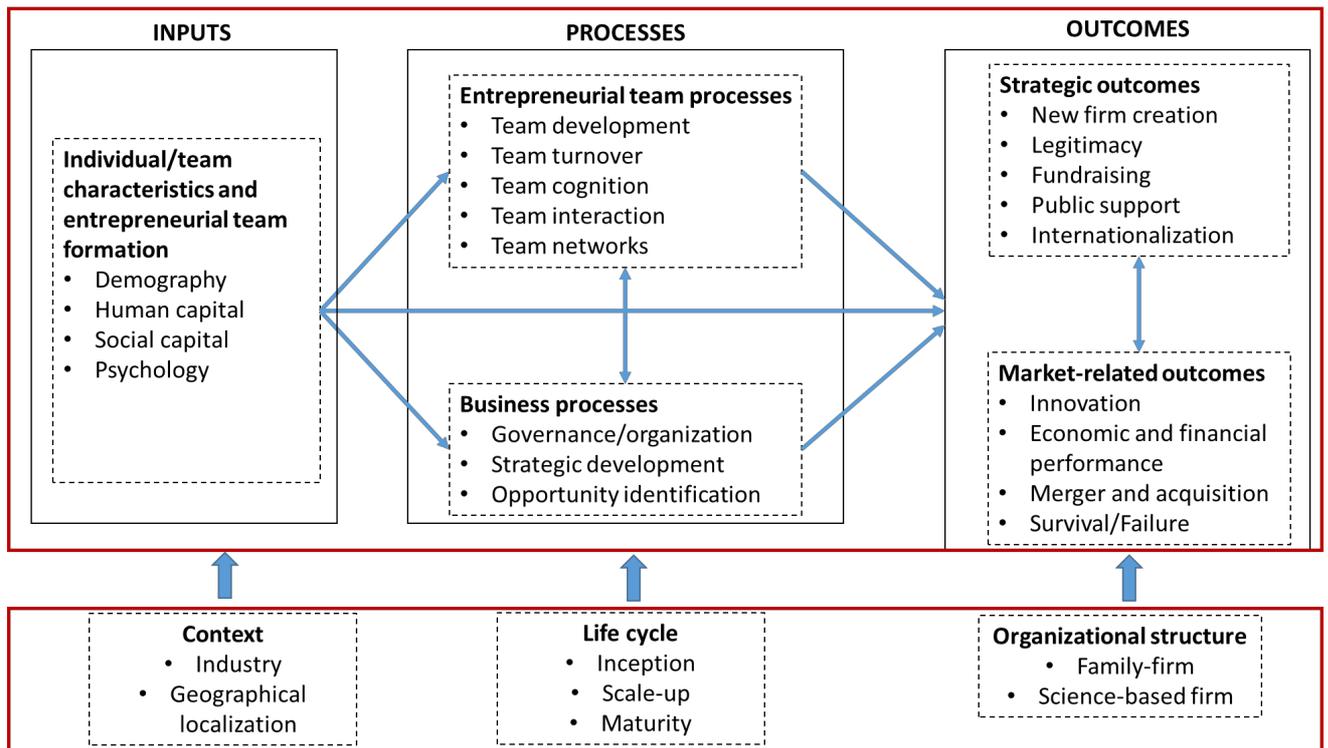
Figure 2.1 – The process of data collection



**Figure 2.2 – Year of publication of articles included in the review**



**Figure 2.3 – Analytical framework**



**Table 2.1 – Top 15 outlets of articles included in the sample**

<b>Source title</b>	<b>n articles</b>	<b>% on total</b>
Journal of Business Venturing	29	11,3%
Entrepreneurship: Theory and Practice	23	9,0%
Entrepreneurship and Regional Development	9	3,5%
Small Business Economics	9	3,5%
Academy of Management Journal	8	3,1%
Journal of Small Business and Enterprise Development	8	3,1%
Management Research News	8	3,1%
International Entrepreneurship and Management Journal	7	2,7%
International Small Business Journal	7	2,7%
Research Policy	6	2,3%
Strategic Management Journal	5	2,0%
Venture Capital	5	2,0%
International Journal of Entrepreneurship and Innovation Management	4	1,6%
Journal of International Entrepreneurship	4	1,6%
Organization Science	4	1,6%

**Table 2.2 – Theoretical papers**

<b>Type of paper</b>	<b>N. papers</b>	<b>%</b>	<b>Authors</b>
Theoretical	27	10.5%	Aldrich, Kim (2007); Balkin, Swift (2006); Bolle (1995); Bryant (2014); Butler, Williams-Middleton (2014); <b>Carland, Carland (2012); de Mol, Khapova, Elfring. (2015);</b> Dufays, Huybrechts (2016); Godwin, Stevens, Brenner (2006); Gurrieri (2013); Harper (2008); Hellmann, Thiele (2015); <b>Huovinen, Pasanen (2010);</b> Kakarika (2013); Khademi, Ismail (2013); <b>Klotz, Hmieleski, Bradley, Busenitz (2014);</b> Lim, Busenitz, Chidambaram (2013); Liu (2016); Mitteness, Baucus, Norton (2013); Mosakowski (1998); Packalen (2007); <b>Schjoedt, Kraus (2009); Schjoedt, Kraus (2009); Schjoedt, Monsen, Pearson, Barnett, Chrisman (2013);</b> Shepherd, Douglas, Shanley (2000); <b>Vyakarnam, Handelberg (2005);</b> Witt (2004)

Note: Papers highlighted in bold characters are reviews of previous literature on entrepreneurial teams

**Table 2.3 – Empirical papers – Macro theories used**

<b>Theory</b>	<b>N. of papers</b>	<b>%</b>	<b>Authors</b>
Resource-based view	28	10.9%	Bruton, Rubanik (2002); Andrén, Magnusson, Sjölander (2003); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Laanti, Gabrielsson, Gabrielsson (2007); Federico, Kantis, Rialp, Rialp (2009); Wu, Wang, Tseng, Wu (2009); Brinckmann, Salomo, Gemuenden (2011); Cunningham, Loane, Ibbotson (2012); Federico, Rabetino, Kantis (2012); Ganotakis (2012); Gruber, MacMillan, Thompson (2012); Hauser, Moog, Werner (2012); Khavul, Prater, Swafford (2012); Miloud, Aspelund, Cabrol (2012); Speckbacher, Wentges (2012); Wang, Wu (2012); De Cleyn, Braet, Klofsten (2013); Gruber, MacMillan, Thompson (2013); Zhao, Song, Storm (2013); Ammettler, Rodríguez-Ardura, Lladós-Masllorens (2014); Saemundsson, Candi (2014); Loane, Bell, Cunningham (2014); Lafuente, Stoian, Rialp

Upper Echelon	16	6.3%	(2015); Muñoz-Bullon, Sanchez-Bueno, Vos-Saz (2015); Zhao, Libaers, Song (2015); Huynh (2016); Franco-Leal, Soetanto, Camelo-Ordaz (2016); Ughetto (2016). Chandler, Honig, Wiklund (2005); Pasanen Laukkanen(2006); Vanaelst, Clarysse, Wright, Lockett, Moray, S'Jegers (2006); Kroll, Walters, Le (2007); Shrader, Siegel (2007); Li (2008); Li, Li (2009); DeVaughn, Leary (2010); Bjørnåli, Aspelund (2012); Liu, Li, Hesterly, Cannella (2012); Eesley, Hsu, Roberts (2014); Leung, Foo, Chaturvedi (2013); Patton, Higgs (2013); Andries, Czarnitzki (2014); Visintin, Pittino (2014); Denicolai, Hagen, Pisoni (2015).
Social capital	14	5.5%	Sørheim (2005); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Hsu (2007); Stam, Elfring (2008); Federico, Kantis, Rialp, Rialp (2009); Wu, Wang, Tseng, Wu (2009); Vissa, Chacar (2009); Paré, Rédis, Hikkerova (2011); Zolin, Kuckertz, Kautonen (2011); Yusuf (2012); De Cleyn, Braet, Klofsten (2013); Discua Cruz, Howorth, Hamilton (2013); Hagen, Zucchella (2014); Huynh (2016).
Cognitive/social psychology	18	7%	Higashide, Birley (2002); Barney, Busenitz, Fiet, Moesel (1996); Cook, Belliveau, Sandberg (2004); Beckman (2006); West III (2007); Schenkel, Garrison (2009); Sardana, Scott-Kemmis (2010); Voudouris, Dimitratos, Salavou (2011); Kefan, Gang, Wu, Luo, Qian (2011); Fern, Cardinal, O'Neill (2012); Brannon, Wiklund, Haynie (2013); Knockaert, Vanacker (2013); Khan, Breitenecker, Schwarz (2014); Vogel, Puhan, Shehu, Kliger, Beese (2014); Khan, Breitenecker, Gustafsson, Schwarz (2015); Khan, Breitenecker, Schwarz (2015); Walter, Schmidt, Walter (2016); Nordström, Sirén, Thorgren, Wincent (2016).
Human capital	10	3.9%	Athanassiou, Crittenden, Kelly, Marquez (2002); Colombo, Grilli (2005); Dahl, Reichstein (2007); Cooney (2009); Lafuente, Rabetino (2011); Ganotakis, Love (2012); Xiao, Larson, North (2013); De Cleyn, Braet, Klofsten (2015); Kaiser, Müller (2015); Scarlata, Zacharakis, Walske (2016).

Network theory	7	2.7%	Neergaard (2005); Ruef (2002).Chen, Wang (2008); Miloud, Aspelund, Cabrol (2012); Boari, Riboldazzi (2014); Durda, Krajčák (2016); D’hont, Doern, Delgado García (2016).
Cultural perspectives	5	1.9%	Rosa, Dawson (2006); Dautzenberg (2012); Discua Cruz, Hamilton, Jack (2012); Lalonde (2013); Yang, Aldrich (2014).
Path-dependency	5	1.9%	Beckman, Burton (2008); Walske, Zacharakis (2009); Battilana, Sengul, Pache, Model (2015); Ciuchta, Gong, Miner, Letwin, Sadler (2016); Guenther, Oertel, Walgenbach (2016).
Knowledge-based perspective	4	1.6%	Mäkelä, Maula (2008); Knockaert, Ucbasaran, Wright, Clarysse (2011); Agarwal, Campbell, Franco, Ganco (2016); Bettiol, De Marchi Di Maria (2016).

