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ENTREPRENEURIAL TEAM FORMATION

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Entrepreneurial team formation—the process through which founders establish a team to start a new venture—has important implications for team performance and entrepreneurial success. Although research on entrepreneurial team formation is gradually growing, it is at a critical juncture and marked by considerable fragmentation. In part, this is because scholars have examined entrepreneurial team formation through different disciplinary lenses and within very different contexts. Our structured content analysis situates the literature based on questions addressed for new venture team formation, such as why, how, when, and where entrepreneurial teams are formed. The resulting integrative framework delineates the dynamic nature of the formation process, the origins of new venture teams, primary formation strategies used to initiate cofounding relations, and their effects on team characteristics, processes, and performance. Two key insights emerge to guide future research. One, the need for integration, especially across disciplines and contexts, acknowledging the role of the latter in shaping the formation process. Two, the need to embrace (self-) selection and endogeneity of founding characteristics, processes, and performance outcomes to the antecedent formation stage. We conclude that entrepreneurial team formation research is a fertile ground that has met merely a fraction of its potential to advance important knowledge in the field.

INTRODUCTION

> In the world today, there's plenty of technology, plenty of entrepreneurs, plenty of money, plenty of venture capital. What's in short supply is great teams. Your biggest challenge will be building a great team (John Doerr, in Spinelli & Neck, 2007: 8).

Entrepreneurship is a forceful socioeconomic driver that leads to technological advancements, economic growth, and social mobility (Chowdhury, 2005; Klepper, 2015; Quardini, 2000). Rather than being initiated by a solo founder, most new ventures are founded by entrepreneurial teams—defined as two or more individuals who pursue a new business idea, are involved in its subsequent management, and share ownership (Bird, 1989; Carland, Hoy, Boulton, & Carland, 1984). For example, Wasserman (2012) notes 85 percent of high-technology startups have two or more founders. Scholars have extensively examined the relationships between entrepreneurial team characteristics and outcomes. Adopting the sequential input–process–output framework, they

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highlighted how team composition influences affective and cognitive processes, which in turn impact entrepreneurial performance (for reviews and meta-analyses, see de Mol, Khapova, & Elfring, 2015; Delgado García, De Quevedo Puente, & Blanco Mazagatos, 2015; Jin, Madison, Kraiczy, Kellermanns, Crook, & Xi, 2017; Klotz, Hmieleski, Bradley, & Busenitz, 2014; Song, Podoynitsyna, Bij, & Halman, 2008). Entrepreneurial teams play a key role in investment decisions, growth trajectories, and overall venture success (e.g., Agarwal, Campbell, Franco, & Ganco, 2016). Thus, investors often bet on the "jockey" (i.e., the team) rather than on the "horse" (i.e., the idea; Bernstein, Korteweg, & Laws, 2017).

But how do these teams come about in the first place? A growing scholarly stream focuses on the preceding stage of *entrepreneurial team formation*—the process through which founders establish a team to start a new venture. This includes the recruitment of cofounders by the first founder(s) and the attrition of cofounders during this incipient phase. An important feature of entrepreneurial teams is their *endogenous* formation. These self-selected teams differ from other types of teams in organizations because they are formed organically, rather than exogenously assigned. That is, when building a new venture, entrepreneurs select *both* the venture (business idea) to develop and the partners with whom to work (Discua Cruz, Howorth, & Hamilton, 2013; Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006; Harper, 2008). Therefore, investigating the early formation phase of entrepreneurial teams provides a unique opportunity to understand the initial stage of the team development process (Kozlowski, Gully, Nason, & Smith, 1999; Tuckman, 1965; Tuckman & Jensen, 1977).

While burgeoning in scope, the entrepreneurial team formation literature is fragmented in three ways. One, there is no systematic synthesis of the relevant questions—such as why, how, when, and where entrepreneurial teams are formed. More specifically, scholarly research has addressed fundamental questions such as the following: What originates an entrepreneurial team? Are there multiple strategies for selecting cofounders? How do contextual factors shape the formation process? When and why might there be dynamic changes in membership during the incipient formation period? And what is the influence of the team formation on team characteristics, processes, and performance? However, we lack a synthesis of answers to these questions and, importantly, of how answers to each question inform the others.