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Note: (1) Papers adopting multiple theoretical perspectives are reported in each relevant group  
(2) The list refers only to those papers clearly stating the adopted theoretical perspective

**Table 2.4 – Empirical papers - methodologies**

<b>Type of paper</b>	<b>N. papers</b>	<b>%</b>	<b>Authors</b>
Quantitative	171	74.7%	Aabo, Kuhn, Zanotti (2011); Ammettler, Rodríguez-Ardura, Lladós-Masllorens (2014); Andries, Czarnitzki (2014); Arrighetti, Bolzani, Lasagni (2014); Bains (2007); Balkin, Markman (2001); Barney, Busenitz, Fiet, Moesel (1996); Bjørnåli, Aspelund (2012); Boeker, Karichalil (2002); Brinckmann, Hoegl (2011); Brinckmann, Salomo, Gemuenden (2011); Broughman, Fried (2013); Cannone, Ughetto (2014); Carlos Nunes, Gomes Santana Félix, Pacheco Pires (2014); Chen, Wang (2008); Ciuchta, Gong, Miner, Letwin, Sadler (2016); Clarysse, Knockaert, Lockett (2007); Coad, Timmermans (2014); Collewaert, Sapienza. (2016); Colombo, De Massis, Piva, Rossi-Lamastra, Wright (2014); Colombo, Grilli (2005); Cooney (2009); Dai, Roundy, Chok, Ding, Byun (2016); Delmar, Shane (2006); Deng, Marcoulides, Yuan (2015); Deng, Yuan (2015); DeTienne, McKelvie, Chandler (2015); Dubini (1989); Eesley, Hsu, Roberts (2014); Ensley, Carland, Carland (2000); Ganotakis (2012); Ganotakis, Love (2012); George, Erikson, Parhankangas (2016); Ginn, Sexton (1990); Grilli (2011); Groh, Liechtenstein (2011); Gruber, MacMillan, Thompson (2013); Gruber, MacMillan, Thompson (2012); Haar, Starr, MacMillan (1988); Hart (2014); Hart, Acs (2011); Hauser, Moog, Werner (2012); Hedberg, Danes (2012); Higashide, Birley (2002); Hmieleski, Ensley (2007); Hsu (2007); Huynh (2016); Kelly, Lewa, Kamaria (2008); Khan, Breitenecker, Gustafsson, Schwarz (2015); Khan, Breitenecker, Schwarz (2014); Khan, Breitenecker, Schwarz (2015); Khavul, Prater, Swafford (2012); Khodaei, Scholten, Wubben, Omta (2016); Kirschenhofer, Lechner (2012); Knight (1989); Knockaert, Ucbasaran (2013); Kristinsson, Candi, Sæmundsson (2016); Lafuente, Rabetino (2011); Lafuente, Stoian, Rialp (2015); Li, Liao (2010); Lukeš, Zouhar (2016); Mueller, Gemüunden (2009); Munari, Toschi (2011); Nam (2000); Nordström, Sirén, Thorgren, Wincent (2016); O'Connor, Hamouda, McKeon, Henry, Johnston (2006); Organ, O'Flaherty (2016); Pasanen, Laukkanen (2006); Ucbasaran, Lockett, Wright, Westhead (2003); Portmann, Mlambo (2013); Rea (1989); Rojas, Huergo (2016); Ruef (2002); Saemundsson, Candi (2014); Schenkel, Garrison (2009); Siegel, Siegel, Macmillan (1993); Sine, Mitsuhashi, Kirsch (2006); Speckbacher, Wentges (2012); Stam, Elfring (2008); Tihula, Huovinen,

Qualitative	49	21.4%	Fink (2009); Ughetto (2016); Visintin, Pittino (2014); Vissa, Chacar (2009); Wang, Wu (2012); Wu, Wang, Tseng, Wu (2009); Xiao, Larson, North (2013); Zacharakis, Erikson, George (2010); Zhao, Libaers, Song (2015); Zhao, Song, Storm (2013); Zheng (2012); Zhou (2016); Zheng, Mai (2013); Zhou, Hu, Zey (2015); Zolin, Kuckertz, Kautonen (2011); Chandler, Honig, Wiklund (2005); Rhee (2008); Bettiol, De Marchi, Di Maria (2016); Denicolai, Hagen, Pisoni (2015); Müller (2010); Gottschalk, Niefert (2013); Packalen (2015); Scarlata, Zacharakis, Walske (2016); Walter, Schmidt, Walter (2016); de Jong, Song, Song (2013); West III (2007); Wu, Kefan, Hua, Shi, Olson (2010). Abatecola, Uli (2016); Andrén, Magnusson, Sjölander (2003); Boari, Riboldazzi (2014); Breugst, Patzelt, Rathgeber (2015); Clarysse, Moray (2004); Cunningham, Loane, Ibbotson (2012); D'hont, Doern, Delgado García (2016); De Cleyn, Braet, Klofsten (2013); Discua Cruz, Hamilton, Jack (2012); Discua Cruz, Howorth, Hamilton (2013); Durda, Krajčák (2016); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Gabrielsson (2005); Galkina, Kock (2011); Gilmore, Kazanjian (1989); Gurdon, Samsom (2010); Hagen, Zucchella (2014); Hall, Hofer (1993); Hudnut, DeTienne (2010); Iacobucci, Rosa (2010); Juvonen (2013); Karataş-Özkan (2011); Knockaert, Ucbasaran, Wright, Clarysse (2011); Kuschel, Lepeley (2016); Laanti, Gabrielsson, Gabrielsson (2007); Lalonde (2013); Lehner (2014); Loane, Bell, Cunningham (2014); Mäkelä, Maula (2008); Matlay, Martin (2009); Matlay, Westhead (2005); Mayer, Heinzl, Müller (1990); Middleton (2013); Mustar, Wright, Clarysse (2008); McGowan, Cooper (2012); Meewella (2015); Miozzo, DiVito (2016); Newth, Corner (2009); Patton, Higgs (2013); Rosa, Dawson (2006); Roue, Maidique (1986); Sardana, Scott-Kemmis (2010); Sørheim (2005); Thakur (1999); Vanacker, Manigart, Meuleman (2014); Vanaelst, Clarysse, Wright, Lockett, Moray, S'Jegers (2006); Voudouris, Dimitratos, Salavou (2011); Wing-Fai (2016); Zerwas, Von Korflesch (2016).
Mixed methods	9	3.9%	De Cleyn, Braet, Klofsten (2015); Lundqvist (2014); Battilana, Sengul, Pache, Model (2015); Gimmon (2008); Almandoz (2012); Almandoz (2014); Walske, Zacharakis (2009); Athanassiou, Crittenden, Kelly, Marquez (2002); Watson, Ponthieu, Critelli (1995)

**Table 2.5 – Empirical papers - industry context**

<b>Industry</b>	<b>N. papers</b>	<b>%</b>	<b>Authors</b>
Agriculture	3	1.3%	Discua Cruz, Hamilton, Jack (2012); Discua Cruz, Howorth, Hamilton (2013); Hedberg, Danes (2012).
Automotive	1	0.4%	Wu, Kefan, Hua, Shi, Olson (2010).
Creative	4	1.7%	Boari, Riboldazzi (2014); Cunningham, Loane, Ibbotson (2012); Karataş-Özkan (2011); Nordström, Sirén, Thorgren, Wincent (2016).
Financial	18	7.9%	Almandoz (2012); Almandoz (2014); DeVaughn, Leary (2010); Franke, Gruber, Harhoff, Henkel (2006); George, Erikson, Parhankangas (2016); Gimmon (2008); Groh, Liechtenstein (2011); Gruber, MacMillan, Thompson (2012); Knockaert, Vanacker (2013); Leary, DeVaughn (2009); Macmillan, Siegel, Narasimha (1985); Murnieks, Sudek, Wiltbank (2015); Muzyka, Birley, Leleux (1996); Portmann, Mlambo (2013); Scarlata, Zacharakis, Walske (2016); Walske, Zacharakis (2009); Zheng, Devaughn, Zellmer-Bruhn (2016).
High-tech	105	45.9%	Andrén, Magnusson, Sjölander (2003); Appelhoff, Mauer, Collewaert, Brettel (2016); Bains (2007); Barney, Busenitz, Fiet, Moesel (1996); Becker-Blease, Sohl (2015); Beckman (2006); Beckman, Burton (2008); Bettiol, De Marchi, Di Maria (2016); Bjørnåli, Aspelund (2012); Boeker, Karichalil (2002); Breugst, Patzelt, Rathgeber (2015); Brinckmann, Hoegl (2011); Brinckmann, Salomo, Gemuenden (2011); Broughman, Fried (2013); Bruton, Rubanik (2002); Carlos Nunes, Gomes Santana Félix, Pacheco Pires (2014); Chaganti, Watts, Chaganti, Zimmerman-Treichel (2008); Chen, Wang (2008); Chowdhury (2005); Clarysse, Knockaert, Lockett (2007); Clarysse, Moray (2004); Collewaert, Sapienza (2016); Colombo, De Massis, Piva, Rossi-Lamastra, Wright (2014); Colombo, Grilli (2005); Cooney (2009); Dai, Roundy, Chok, Ding, Byun (2016); Dautzenberg (2012); Dautzenberg, Reger (2010); Dautzenberg, Reger (2010); De Cleyn, Braet, Klofsten (2015); De Cleyn, Braet, Klofsten (2013); de Jong, Song, Song (2013); DeTienne, McKelvie, Chandler (2015); Ding (2011); Durda, Krajčák (2016); Fontana, Malerba, Marinoni (2016); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Gabrielsson (2005); Ganotakis (2012); Ganotakis, Love (2012); Gilmore, Kazanjian (1989); Grilli (2011); Gruber, MacMillan, Thompson (2013); Gurdon, Samsom (2010);

Hagen, Zucchella (2014); Hart (2014); Hart, Acs (2011); Hsu (2007); Hudnut, DeTienne (2010); Juvonen (2013); Khan, Breitenecker, Gustafsson, Schwarz (2015); Khan, Breitenecker, Schwarz (2014); Khan, Breitenecker, Schwarz (2015); Kirschenhofer, Lechner (2012); Knockaert, Clarysse, Wright (2010); Knockaert, Ucbasaran (2013); Knockaert, Vanacker (2013); Kor (2003); Kuschel, Lepeley (2016); Laanti, Gabrielsson, Gabrielsson (2007); Lechler (2001); Leung, Foo, Chaturvedi (2013); Li, Li (2009); Li (2008); Li, Liao (2010); Liu, Li, Hesterly, Cannella (2012); Loane, Bell, Cunningham (2014); Lundqvist (2014); Matlay, Westhead (2005); McGee, Dowling, Megginson (1995); Meewella (2015); Middleton (2013); Miozzo, DiVito (2016); Mueller, Gemüunden (2009); Munari, Toschi (2011); Nam (2000); Neergaard (2005); Newth, Corner (2009); O'Connor, Hamouda, McKeon, Henry, Johnston (2006); Organ, O'Flaherty (2016); Packalen (2015); Patton, Higgs (2013); Roure, Keeley (1990); Roure, Maidique (1986); Saemundsson, Candi (2014); Sardana, Scott-Kemmis (2010); Shrader, Siegel (2007); Sine, Mitsuhashi, Kirsch (2006); Sørheim (2005); Stam, Elfring (2008); Townsend, Busenitz (2015); Ughetto (2016); Vanacker, Manigart, Meuleman (2014); Visintin, Pittino (2014); Vissa, Chacar (2009); Voudouris, Dimitratos, Salavou (2011); Walter, Schmidt, Walter (2016); Wang, Wu (2012); Wei, Li, Chok, Yang, Shang (2013); West III (2007); Wing-Fai (2016); Wu, Wang, Tseng, Wu (2009); Xiao, Larson, North (2013); Zhao, Libaers, Song (2015); Zhou (2016); Zhou Hu, Zey (2015); Zolin, Kuckertz, Kautonen (2011).

Manufacturing	5	2.2%	Aabo, Kuhn, Zanotti (2011); Andries, Czarnitzki (2014); Rhee (2008); Speckbacher, Wentges (2012); Thakur (1999).
Plastic	1	0.4%	DeTienne, McKelvie, Chandler (2015).
Real estate	1	0.4%	Sørheim (2005).
Research	7	3.1%	Ciuchta., Gong, Miner, Letwin, Sadler (2016); Hoogendoorn, Oosterbeek, Van Praag (2013); Knockaert, Ucbasaran, Wright, Clarysse (2011); Mayer, Heinzl, Müller (1990); Müller (2010); Mustar, Wright, Clarysse (2008); Vanaelst, Clarysse, Wright, Lockett, Moray, S'Jegers (2006).
Services	8	3.5%	Abatecola, Uli (2016); Agarwal, Campbell, Franco, Ganco (2016); Andries, Czarnitzki (2014); Loane, Bell, Cunningham (2014); Rhee (2008); Zhao, Song, Storm (2013); Zheng (2012); Zheng, Mai (2013).
Social	1	0.4%	Battilana, Sengul, Pache, Model (2015).

Tourism	1	0.4%	Matlay, Martin (2009).
Transport	2	0.9%	Fern, Cardinal, O'Neill (2012); Kefan, Gang, Wu, Luo, Qian (2011).
Various	72	31.4%	Arrighetti, Bolzani, Lasagni (2014); Athanassiou, Crittenden, Kelly, Marquez (2002); Balkin, Markman (2001); Brannon, Wiklund, Haynie (2013); Cannone, Ughetto (2014); Chandler, Honig, Wiklund (2005); Coad, Timmermans (2014); Cook, Belliveau, Sandberg (2004); D'hont, Doern, Delgado García (2016); Dahl, Reichstein (2007); Delmar, Shane (2006); Deng, Marcoulides, Yuan (2015); Deng, Yuan (2015); Denicolai, Hagen, Pisoni (2015); Dubini (1989); Eesley, Hsu, Roberts (2014); Ensley, Carland, Carland (2000); Farrington, Venter, Eybers, Boshoff (2011); Federico, Rabetino, Kantis (2012); Federico, Kantis, Rialp, Rialp (2009); Franco-Leal, Soetanto, Camelo-Ordaz (2016); Franke, Gruber, Harhoff, Henkel (2008); Galkina, Kock (2011); Ginn, Sexton (1990); Gottschalk, Niefert (2013); Guenther, Oertel, Walgenbach (2016); Haar, Starr, MacMillan (1988); Hall, Hofer (1993); Hauser, Moog, Werner (2012); Higashide, Birley (2002); Hill, Craig Wallace, Ridge, Johnson, Paul, Suter (2014); Hmieleski, Ensley (2007); Huynh (2016); Iacobucci, Rosa (2010); Jain, Tabak (2008); Kaiser, Müller (2015); Kelly, Lewa, Kamaria (2008); Khavul, Prater, Swafford (2012); Khodaei, Scholten, Wubben, Omta (2016); Knight (1989); Kristinsson, Candi, Sæmundsson (2016); Kroll, Walters, Le (2007); Lafuente, Rabetino (2011); Lafuente, Stoian, Rialp (2015); Lalonde (2013); Lehner (2014); Li, Tang, Yang, Ren, Zheng, Zhou (2016); Mäkelä, Maula (2008); McGowan, Cooper (2012); Miloud, Aspelund, Cabrol (2012); Muñoz-Bullon, Sanchez-Bueno, Vos-Saz (2015); Paré, Rédis, Hikkerova (2011); Pasanen, Laukkanen (2006); Ucbasaran, Lockett, Wright, Westhead (2003); Robichaud, Zinger, Lebrasseur (2007); Rojas, Huergo (2016); Rosa, Dawson (2006); Ruef (2002); Ruef (2009); Ruef, Aldrich, Carter (2003); Schenkel, Garrison (2009); Siegel, Siegel, Macmillan (1993); Steffens, Terjesen, Davidsson (2012); Thiess, Sirén, Grichnik (2016); Tihula, Huovinen (2010); Tihula, Huovinen, Fink (2009); Watson, Ponthieu, Critelli (1995); Yang, Aldrich (2014); Yusuf (2012); Yusuf (2015); Zacharakis, Erikson, George (2010).

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Note: (1) Papers analysing multiple industries are reported in each relevant group

**Table 2.6 – Empirical papers - geographic focus**

<b>Geographic area</b>	<b>N. papers</b>	<b>%</b>	<b>Authors</b>
Africa	4	1.7%	Farrington, Venter, Eybers, Boshoff (2011); Khavul, Prater, Swafford (2012); Kelly, Lewa, Kamaria (2008); Portmann, Mlambo (2013).
Asia	29	12.7%	Chen, Wang (2008); Dai, Roundy, Chok, Ding, Byun (2016); Deng, Marcoulides, Yuan (2015); Deng, Yuan (2015); Federico, Rabetino, Kantis (2012); Khavul, Prater, Swafford (2012); Kefan, Gang, Wu, Luo, Qian (2011); Leung, Foo, Chaturvedi (2013); Li, Li (2009); Li, Liao (2010); Li, Tang, Yang, Ren, Zheng, Zhou (2016); Meewella (2015); Nam (2000); Rhee (2008); Sardana, Scott-Kemmis (2010); Schenkel, Garrison (2009); Thakur (1999); Vissa, Chacar (2009); Wang, Wu (2012); Wei, Li, Chok, Yang, Shang (2013); Wing-Fai (2016); Wu, Kefan, Hua, Shi, Olson (2010); Wu, Wang, Tseng, Wu (2009); Xiao, Larson, North (2013); Zhao, Libaers, Song (2015); Zheng (2012); Zheng, Mai (2013); Zhou (2016); Zhou, Hu, Zey (2015).
Europe	111	48.5%	Aabo, Kuhn, Zanotti (2011); Abatecola, Uli (2016); Ammettler, Rodríguez-Ardura, Lladós-Masllorens (2014); Andrén, Magnusson, Sjölander (2003); Andries, Czarnitzki (2014); Appelhoff, Mauer, Collewaert, Brettel (2016); Arrighetti, Bolzani, Lasagni (2014); Bains (2007); Battilana, Sengul, Pache, Model (2015); Bettiol, De Marchi, Di Maria (2016); Boari, Riboldazzi (2014); Brinckmann, Hoegl (2011); Brinckmann, Salomo, Gemuenden (2011); Bruton, Rubanik (2002); Carlos Nunes, Gomes Santana Félix, Pacheco Pires (2014); Chandler, Honig, Wiklund (2005); Clarysse, Knockaert, Lockett (2007); Clarysse, Moray (2004); Coad, Timmermans (2014); Collewaert, Sapienza (2016); Colombo, De Massis, Piva, Rossi-Lamastra, Wright (2014); Colombo, Grilli (2005); Cooney (2009); Cunningham, Loane, Ibbotson (2012); D'hont, Doern, Delgado García (2016); Dahl, Reichstein (2007); Dautzenberg (2012); Dautzenberg, Reger (2010); De Cleyn, Braet, Klofsten (2013); De Cleyn, Braet, Klofsten (2015); Delmar, Shane (2006); Denicolai, Hagen, Pisoni (2015); Durda, Krajčík (2016); Franco-Leal, Soetanto, Camelo-Ordaz (2016); Federico, Kantis, Rialp, Rialp (2009); Federico, Rabetino, Kantis (2012); Gabrielsson (2005); Galkina, Kock (2011); Ganotakis (2012); Ganotakis, Love (2012); George, Erikson, Parhankangas (2016); Gottschalk, Niefert (2013); Grilli (2011); Gruber, MacMillan, Thompson (2012); Gruber, MacMillan, Thompson (2013); Guenther, Oertel, Walgenbach (2016); Hagen, Zucchella