Two, scholars have used a singular disciplinary lens—economics, psychology, or sociology—to offer alternative explanations when answering these questions. For example, different disciplinary-based assumptions create alternative theories on how founders initiate cofounding relations to establish new venture teams. Yet, we lack an understanding of whether these theories provide competing or complementary explanations of the phenomenon.

Three, entrepreneurial team formation has been examined in singular contexts. For example, scholars have investigated the emergence of teams within academic (i.e., university spin-offs), family, accelerator, and industry (i.e., employee spinouts) settings. Yet, we lack a holistic view of similarities and differences in entrepreneurial team formation across contexts.

In this article, we accomplish a three-fold objective. First, we synthesize the literature to distill key insights regarding the various questions related to entrepreneurial team formation. To do so, we systematically review the literature using a structured content analysis of the micro- and macro- management research streams on entrepreneurial team formation in the last 40 years. We identify central themes emerging from this analysis which pertain to elements of the formation process, namely, *origins* of the entrepreneurial team, the *strategies* used for team formation, the *contexts* (i.e., the different settings and social networks) within which founders engage in a search for cofounders, the *dynamism* of the team formation process, and the relationships of these to *team characteristics*, *processes*, and *entrepreneurial performance*.

Second, we create a comprehensive framework to summarize the relationships between the aforementioned elements of entrepreneurial team formation. The dynamic process of entrepreneurial team formation commences from origins to markers that signal the end of the process. Rather than a one-shot pass, the entrepreneurial team formation unfolds over time through an iterative dynamic process. New members are added and subtracted, different strategies to find new members are tried, and incipient team characteristics and processes are established or emerge throughout this process. This dynamic process of (self-) selection not only defines the founding team skills, knowledge, and perspectives but also shapes

subsequent team diversity and processes, and ultimately, new venture performance. Here, the cross-disciplinary and cross-context review revealed the complexity and richness of the process. Accordingly, we juxtaposed economic, psychology, and sociology perspectives and the various contextual factors at play to portray a more complete picture. In so doing, we illuminate blind spots of macro-approaches that have been addressed by micro-scholars and findings from macro-research that complement micro-perspectives.

Third, we propose recommendations for future research directions that build on unresolved issues and knowledge gaps identified through our synthesis and integrative framework. The integrative model of the entrepreneurial team formation challenges the dominant input–process–output framework in the broader entrepreneurship and team bodies of literature. It stresses the need to embrace (self-) selection mechanisms and endogeneity of founding team characteristics, processes, and performance outcomes to the antecedent formation stage. Particularly critical is the need for future research to integrate across disciplinary perspectives and recognize the role of context in shaping entrepreneurial origins and formation strategies for a more holistic understanding of cause-effect relationships and mechanisms at play. Here, we also note opportunities for understanding the initial stages of team creation and development, thus contributing to the broader team research agenda. Finally, we discuss methodological opportunities and challenges for future empirical work in the area. These include an increase in the use of multimethod research designs, and abduction to complement the traditional inductive and deductive approaches in data analysis.

In addition to contributing to scholarly work through the aforementioned three objectives, we also identify promising implications for practice. Recently, there has been a robust growth of programs aimed at helping entrepreneurs to cofound with others, including founder pair up events and matching platforms (Cohen, 2013; Cohen & Hochberg, 2014). Other educational programs, accelerators, venture capitalists (VCs), mentors, and decision-makers share an interest in the formation of new venture teams. Insights from our integrative review could inform entrepreneurs, investors, and social planners to provide practical recommendations for designing effective programs, as well as building and mentoring entrepreneurial teams.