(2014); Hauser, Moog, Werner (2012); Higashide, Birley (2002); Hoogendoorn, Oosterbeek, Van Praag (2013); Huynh (2016); Iacobucci, Rosa (2010); Juvonen (2013); Kaiser, Müller (2015); Khan, Breitenecker, Gustafsson, Schwarz (2015); Khan, Breitenecker, Schwarz (2014); Khan, Breitenecker, Schwarz (2015); Khodaei, Scholten, Wubben, Omta (2016); Kirschenhofer, Lechner (2012); Knockaert, Clarysse, Wright (2010); Knockaert, Ucbasaran (2013); Knockaert, Ucbasaran, Wright, Clarysse (2011); Knockaert, Vanacker (2013); Kristinsson, Candi, Sæmundsson (2016); Laanti, Gabrielsson, Gabrielsson (2007); Lafuente, Rabetino (2011); Lafuente, Stoian, Rialp (2015); Lechler (2001); Lukeš, Zouhar (2016); Lundqvist (2014); Mäkelä, Maula (2008); Matlay, Martin (2009); Matlay, Westhead (2005); Mayer, Heinzl, Müller (1990); McGowan, Cooper (2012); Meewella (2015); Middleton (2013); Miloud, Aspelund, Cabrol (2012); Miozzo, DiVito (2016); Mueller, Gemüunden (2009); Müller (2010); Munari, Toschi (2011); Mustar, Wright, Clarysse (2008); Muzyka, Birley, Leleux (1996); Neergaard (2005); Nordström, Sirén, Thorgren, Wincent (2016); O'Connor, Hamouda, McKeon, Henry, Johnston (2006); Organ, O'Flaherty (2016); Paré, Rédis, Hikkerova (2011); Pasanen, Laukkanen (2006); Patton, Higgs (2013); Rojas, Huergo (2016); Rosa, Dawson (2006); Saemundsson, Candi (2014); Scarlata, Zacharakis, Walske (2016); Sørheim (2005); Speckbacher, Wentges (2012); Stam, Elfring (2008); Steffens, Terjesen, Davidsson (2012); Tihula, Huovinen (2010); Tihula, Huovinen, Fink (2009); Ucbasaran, Lockett, Wright, Westhead (2003); Vanacker, Manigart, Meuleman (2014); Vanaelst, Clarysse, Wright, Lockett, Moray, S'Jegers (2006); Visintin, Pittino (2014); Vogel, Puhan, Shehu, Kliger, Beese (2014); Voudouris, Dimitratos, Salavou (2011); Walter, Schmidt, Walter (2016); Zacharakis, Erikson, George (2010); Zolin, Kuckertz, Kautonen (2011).

Middle East	2	0.1,%	Gimmon (2008); Schenkel, Garrison (2009).
North America	78	34.1%	Agarwal, Campbell, Franco, Ganco (2016); Almandoz (2012); Almandoz (2014); Balkin, Markman (2001); Barney, Busenitz, Fiet, Moesel (1996); Becker-Blease, Sohl (2015); Beckman (2006); Beckman, Burton (2008); Bjørnåli, Aspelund (2012); Boeker, Karichalil (2002); Brannon, Wiklund, Haynie (2013); Breugst, Patzelt, Rathgeber (2015); Broughman, Fried (2013); Chaganti, Watts, Chaganti, Zimmerman-Treichel (2008); Chandler, Honig, Wiklund (2005); Chowdhury (2005); Ciuchta, Gong, Miner, Letwin, Sadler (2016); Collewaert, Sapienza (2016); Cook, Belliveau, Sandberg (2004); Cooney (2009); de Jong, Song, Song (2013); DeTienne, McKelvie, Chandler (2015); DeV Vaughn, Leary (2010); Ding

			(2011); Dubini (1989); Eesley, Hsu, Roberts (2014); Ensley, Carland, Carland (2000); Fern, Cardinal, O'Neill (2012); Fontana, Malerba, Marinoni (2016); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Franke, Gruber, Harhoff, Henkel (2006); Franke, Gruber, Harhoff, Henkel (2008); Gilmore, Kazanjian (1989); Gimmon (2008); Ginn, Sexton (1990); Gurdon, Samsom (2010); Haar, Starr, MacMillan (1988); Hall, Hofer (1993); Hart (2014); Hill, Craig Wallace, Ridge, Johnson, Paul, Suter (2014); Hmieleski, Ensley (2007); Hsu (2007); Hudnut, DeTienne (2010); Jain, Tabak (2008); Knight (1989); Kor (2003); Kroll, Walters, Le (2007); Lalonde (2013); Leary, DeV Vaughn (2009); Li (2008); Liu, Li, Hesterly, Cannella (2012); Macmillan, Siegel, Narasimha (1985); McGee, Dowling, Megginson (1995); Muñoz-Bullon, Sanchez-Bueno, Vos-Saz (2015); Murnieks, Sudek, Wiltbank (2015); Packalen (2015); Rea (1989); Robichaud, Zinger, Lebrasseur (2007); Roure, Keeley (1990); Roure, Maidique (1986); Ruef (2002); Ruef (2002); Ruef (2009); Ruef, Aldrich, Carter (2003); Scarlata, Zacharakis, Walske (2016); Schenkel, Garrison (2009); Shrader, Siegel (2007); Siegel, Siegel, Macmillan (1993); Sine, Mitsuhashi, Kirsch (2006); Thiess, Sirén, Grichnik (2016); Townsend, Busenitz (2015); Walske, Zacharakis (2009); Watson, Ponthieu, Critelli (1995); West III (2007); Yang, Aldrich (2014); Yusuf (2012); Yusuf (2015); Zhao, Song, Storm (2013); Zheng, Devaughn., Zellmer-Bruhn (2016);
Oceania	2	0.1%	Newth, Corner (2009); Sardana, Scott-Kemmis (2010).
South America	6	2.6%	Athanassiou, Crittenden, Kelly, Marquez (2002); Discua Cruz, Hamilton, Jack (2012); Discua Cruz, Howorth, Hamilton (2013); Federico, Kantis, Rialp, Rialp (2009); Federico, Rabetino, Kantis (2012); Kuschel, Lepeley (2016).
World	5	2.2%	Cannone, Ughetto (2014); Groh, Liechtenstein (2011); Hart, Acs (2011); Lehner (2014); Ughetto (2016).

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Note: (1) Papers analysing multiple geographical environments are reported in each relevant group

**Table 4.1 – Definitions of Entrepreneurial teams**

<b>Category</b>	<b>N. papers</b>	<b>%</b>	<b>Authors</b>
Define ETs	38	14,84 %	Arrighetti, Bolzani, Lasagni (2014); Brannon, Wiklund, Haynie (2013); Breugst, Patzelt, Rathgeber (2015); Carland, Carland (2012); Clarysse, Moray (2004); Collewaert, Sapienza (2016); Cooney (2009); D'hont, Doern, Delgado García (2016); Dautzenberg, Reger (2010); Ensley, Carland, Carland (2000); Forbes, Borchert, Zellmer-Bruhn, Sapienza (2006); Galkina, Kock (2011); Ganotakis (2012); Godwin, Stevens, Brenner (2006); Harper (2008); Hauser, Moog, Werner (2012); Hedberg, Danes (2012); Huovinen, Pasanen (2010); Khan, Breitenecker, Gustafsson, Schwarz (2015); Khan, Breitenecker, Schwarz (2015); Khan, Breitenecker, Schwarz (2014); Lafuente, Rabetino (2011); Lechler (2001); Liu (2016); Loane, Bell, Cunningham (2014); Miloud, Aspelund, Cabrol (2012); Muñoz-Bullon, Sanchez-Bueno, Vos-Saz (2015); Neergaard (2005); Nordström, Sirén, Thorgren, Wincent (2016); O'Connor, Hamouda, McKeon, Henry, Johnston (2006); Pasanen, Laukkanen (2006); Ucbasaran, Lockett, Wright, Westhead (2003); Schjoedt, Kraus (2009); Shrader, Siegel (2007); Stam, Elfring (2008); Tihula, Huovinen (2010); Tihula, Huovinen, Fink (2009); Zolin, Kuckertz, Kautonen (2011).
ETs as NVT	11	4,3%	Bains (2007); Barney, Busenitz, Fiet, Moesel (1996); Kaiser, Müller (2015); Klotz, Hmieleski, Bradley, Busenitz (2014); Lim, Busenitz, Chidambaram (2013); McGee, Dowling, Megginson (1995); Mitteness, Baucus, Norton (2013); Murnieks, Sudek, Wiltbank (2015); Newth, Corner (2009); Watson, Ponthieu, Critelli (1995); Zacharakis, Erikson, George (2010).
ETs as TMTs	18	7,03%	Balkin, Markman (2001); Becker-Blease, Sohl (2015); Beckman (2006); Bjørnåli, Aspelund (2012); Dai, Roundy, Chok, Ding, Byun (2016); DeTienne, McKelvie, Chandler (2015); Kor (2003); Kristinsson, Candi, Sæmundsson (2016); Kroll, Walters, Le (2007); Li, Li (2009); Li (2008); Liu, Li, Hesterly, Cannella (2012); Patton, Higgs (2013); Shepherd, Douglas, Shanley (2000); Speckbacher, Wentges (2012); Vissa, Chacar (2009); Vyakarnam, Handelberg (2005); West III (2007).
ETs as FTs	64	25%	Aabo, Kuhn, Zanotti (2011); Agarwal, Campbell, Franco, Ganco (2016); Aldrich, Kim (2007); Almandoz (2012); Almandoz (2014); Appelhoff, Mauer, Collewaert, Brettel (2016); Athanassiou, Crittenden, Kelly, Marquez (2002); Balkin, Swift (2006); Battilana,

Sengul, Pache, Model (2015); Beckman, Burton (2008); Bettiol, De Marchi, Di Maria (2016); Boeker, Karichalil (2002); Bolle (1995); Brinckmann, Hoegl (2011); Brinckmann, Salomo, Gemuenden (2011); Bruton, Rubanik (2002); Bryant (2014); Butler, Williams-Middleton (2014); Chaganti, Watts, Chaganti, Zimmerman-Treichel (2008); Chowdhury (2005); Clarysse, Knockaert, Lockett (2007); Colombo, De Massis, Piva, Rossi-Lamastra, Wright (2014); Colombo, Grilli (2005); Cunningham, Loane, Ibbotson (2015); Ding (2011); Fern, Cardinal, O'Neill (2012); Gottschalk, Niefert (2013); Jain, Tabak (2008); Khavul, Prater, Swafford (2012); Mueller, Gemüunden (2009); Packalen (2015); Packalen (2007); Rojas, Huergo (2016); Rosa, Dawson (2006); Roure, Keeley (1990); Roure, Maidique (1986); Ruef (2002); Ruef (2009); Ruef, Aldrich, Carter (2003); Saemundsson, Candi (2014); Sardana, Scott-Kemmis (2010); Scarlata, Zacharakis, Walske (2016); Sine, Mitsuhashi, Kirsch (2006); Thakur (1999); Thiess, Sirén, Grichnik (2016); Townsend, Busenitz (2015); Vanacker, Manigart, Meuleman (2014); Visintin, Pittino (2014); Voudouris, Dimitratos, Salavou (2011); Walske, Zacharakis (2009); Walter, Schmidt, Walter (2016); Wei, Li, Chok, Yang, Shang (2013); Wing-Fai (2016); Witt (2004); Wu, Wang, Tseng, Wu (2009); Xiao, Larson, North (2013); Zhao, Libaers, Song (2015); Zhao, Song, Storm (2013); Zheng (2012); Zheng, Devaughn, Zellmer-Bruhn (2016); Zheng, Mai (2013); Zhou (2016); Zhou, Hu, Zey (2015); Steffens, Terjesen, Davidsson (2012).

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## APPENDIX

**Table A2.1 – Full list of publication outlets for the reviewed articles**

Source title	n articles	% on total	% cumul
Journal of Business Venturing	29	11,33%	11,33%
Entrepreneurship: Theory and Practice	23	8,98%	20,31%
Entrepreneurship and Regional Development	9	3,52%	23,83%
Small Business Economics	9	3,52%	27,34%
Academy of Management Journal	8	3,13%	30,47%
Journal of Small Business and Enterprise Development	8	3,13%	33,59%
Management Research News	8	3,13%	36,72%
International Entrepreneurship and Management Journal	7	2,73%	39,45%
International Small Business Journal	7	2,73%	42,19%
Research Policy	6	2,34%	44,53%
Strategic Management Journal	5	1,95%	46,48%
Venture Capital	5	1,95%	48,44%
International Journal of Entrepreneurship and Innovation Management	4	1,56%	50,00%
Journal of International Entrepreneurship	4	1,56%	51,56%
Organization Science	4	1,56%	53,13%
International Journal of Entrepreneurial Behaviour and Research	3	1,17%	54,30%
International Journal of Entrepreneurship and Innovation	3	1,17%	55,47%
International Journal of Entrepreneurship and Small Business	3	1,17%	56,64%
Journal of Business Research	3	1,17%	57,81%
Journal of Management	3	1,17%	58,98%
Journal of Small Business Management	3	1,17%	60,16%
Management Decision	3	1,17%	61,33%
Strategic Entrepreneurship Journal	3	1,17%	62,50%
Technovation	3	1,17%	63,67%
American Sociological Review	2	0,78%	64,45%
Asia Pacific Journal of Management	2	0,78%	65,23%
Industrial and Corporate Change	2	0,78%	66,02%
International Business Review	2	0,78%	66,80%
International Journal of Business Excellence	2	0,78%	67,58%
Journal of Entrepreneurship and Public Policy	2	0,78%	68,36%
Journal of Family Business Strategy	2	0,78%	69,14%
Journal of Product Innovation Management	2	0,78%	69,92%
Management Science	2	0,78%	70,70%
New Technology Based Firms in the New Millennium	2	0,78%	71,48%
R and D Management	2	0,78%	72,27%
South African Journal of Economic and Management Sciences	2	0,78%	73,05%

Academia	1	0,39%	73,44%
Academy of Entrepreneurship Journal	1	0,39%	73,83%
Administrative Science Quarterly	1	0,39%	74,22%
Asian Business and Management	1	0,39%	74,61%
Baltic Journal of Management	1	0,39%	75,00%
British Journal of Management	1	0,39%	75,39%
Cornell Law Review	1	0,39%	75,78%
Creativity and Innovation Management	1	0,39%	76,17%
Economic Development Quarterly	1	0,39%	76,56%
Economics of Innovation and New Technology	1	0,39%	76,95%
Education + Training	1	0,39%	77,34%
Educational and Psychological Measurement	1	0,39%	77,73%
European Financial Management	1	0,39%	78,13%
European Journal of Engineering Education	1	0,39%	78,52%
European Journal of International Management	1	0,39%	78,91%
Group and Organization Management	1	0,39%	79,30%
Human Resource Management Review	1	0,39%	79,69%
Industrial Marketing Management	1	0,39%	80,08%
Industry and Innovation	1	0,39%	80,47%
Information Communication and Society	1	0,39%	80,86%
International Journal of Business	1	0,39%	81,25%
International Journal of Business and Globalisation	1	0,39%	81,64%
International Journal of Entrepreneurial Venturing	1	0,39%	82,03%
International Journal of Gender and Entrepreneurship	1	0,39%	82,42%
International Journal of Innovation Management	1	0,39%	82,81%
International Journal of Management Reviews	1	0,39%	83,20%
International Journal of Managerial Finance	1	0,39%	83,59%
International Journal of Operations and Production Management	1	0,39%	83,98%
International Journal of Production Economics	1	0,39%	84,38%
International Journal of Technology Management	1	0,39%	84,77%
Journal of Business and Psychology	1	0,39%	85,16%
Journal of Business Strategy	1	0,39%	85,55%
Journal of Business Venturing Insights	1	0,39%	85,94%
Journal of Commercial Biotechnology	1	0,39%	86,33%
Journal of Decision Systems	1	0,39%	86,72%
Journal of Developmental Entrepreneurship	1	0,39%	87,11%
Journal of Economic Behaviour and Organization	1	0,39%	87,50%
Journal of Enterprising Communities	1	0,39%	87,89%
Journal of High Technology Management Research	1	0,39%	88,28%
Journal of Information Systems and Small Business	1	0,39%	88,67%
Journal of International Business Studies	1	0,39%	89,06%
Journal of Law, Economics, and Organization	1	0,39%	89,45%
Journal of Management and Organization	1	0,39%	89,84%

Journal of Management Development	1	0,39%	90,23%
Journal of Management Studies	1	0,39%	90,63%
Journal of Organizational Behaviour	1	0,39%	91,02%
Journal of Small Business Strategy	1	0,39%	91,41%
Journal of Socio-Economics	1	0,39%	91,80%
Journal of Technology Transfer	1	0,39%	92,19%
Journal of World Business	1	0,39%	92,58%
Journal on Chain and Network Science	1	0,39%	92,97%
Jurnal Teknologi (Sciences and Engineering)	1	0,39%	93,36%
Knowledge Management Research and Practice	1	0,39%	93,75%
Long Range Planning	1	0,39%	94,14%
Management Accounting Research	1	0,39%	94,53%
Management International Review	1	0,39%	94,92%
Mathematical Social Sciences	1	0,39%	95,31%
Nankai Business Review International	1	0,39%	95,70%
Polish Journal of Management Studies	1	0,39%	96,09%
Prague Economic Papers	1	0,39%	96,48%
Research in the Sociology of Work	1	0,39%	96,88%
RISTI - Revista Iberica de Sistemas e Tecnologias de Informacao	1	0,39%	97,27%
Science and Public Policy	1	0,39%	97,66%
Social Networks	1	0,39%	98,05%
South African Journal of Business Management	1	0,39%	98,44%
Strategic Organization	1	0,39%	98,83%
Structural Equation Modeling	1	0,39%	99,22%
Team Performance Management	1	0,39%	99,61%
Technological Forecasting and Social Change	1	0,39%	100,00%
<b>Total</b>	<b>256</b>	<b>100,00%</b>	

**Table A3.1 – Previous reviews on the topic of entrepreneurial teams**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
Vyakarnam, Handelberg	Four themes of the impact of management teams on organizational performance: Implications for future research of entrepreneurial teams	2005	International Small Business Journal
Schjoedt, Kraus	Entrepreneurial teams: definition and performance factors	2009a	Management Research News
Schjoedt, Kraus	The heart of a new venture: The entrepreneurial team	2009b	Management Research News
Dautzenber, Reger	Evaluation of entrepreneurial teams: early-stage investment decisions in new technology-based firms	2010	International Journal of Entrepreneurial Venturing
Huovinen, Pasanen	Entrepreneurial and management teams: What makes the difference?	2010	Journal of Management and Organization
Carland, Carland	A model of shared entrepreneurial leadership	2012	Academy of Entrepreneurship Journal
Schjoedt, Monsen, Pearson, Barnett, Chrisman	New Venture and Family Business Teams: Understanding Team Formation, Composition, Behaviours, and Performance	2013	Entrepreneurship: Theory and Practice
Klotz, Hmieleski, Bradley, Busenitz	New Venture Teams: A Review of the Literature and Roadmap for Future Research	2014	Journal of Management
de Mol, Khapova, Elfring	Entrepreneurial team cognition: A review	2015	International Journal of Management Reviews

**Table A5.1 – Individual/team characteristics and entrepreneurial teams formation**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
Ruef	A structural event approach to the analysis of group composition	2002	Social Networks
Ruef, Aldrich, Carter	The structure of founding teams: Homophily, strong ties, and isolation among U.S. entrepreneurs	2003	American Sociological Review
O'Connor, Hamouda, McKeon, Henry, Johnston	Co-entrepreneurial ventures. A study of mixed gender founders of ICT companies in Ireland	2006	Journal of Small Business and Enterprise Development
Rosa, Dawson	Gender and the commercialization of university science: Academic founders of spinout companies	2006	Entrepreneurship and Regional Development
Discua Cruz, Howorth, Hamilton	Intrafamily Entrepreneurship: The Formation and Membership of Family Entrepreneurial Teams	2013	Entrepreneurship: Theory and Practice
Hart	Founder nativity, founding team formation, and firm performance in the U.S. high-tech sector	2014	International Entrepreneurship and Management Journal
Deng, Marcoulides, Yuan	Psychometric Properties of Measures of Team Diversity With Likert Data	2015	Educational and Psychological Measurement
Hellmann, Thiele	Contracting among Founders	2015	Journal of Law, Economics, and Organization
Packalen	Multiple successful models: how demographic features of founding teams differ between regions and over time	2015	Entrepreneurship and Regional Development
Wing-Fai	The strengths of close ties: Taiwanese online entrepreneurship, gender and intersectionality	2016	Information Communication and Society