A STRUCTURED CONTENT ANALYSIS OF ENTREPRENEURIAL TEAM FORMATION LITERATURE

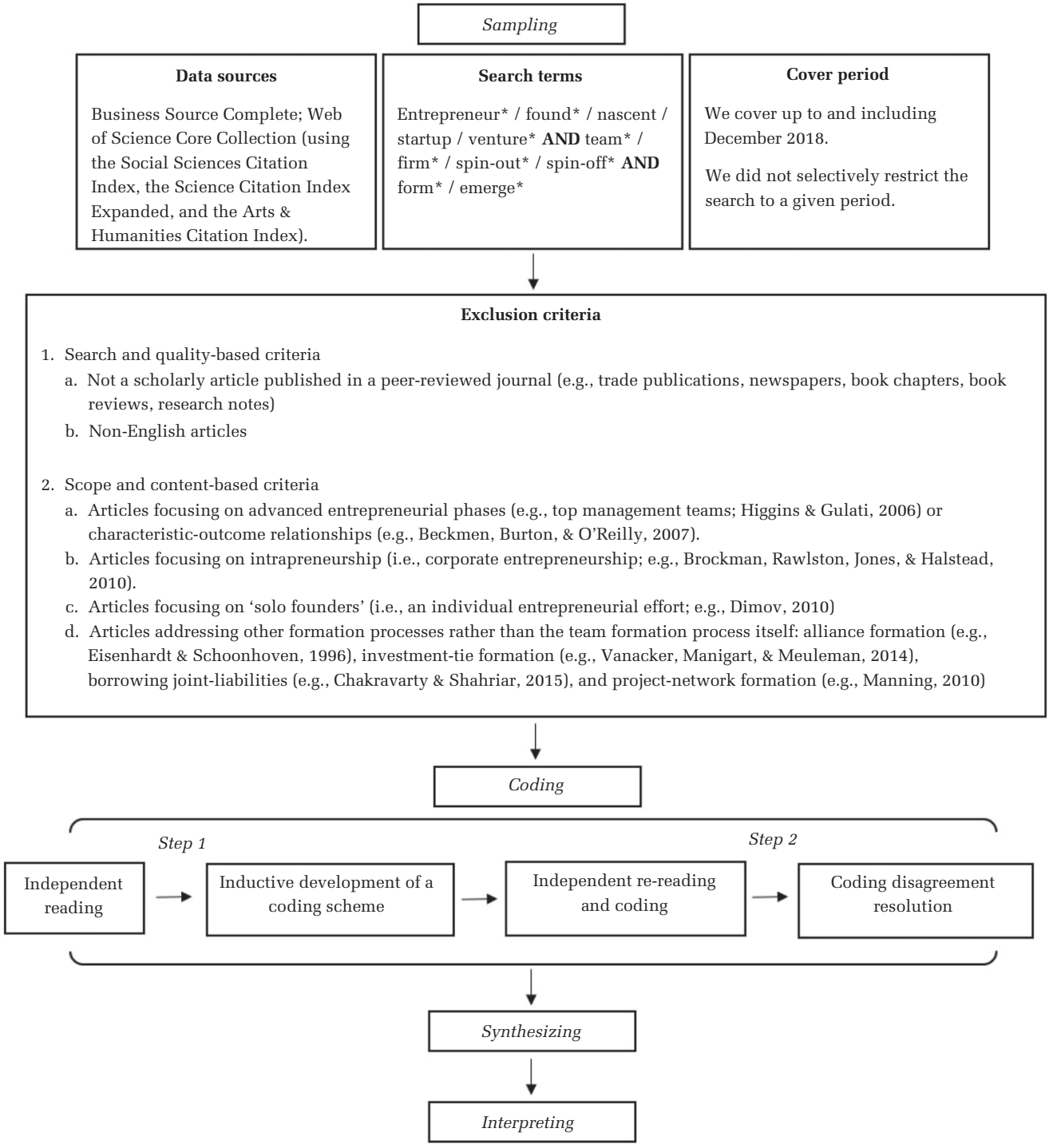
Methods

Our review of the entrepreneurial team formation literature used a systematic multiphased structured process: sampling, coding, synthesizing (i.e., analyzing), and interpreting the relevant work (Tranfield, Denyer, & Smart, 2003). We followed recommended guidelines and criteria by Duriau, Reger, and Pfarrer (2007) and Krippendorff (2013) for content analysis to recognize key themes across scholarly articles (e.g., Schad, Lewis, Raisch, & Smith, 2016; Schilke, Hu, & Helfat, 2018).