**Table A6.1 – Development and turnover of entrepreneurial teams**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
Bolle	Team selection Factor pricing with discrete and inhomogeneous factors	1995	Mathematical Social Sciences
Boeker, Karichalil	Entrepreneurial transitions: Factors influencing founder departure	2002	Academy of Management Journal
Ucbasaran, Lockett, Wright, Westhead	Entrepreneurial Founder Teams: factors associated with Member Entry and Exit	2003	Entrepreneurship: Theory and Practice
Clarysse, Moray	A process study of entrepreneurial team formation: The case of a research-based spin-off	2004	Journal of Business Venturing
Matlay, Westhead	Virtual teams and the rise of e-entrepreneurship in Europe	2005	International Small Business Journal
Chandler, Honig, Wiklund	Antecedents, moderators, and performance consequences of membership change in new venture teams	2005	Journal of Business Venturing
Forbes, Borchert, Zellmer-Bruhn, Sapienza	Entrepreneurial team formation: An exploration of new member addition	2006	Entrepreneurship: Theory and Practice
Vanaelst, Clarysse, Wright, Lockett, Moray, S'Jegers	Entrepreneurial team development in academic spinouts: An examination of team heterogeneity	2006	Entrepreneurship: Theory and Practice
Aldrich, Kim	Small worlds, infinite possibilities? How social networks affect entrepreneurial team formation and search	2007	Strategic Entrepreneurship Journal
Beckman, Burton	Founding the future: Path dependence in the evolution of top management teams from Founding to IPO	2008	Organization Science
Harper	Towards a theory of entrepreneurial teams	2008	Journal of Business Venturing
Tihula, Huovinen, Fink	Entrepreneurial teams vs management teams: Reasons for team formation in small firms	2009	Management Research News
Iacobucci, Rosa	The growth of business groups by habitual entrepreneurs: The role of entrepreneurial teams	2010	Entrepreneurship: Theory and Practice
Kaiser, Müller	Skill heterogeneity in startups and its development over time	2015	Small Business Economics

**Table A6.2 – Entrepreneurial teams and cognition**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
West III	Collective cognition: When entrepreneurial teams, not individuals, make decisions	2007	Entrepreneurship: Theory and Practice
Hudnut, DeTienne	Envirofit international: A venture adventure	2010	Entrepreneurship: Theory and Practice
Li, Liao	Perceived opportunity, team attributes, and entrepreneurial orientation in Chinese new technology ventures: A cognitive perspective	2010	International Journal of Entrepreneurship and Innovation Management
Wu, Kefan, Hua, Shi, Olson	Modeling technological innovation risks of an entrepreneurial team using system dynamics: An agent-based perspective	2010	Technological Forecasting and Social Change
Kefan, Gang, Wu, Luo, Qian	Entrepreneurial teams risk-based decision-making: A dynamic game analysis	2011	International Journal of Production Economics
Discua Cruz, Hamilton, Jack	Understanding entrepreneurial cultures in family businesses: a study of family entrepreneurial teams in Honduras	2012	Journal of Family Business Strategy
Zheng	Unlocking founding team prior shared experience: A transactive memory system perspective	2012	Journal of Business Venturing
Zheng, May	A contextualized transactive memory system view on how founding teams respond to surprises: Evidence from china	2013	Strategic Entrepreneurship Journal
Bryant	Imprinting by design: The microfoundations of entrepreneurial adaptation	2014	Entrepreneurship: Theory and Practice
Khan, Breitenecker, Schwarz	Entrepreneurial team locus of control: Diversity and trust	2014	Management Decision
Khan, Breitenecker, Schwarz	Adding fuel to the fire: Need for achievement diversity and relationship conflict in entrepreneurial teams	2015	Management Decision
Dai, Roundy, Chok, Ding, Byun	‘Who Knows What?’ in New Venture Teams: Transactive Memory Systems as a Micro-Foundation of Entrepreneurial Orientation	2016	Journal of Management Studies
Nordström, Sirén, Thorgren, Wincent	Passion in hybrid entrepreneurship: the impact of entrepreneurial teams and tenure	2016	Baltic Journal of Management

**Table A6.3 – Interactions in entrepreneurial teams**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Gilmore, Kazanjian	Clarifying decision making in high-growth ventures: The use of responsibility charting	1989	Journal of Business Venturing
Watson, Ponthieu, Critelli	Team interpersonal process effectiveness in venture partnerships and its connection to perceived success	1995	Journal of Business Venturing
Ensley, Carland, Carland	Investigating the existence of the lead entrepreneur	2000	Journal of Small Business Management
Balkin, Markman	The determinants of team rewards in entrepreneurial firms	2001	International Journal of Entrepreneurship and Innovation Management
Lechler	Social Interaction: A Determinant of Entrepreneurial Team Venture Success	2001	Small Business Economics
Newth, Corner	Leadership in new ventures: complexity managed by teams	2009	International Journal of Business Excellence
Ruef	Economic inequality among entrepreneurs	2009	Research in the Sociology of Work
Schenkel, Garrison	Exploring the roles of social capital and team-efficacy in virtual entrepreneurial team performance	2009	Management Research News
Sardana, Scott-Kemmis	Who Learns What? - A study based on entrepreneurs from biotechnology new ventures	2010	Journal of Small Business Management
Zacharakis, Erikson, George	Conflict between the VC and entrepreneur: The entrepreneur's perspective	2010	Venture Capital
Galkina, Kock	The influence of entrepreneurial infrastructure on entrepreneur networking: A comparative case study of Russian and Finnish founding teams	2011	International Journal of Entrepreneurship and Small Business
Karataş-Özkan	Understanding relational qualities of entrepreneurial learning: Towards a multi-layered approach	2011	Entrepreneurship and Regional Development
Juvonen	Learning to fly? First experiences on team learning of Icaros cooperative	2013	European Journal of Engineering Education
Patton, Higgs	The role of shared leadership in the strategic decision making processes of new technology based firms	2013	International Journal of Innovation Management
Butler, Williams-Middleton	Team conflict contributing to entrepreneurial learning: Understanding conflict as positive within an effectual problem space	2014	International Journal of Entrepreneurship and Innovation Management
Hill, Craig Wallace, Ridge, Johnson, Paul, Suter	Innovation and Effectiveness of Co-Founded Ventures: A Process Model	2014	Journal of Business and Psychology
Yang, Aldrich	Who's the Boss? Explaining Gender Inequality in Entrepreneurial Teams	2014	American Sociological Review

Breugst, Patzelt, Rathgeber	How should we divide the pie? Equity distribution and its impact on entrepreneurial teams	2015	Journal of Business Venturing
Deng, Yuan	Multiple-Group Analysis for Structural Equation Modeling With Dependent Samples	2015	Structural Equation Modeling
Khan, Breitenecker, Gustafsson, Schwarz	Innovative Entrepreneurial Teams: The Give and Take of Trust and Conflict	2015	Creativity and Innovation Management
George, Erikson, Parhankangas	Preventing dysfunctional conflict: examining the relationship between different types of managerial conflict in venture capital-backed firms	2016	Venture Capital
Liu	Research on the competency model of innovative entrepreneurial team based on network information data mining technology	2016	RISTI - Revista Iberica de Sistemas e Tecnologias de Informacao
Organ, O'Flaherty	Intuitive decision-making and deep level diversity in entrepreneurial ICT teams	2016	Journal of Decision Systems
Zhou	When does shared leadership matter in entrepreneurial teams: the role of personality composition	2016	International Entrepreneurship and Management Journal

**Table A6.4 – Entrepreneurial teams and networks**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Neergaard	Networking activities on technology-based entrepreneurial teams	2005	International Small Business Journal
Gurrieri	Networking entrepreneurs	2013	Journal of Socio-Economics
Wei, Li, Chok, Yang, Shang	The impact of founders' academic experiences on linking with local alumnus for Chinese start-ups	2013	International Journal of Technology Management
Boari, Riboldazzi	How knowledge brokers emerge and evolve: The role of actors' behaviour	2014	Research Policy

**Table A6.5 – Entrepreneurial teams and governance/organization**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
Balkin, Swift	Top management team compensation in high-growth technology ventures	2006	Human Resource Management Review
Clarysse, Knockaert, Lockett	Outside board members in high tech start-ups	2007	Small Business Economics
Jain, Tabak	Factors influencing the choice between founder versus non-founder CEOs for IPO firms	2008	Journal of Business Venturing
Speckbacher, Wentges	The impact of family control on the use of performance measures in strategic target setting and incentive compensation: A research note	2012	Management Accounting Research
Knockaert, Ucbasaran	The Service Role of Outside Boards in High Tech Start-ups: A Resource Dependency Perspective	2013	British Journal of Management
Dufays, Huybrechts	Where do hybrids come from? Entrepreneurial team heterogeneity as an avenue for the emergence of hybrid organizations	2016	International Small Business Journal

**Table A6.6 – Entrepreneurial teams and strategies**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Knight	Technological innovation in Canada: A comparison of independent entrepreneurs and corporate innovators	1989	Journal of Business Venturing
Athanassiou, Crittenden, Kelly, Marquez	Founder centrality effects on the Mexican family firm's top management group: Firm culture, strategic vision and goals, and firm performance	2002	Journal of World Business
Beckman	The influence of founding team company affiliations on firm behaviour	2006	Academy of Management Journal
Shrader, Siegel	Assessing the relationship between human capital and firm performance: Evidence from technology-based new ventures	2007	Entrepreneurship: Theory and Practice
Chaganti, Watts, Chaganti, Zimmerman-Treichel	Ethnic-immigrants in founding teams: Effects on prospector strategy and performance in new Internet ventures	2008	Journal of Business Venturing
Kelly, Lewa, Kamaria	Founder centrality, management team congruence and performance in family firms: A Kenyan context	2008	Journal of Developmental Entrepreneurship
Cooney	Entrepreneurial teams: Comparing high-growth software firms through structure and strategy	2009	Management Research News
Li, Li	Top management team conflict and entrepreneurial strategy making in China	2009	Asia Pacific Journal of Management
Matlay, Martin	Collaborative and competitive strategies in virtual teams of entrepreneurs: A Pan-European perspective	2009	Journal of Information Systems and Small Business
Aabo, Kuhn, Zanotti	Founder family influence and foreign exchange risk management	2011	International Journal of Managerial Finance
Ding	The impact of founders' professional-education background on the adoption of open science by for-profit biotechnology firms	2011	Management Science
Hart, Acs	High-tech immigrant entrepreneurship in the United States	2011	Economic Development Quarterly
Zolin, Kuckertz, Kautonen	Human resource flexibility and strong ties in entrepreneurial teams	2011	Journal of Business Research
McGowan, Cooper	Taking technological opportunities to the market: The role of university-based business plan competitions in supporting high technology commercialisation	2012	New Technology Based Firms in the New Millennium
Leung, Foo, Chaturvedi	Imprinting Effects of Founding Core Teams on HR Values in New Ventures	2013	Entrepreneurship: Theory and Practice
Almandoz	Founding Teams as Carriers of Competing Logics: When Institutional Forces Predict Banks' Risk Exposure	2014	Administrative Science Quarterly

Arrighetti, Bolzani, Lasagni	Beyond the enclave? Break-outs into mainstream markets and multicultural hybridism in ethnic firms	2014	Entrepreneurship and Regional Development
Colombo, De Massis, Piva, Rossi-Lamastra, Wright	Sales and employment changes in entrepreneurial ventures with family ownership: Empirical evidence from high-tech industries	2014	Journal of Small Business Management
Saemundsson, Candi	Antecedents of innovation strategies in new technology-based firms: Interactions between the environment and founder team composition	2014	Journal of Product Innovation Management

**Table A6.7 – Entrepreneurial teams and opportunity identification**

Authors	Title	Year	Source title
Gruber, MacMillan, Thompson	Escaping the prior knowledge corridor: What shapes the number and variety of market opportunities identified before market entry of technology start-ups?	2013	Organization Science
Lim, Busenitz, Chidambaran	New Venture Teams and the Quality of Business Opportunities Identified: Faultlines Between Subgroups of Founders and Investors	2013	Entrepreneurship: Theory and Practice
Lehner	The formation and interplay of social capital in crowdfunded social ventures	2014	Entrepreneurship and Regional Development

**Table A7.1 – Entrepreneurial teams and new firm creation**

Authors	Title	Year	Journal
Müller	Academic spin-off's transfer speed- Analyzing the time from leaving university to venture	2010	Research Policy
Paré, Rédis, Hikkerova	The influence of organizational capital on the conception of the enterprise project	2011	International Journal of Business
Almandoz	Arriving at the starting line: The impact of community and financial logics on new banking ventures	2012	Academy of Management Journal
Lalonde	Cultural determinants of Arab entrepreneurship: An ethnographic perspective	2013	Journal of Enterprising Communities
Durda, Krajčák	The role of networking in the founding and development of start-up technology companies [Rola sieci w zakładaniu i rozwoju start-upów firm technologicznych]	2016	Polish Journal of Management Studies
Lukeš, Zouhar	The causes of early-stage entrepreneurial discontinuance	2016	Prague Economic Papers

**Table A7.2 – Entrepreneurial teams and legitimacy**

Authors	Title	Year	Journal
Middleton	Becoming entrepreneurial: Gaining legitimacy in the nascent phase	2013	International Journal of Entrepreneurial Behaviour and Research
Mittens, Baucus, Norton	Establishing cognitive legitimacy in emerging organizations: The role of prestige	2013	Journal of Small Business Strategy

**Table A7.3– Entrepreneurial teams and fundraising**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Macmillan, Siegel, Narasimha	Criteria used by venture capitalists to evaluate new venture proposals	1985	Journal of Business Venturing
Haar, Starr, MacMillan	Informal risk capital investors: Investment patterns on the East Coast of the U.S.A.	1988	Journal of Business Venturing
Rea	Factors affecting success and failure of seed capital/start-up negotiations	1989	Journal of Business Venturing
Hall, Hofer	Venture capitalists' decision criteria in new venture evaluation	1993	Journal of Business Venturing
Barney, Busenitz, Fiet, Moesel	New venture teams' assessment of learning assistance from venture capital firms	1996	Journal of Business Venturing
Muzyka, Birley, Leleux	Trade-offs in the investment decisions of European venture capitalists	1996	Journal of Business Venturing
Higashide, Birley	The consequences of conflict between the venture capitalist and the entrepreneurial team in the United Kingdom from the perspective of the venture capitalist	2002	Journal of Business Venturing
Sørheim	Business angels as facilitators for further finance: An exploratory study	2005	Journal of Small Business and Enterprise Development
Franke, Gruber, Harhoff, Henkel	What you are is what you like-similarity biases in venture capitalists' evaluations of start-up teams	2006	Journal of Business Venturing
Hsu	Experienced entrepreneurial founders, organizational capital, and venture capital funding	2007	Research Policy
Gimmon	Entrepreneurial team-starts and teamwork: Taking the investors' perspective	2008	Team Performance Management
Mäkelä, Maula	Attracting cross-border venture capital: The role of a local investor	2008	Entrepreneurship and Regional Development
Franke, Gruber, Harhoff, Henkel	Venture capitalists' evaluations of start-up teams: Trade-offs, knock-out criteria, and the impact of VC experience	2008	Entrepreneurship: Theory and Practice
Dautzenberg, Reger	Evaluation of entrepreneurial teams: early-stage investment decisions in new technology-based firms	2010	International Journal of Entrepreneurial Venturing
Knockaert, Clarysse, Wright	The extent and nature of heterogeneity of venture capital selection behaviour in new technology-based firms	2010	R and D Management
Groh, Liechtenstein	Determinants for allocations to Central Eastern Europe venture capital and private equity limited partnerships	2011	Venture Capital
Munari, Toschi	Do venture capitalists have a bias against investment in academic spin-offs? Evidence from the micro- and nanotechnology sector in the UK	2011	Industrial and Corporate Change

Miloud, Aspelund, Cabrol	Startup valuation by venture capitalists: An empirical study	2012	Venture Capital
Broughman, Fried	Carrots and sticks: How VCs induce entrepreneurial teams to sell startups	2013	Cornell Law Review
Knockaert, Vanacker	The association between venture capitalists' selection and value adding behaviour: Evidence from early stage high tech venture capitalists	2013	Small Business Economics
Portmann, Mlambo	Private equity and venture capital in South Africa: A comparison of project financing decisions	2013	South African Journal of Economic and Management Sciences
Carlos Nunes, Gomes Santana Félix, Pacheco Pires	Which criteria matter most in the evaluation of venture capital investments?	2014	Journal of Small Business and Enterprise Development
Vanacker, Manigart, Meuleman	Path-dependent evolution versus intentional management of investment ties in science-based entrepreneurial firms	2014	Entrepreneurship: Theory and Practice
Vogel, Puhan, Shehu, Kliger, Beese	Funding decisions and entrepreneurial team diversity: A field study	2014	Journal of Economic Behaviour and Organization
Becker-Blease, Sohl	New venture legitimacy: the conditions for angel investors	2015	Small Business Economics
Murnieks, Sudek, Wiltbank	The role of personality in angel investing	2015	International Journal of Entrepreneurship and Innovation
Appelhoff, Mauer, Collewaert, Brettel	The conflict potential of the entrepreneur's decision-making style in the entrepreneur-investor relationship	2016	International Entrepreneurship and Management Journal
Collewaert, Sapienza	How Does Angel Investor-Entrepreneur Conflict Affect Venture Innovation? It Depends	2016	Entrepreneurship: Theory and Practice
Huynh	Early-stage fundraising of university spin-offs: a study through demand-site perspectives	2016	Venture Capital
Kuschel, Lepeley	Copreneurial women in start-ups: Growth-oriented or lifestyle? An aid for technology industry investors	2016	Academia
Li, Tang, Yang, Ren, Zheng, Zhou	The value of information disclosure and lead investor in equity-based crowdfunding: An exploratory empirical study	2016	Nankai Business Review International
Scarlata, Zacharakis, Walske	The effect of founder experience on the performance of philanthropic venture capital firms	2016	International Small Business Journal
Zerwas, Von Korflesch	A conceptual model of entrepreneurial reputation from a venture capitalist's perspective	2016	International Journal of Entrepreneurship and Innovation

**Table A7.4 – Entrepreneurial teams and public support**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Ammetller, Rodríguez-Ardura, Lladós-Masllorens	Entrepreneurial decisions: Insights into the use of support services for new business creation	2014	South African Journal of Business Management
Cook, Belliveau, Sandberg	Training and learning as drivers of US microenterprise business plan quality	2004	Education + Training
Mayer, Heinzl, Müller	Performance of new technology-based firms in the federal republic of Germany at the stage of market entry	1990	Entrepreneurship and Regional Development
Rojas, Huergo	Characteristics of entrepreneurs and public support for NTBFs	2016	Small Business Economics
Yusuf	Gender differences in the use of assistance programs	2015	Journal of Entrepreneurship and Public Policy
Yusuf	Why do nascent entrepreneurs use external assistance programs?	2012	Journal of Entrepreneurship and Public Policy

**Table A7.5 – Entrepreneurial teams and internationalization**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Journal</b>
Gabrielsson	Branding strategies of born globals	2005	Journal of International Entrepreneurship
Laanti, Gabrielsson, Gabrielsson	The globalization strategies of business-to-business born global firms in the wireless technology industry	2007	Industrial Marketing Management
Rhee	International expansion strategies of Korean venture firms: Entry mode choice and performance	2008	Asian Business and Management
Federico, Kantis, Rialp, Rialp	Does entrepreneurs' human and relational capital affect early internationalisation? A cross-regional comparison	2009	European Journal of International Management
Voudouris, Dimitratos, Salavou	Entrepreneurial learning in the international new high-technology venture	2011	International Small Business Journal
Bjørnåli, Aspelund	The role of the entrepreneurial team and the board of directors in the internationalization of academic spin-offs	2012	Journal of International Entrepreneurship
Cunningham, Loane, Ibbotson	The internationalisation of small games development firms: Evidence from Poland and Hungary	2012	Journal of Small Business and Enterprise Development
Ganotakis, Love	Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team	2012	Journal of International Business Studies
Hauser, Mooge, Werner	Internationalisation in new ventures - What role do team dynamics play?	2012	International Journal of Entrepreneurship and Small Business
Khavul, Prater, Swafford	International responsiveness of entrepreneurial new ventures from three leading emerging economies	2012	International Journal of Operations and Production Management
Cannone, Ughetto	Born globals: A cross-country survey on high-tech start-ups	2014	International Business Review
Hagen, Zucchella	Born Global or Born to Run? The Long-Term Growth of Born Global Firms	2014	Management International Review
Loane, Bell, Cunningham	Entrepreneurial founding team exits in rapidly internationalising SMEs: A double edged sword	2014	International Business Review
Denicolai, Hagen, Pisoni	Be international or be innovative? Be both? The role of the entrepreneurial profile	2015	Journal of International Entrepreneurship
Lafuente, Stoian, Rialp	From export entry to de-internationalisation through entrepreneurial attributes	2015	Journal of Small Business and Enterprise Development
Meewella	Entrepreneurial internationalisation and team dynamics: A case study on a Finnish-Sri Lankan venture establishment	2015	International Journal of Business Excellence

Franco-Leal, Soetanto, Camelo-Ordaz	Do they matter? The role of non-academics in the internationalization of academic spin-offs	2016	Journal of International Entrepreneurship
Ughetto	Growth of born globals: the role of the entrepreneur's personal factors and venture capital	2016	International Entrepreneurship and Management Journal