As described in Figure 1, we built our sample by searching for research articles in the *Business Source Complete* and the *Web of Science Core Collection* databases using a list of keyword combinations, such as "entrepreneurial team formation" and "founding team formation" (Ren & Argote, 2011). The initial broad search of articles with at least one search combination led to 834 scholarly articles published in peer-reviewed journals in English. However, many of these articles focused on advanced phases or team characteristic–outcome relationships.

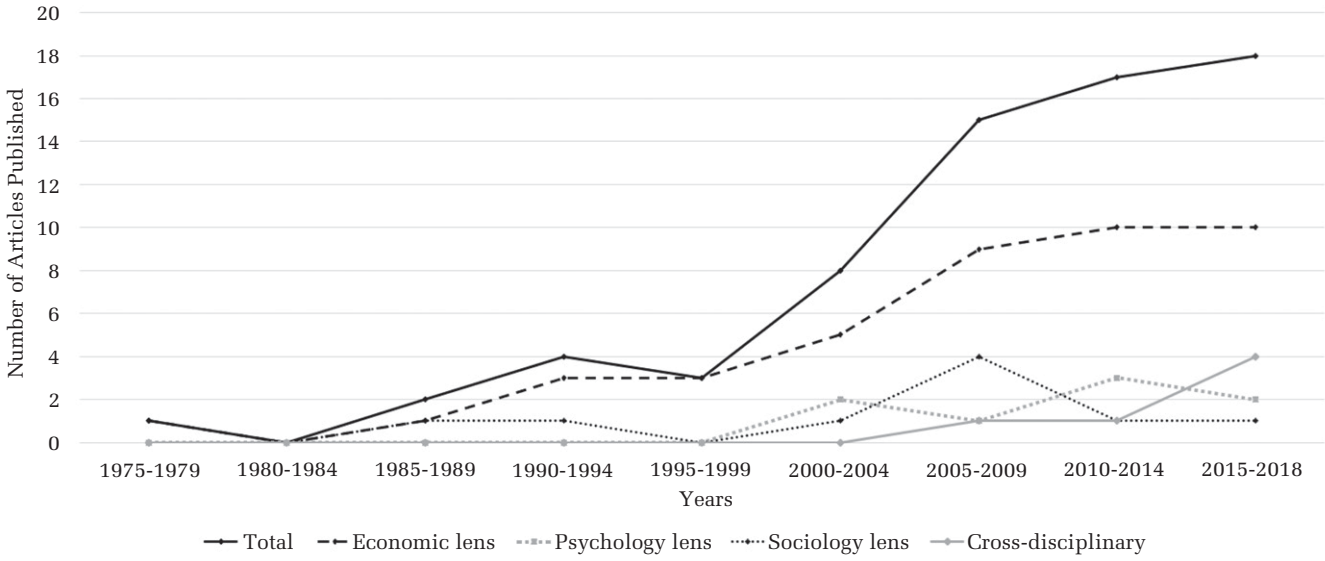
Following our scope and content-based criteria, we scanned the article content to exclude articles that did not directly examine or theorize entrepreneurial team formation (Posen, Keil, Kim, & Meissner, 2018), such as those focusing on top-management teams (TMTs) and those examining formation processes other than the entrepreneurial team (e.g., alliance formation, investment tie formation, and borrowing joint liabilities formation). We then supplemented our sample with additional articles which are heavily cited within our reviewed sample (Clough, Fang, Vissa, & Wu, 2018). Our final sample comprised a core set of 69 scholarly articles that span about 40 years of entrepreneurial team formation research, ranging from 1975 to 2018. Among these articles, about 32 percent are theoretical, 38 percent use a qualitative approach, 26 percent use quantitative methods, and the remaining use mixed-methods. Seventy-eight percent of the articles were published in journals with a five-year impact factor of at least 2.50 in the Thomson Reuters' 2017 Journal Citation Reports; these received more attention in our review process (Schad et al., 2016). Figure 2 visualizes the distribution of articles over the past four decades, depicting an overall increasing trend of articles examining entrepreneurial team formation.