**Table A7.6 – Entrepreneurial teams and performance**

<b>Authors</b>	<b>Title</b>	<b>Year</b>	<b>Source title</b>
Hoogendoorn, Oosterbeek, Van Praag	The impact of gender diversity on the performance of business teams: Evidence from a field experiment	2013	Management Science
Kakarika	Staffing an entrepreneurial team: Diversity breeds success	2013	Journal of Business Strategy
Khademi, Ismail	Commercialization success factors of university research output	2013	Jurnal Teknologi (Sciences and Engineering)
Khodaei, Scholten, Wubben, Omta	Entrepreneurship and prior experience as antecedents of absorptive capacity of high-tech academic spin-offs	2016	Journal on Chain and Network Science
Kirschenhofer, Lechner	Performance drivers of serial entrepreneurs: Entrepreneurial and team experience	2012	International Journal of Entrepreneurial Behaviour and Research
Knockaert, Ucbasaran, Wright, Clarysse	The relationship between knowledge transfer, top management team composition, and performance: The case of science-based entrepreneurial firms?	2011	Entrepreneurship: Theory and Practice
Kor	Experience-Based Top Management Team Competence and Sustained Growth	2003	Organization Science
Kroll, Walters, Le	The impact of board composition and top management team ownership structure on post-IPO performance in young entrepreneurial firms	2007	Academy of Management Journal
Lafuente, Rabetino	Human capital and growth in Romanian small firms	2011	Journal of Small Business and Enterprise Development
Leary, DeVaughn	Entrepreneurial team characteristics that influence the successful launch of a new venture	2009	Management Research News
Li	Top management team restructuring in pre-IPO high technology startups: The influence of TMT characteristics and firm growth	2008	Journal of High Technology Management Research
Lundqvist	The importance of surrogate entrepreneurship for incubated Swedish technology ventures	2014	Technovation
McGee, Dowling, Megginson	Cooperative strategy and new venture performance: The role of business strategy and management experience	1995	Strategic Management Journal
Miozzo, DiVito	Growing fast or slow?: Understanding the variety of paths and the speed of early growth of entrepreneurial science-based firms	2016	Research Policy
Mosakowski	Entrepreneurial Resources, Organizational Choices, and Competitive Outcomes	1998	Organization Science

Mueller, Gemüenden	Founder team interaction, customer and competitor orientation in software ventures	2009	Management Research News
Muñoz-Bullon, Sanchez-Bueno, Vos-Saz	Startup team contributions and new firm creation: the role of founding team experience	2015	Entrepreneurship and Regional Development
Mustar, Wright, Clarysse	University spin-off firms: Lessons from ten years of experience in Europe	2008	Science and Public Policy
Na	The roles of incubator organizations in hi-tech venture creation in Korea	2000	Asia Pacific Journal of Management
Packalen	Complementing capital: The role of status, demographic features, and social capital in founding teams' abilities to obtain resources	2007	Entrepreneurship: Theory and Practice
Pasanen, Laukkanen	Team-managed growing SMEs: A distinct species?	2006	Management Research News
Robichaud, Zinger, Lebrasseur	Gender differences within early stage and established small enterprises: An exploratory study	2007	International Entrepreneurship and Management Journal
Roure, Keeley	Predictors of success in new technology based ventures	1990	Journal of Business Venturing
Roure, Maidique	Linking prefunding factors and high-technology venture success: An exploratory study	1986	Journal of Business Venturing
Shepherd, Douglas, Shanley	New venture survival: Ignorance, external shocks, and risk reduction strategies	2000	Journal of Business Venturing
Siegel, Siegel, Macmillan	Characteristics distinguishing high-growth ventures	1993	Journal of Business Venturing
Sine, Mitsuhashi, Kirsch	Revisiting burns and stalker: Formal structure and new venture performance in emerging economic sectors	2006	Academy of Management Journal
Stam, Elfring	Entrepreneurial orientation and new venture performance: The moderating role of intra- and extraindustry social capital	2008	Academy of Management Journal
Thakur	Size of investment, opportunity choice and human resources in new venture growth: Some typologies	1999	Journal of Business Venturing
Thiess, Sirén, Grichnik	How does heterogeneity in experience influence the performance of nascent venture teams?: Insights from the US PSED II study	2016	Journal of Business Venturing Insights
Tihula, Huovinen	Incidence of teams in the firms owned by serial, portfolio and first-time entrepreneurs	2010	International Entrepreneurship and Management Journal
Townsend, Busenitz	Turning water into wine? Exploring the role of dynamic capabilities in early-stage capitalization processes	2015	Journal of Business Venturing

Visintin, Pittino	Founding team composition and early performance of university-based spin-off companies	2014	Technovation
Vissa, Chacar	Leveraging ties: The contingent value of entrepreneurial teams' external advice networks on Indian software venture performance	2009	Strategic Management Journal
Walske, Zacharakis	Genetically engineered: Why some venture capital firms are more successful than others	2009	Entrepreneurship: Theory and Practice
Wang, Wu	Team member commitments and start-up competitiveness	2012	Journal of Business Research
Witt	Entrepreneurs' networks and the success of start-ups	2004	Entrepreneurship and Regional Development
Wu, Wang, Tseng, Wu	Founding team and start-up competitive advantage	2009	Management Decision
Xiao, Larson, North	Influence of entrepreneurial teams on the growth orientation of earlystage high-tech smes in China: Multiple measures of performance	2013	International Journal of Entrepreneurship and Innovation
Zhao, Song, Storm	Founding Team Capabilities and New Venture Performance: The Mediating Role of Strategic Positional Advantages	2013	Entrepreneurship: Theory and Practice
Zheng, Devaughn, Zellmer-Bruhn	Shared and shared alike? Founders' prior shared experience and performance of newly founded banks	2016	Strategic Management Journal
Zhou, Hu, Zey	Team composition of new venture founding teams: does personality matter?	2015	International Journal of Entrepreneurial Behaviour and Research
Steffens, Terjesen, Davidsson	Birds of a feather get lost together: New venture team composition and performance	2012	Small Business Economics
Bruton, Rubanik	Resources of the firm, Russian high-technology startups, and firm growth	2002	Journal of Business Venturing
Colombo, Grilli	Founders' human capital and the growth of new technology-based firms: A competence-based view	2005	Research Policy
Federico, Rabetino, Kantis	Comparing young SMEs' growth determinants across regions	2012	Journal of Small Business and Enterprise Development
Ganotakis	Founders' human capital and the performance of UK new technology based firms	2012	Small Business Economics
DeTienne, McKelvie, Chandler	Making sense of entrepreneurial exit strategies: A typology and test	2015	Journal of Business Venturing
Eesley, Hsu, Roberts	The contingent effects of top management teams on venture performance: Aligning founding team composition with innovation strategy and commercialization environment	2014	Strategic Management Journal

Grilli	When the going gets tough, do the tough get going? the pre-entry work experience of founders and high-tech start-up survival during an industry crisis	2011	International Small Business Journal
Brannon, Wiklund, Haynie	The Varying Effects of Family Relationships in Entrepreneurial Teams	2013	Entrepreneurship: Theory and Practice
Zhao, Libaers, Song	First product success: A mediated moderating model of resources, founding team startup experience, and product-positioning strategy	2015	Journal of Product Innovation Management
Andries, Czarnitzki	Small firm innovation performance and employee involvement	2014	Small Business Economics
Chen, Wang	Social networks and a new venture's innovative capability: The role of trust within entrepreneurial teams	2008	R and D Management
Kristinsson, Candi, Sæmundsson	The Relationship between Founder Team Diversity and Innovation Performance: The Moderating Role of Causation Logic	2016	Long Range Planning
Liu, Li, Hesterly, Cannella	Top management team tenure and technological inventions at post-IPO biotechnology firms	2012	Journal of Business Research
Ruef	Strong ties, weak ties and islands: Structural and cultural predictors of organizational innovation	2002	Industrial and Corporate Change
de Jong, Song, Song	How Lead Founder Personality Affects New Venture Performance: The Mediating Role of Team Conflict	2013	Journal of Management
Farrington, Venter, Eybers, Boshoff	Task-based factors influencing the successful functioning of copreneurial businesses in South Africa	2011	South African Journal of Economic and Management Sciences
Fern, Cardinal, O'Neill	The genesis of strategy in new ventures: Escaping the constraints of founder and team knowledge	2012	Strategic Management Journal
Gruber, MacMillan, Thompson	From Minds to Markets: How Human Capital Endowments Shape Market Opportunity Identification of Technology Start-Ups	2012	Journal of Management
Ciuchta, Gong, Miner, Letwin, Sadler	Imprinting and the progeny of university spin-offs	2016	Journal of Technology Transfer
Bettiol, De Marchi, Di Maria	Developing capabilities in new ventures: A knowledge management approach	2016	Knowledge Management Research and Practice
Hmieleski, Ensley	A contextual examination of new venture performance: Entrepreneur leadership behaviour, top management team heterogeneity, and environmental dynamism	2007	Journal of Organizational Behaviour
Brinckmann, Hoegl	Effects of initial teamwork capability and initial relational capability on the	2011	Strategic Entrepreneurship Journal

	development of new technology-based firms		
Brinckmann, Salomo, Gemuenden	Financial Management Competence of Founding Teams and Growth of New Technology-Based Firms	2011	Entrepreneurship: Theory and Practice
Gottschalk, Niefert	Gender differences in business success of German start-up firms	2013	International Journal of Entrepreneurship and Small Business
Dubini	Which venture capital backed entrepreneurs have the best chances of succeeding?	1989	Journal of Business Venturing
Battilana, Sengul, Pache, Model	Harnessing productive tensions in hybrid organizations: The case of work integration social enterprises	2015	Academy of Management Journal
Delmar, Shane	Does experience matter? The effect of founding team experience on the survival and sales of newly founded ventures	2006	Strategic Organization
Dahl, Reichstein	Are you experienced? Prior experience and the survival of new organizations	2007	Industry and Innovation
DeVaughn, Leary	Antecedents of failure for newly chartered banks in the U.S. banking industry	2010	Group and Organization Management
Coad, Timmermans	Two's company: Composition, structure and performance of entrepreneurial pairs	2014	European Management Review
De Cleyn, Braet, Klofsten	How human capital interacts with the early development of academic spin-offs	2015	International Entrepreneurship and Management Journal
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