FIGURE 1
Systematic Review Process



Next, we followed a two-step procedure to categorize articles in the sample (Delgado García et al., 2015; Duriau et al., 2007). Two authors were randomly assigned to each article; they independently read the article, compiled written insights, and provided potential categories for its classification. We then inductively established a coding scheme of nominal nonscaled thematic categories (de Mol

FIGURE 2
Entrepreneurial Team Formation Scholarly Article Publications Over 40 Years



et al., 2015). In cases of coding disagreements, a third author independently read the article, and the discrepancy was deliberately resolved accordingly.

In the synthesis and interpreting stages, we compared within and across articles to reveal distinctions and similarities. Several guiding insights emerged, which were useful in the subsequent structure of our literature review and development of integrative model. First, themes relevant to elements of entrepreneurial team formation included the following: team origins, formation strategies, context, dynamism, characteristics, processes, and performance. Second, three disciplinary lenses—economics, psychology, and sociology—have been used for theorizing and examining entrepreneurial team formation. The trends in Figure 2 illustrate the dominance of the economics lens over the past 40 years; even though psychology and sociology lenses surfaced in the mid-1980s, the use of these lenses is lower both in terms of levels and rates of growth. Interestingly, there has been a surge in articles using a cross-disciplinary integration in recent years. Finally, the review helped uncover intersections between elements as well as identify overlooked areas and future research directions.

Key Elements in Entrepreneurial Team Formation

Table 1 provides a summary of key elements in the entrepreneurial team formation literature. For each, we include research questions, definitions, and exemplary articles.

Origins of new venture teams. Although many new ventures are founded by teams (Desantola & Gulati, 2017), entrepreneurial teams attracted scholarly attention only in the late 1970s, when scholars started challenging the myth of the lone entrepreneur (Timmons, 1979; Timmons, Spinelli, & Tan, 1994). Although there is indivisibility between the lone entrepreneur and the business opportunity/idea that leads to new venture creation, this is not true for entrepreneurial teams. In answering the question of "why do entrepreneurial teams form?", the literature identifies two origins based on whether a single person or a group identify a business opportunity and decide to create a new venture (Harper, 2008; Kamm & Nurick, 1993). The implicit debate here relates to the question of which comes first—the idea or the team.

The *lead entrepreneur* origin envisions a single individual, also labeled a ringleader, who is first motivated to create a new venture because of intrinsic aspirations, an identified business opportunity, and/or environmental push/pull factors (Gartner, 1985; Kamm, Shuman, Seegar, & Nurick, 1990; Sarasvathy, 2001; Timmons, 1975). Several scholarly articles document this origin in various settings and the subsequent deliberate search by the lead entrepreneur for cofounders to shape the new venture and actualize the opportunity (Ensley, Carland, Carland, & Banks, 1999; Grossman,

TABLE 1
A Summarized Review of Entrepreneurial Team Formation Articles

Concept and Key Question(s)	Definition	Exemplary Articles
Origin: Why do entrepreneurial teams form?		
Lead entrepreneur	A sole founder initiates an idea for a new venture, and then searches for cofounders to actualize this opportunity (the idea precedes the group)	Grossman et al. (2012), Kamm & Nurick (1993), Kamm et al. (1990), Shah et al. (2019), Timmons (1975)
Group approach	A group of founders who decide to start a new business together, and then collectively generate the idea for the new venture (the group precedes the idea)	Forbes et al. (2006), Kamm & Nurick (1993), Kamm et al. (1990), Timmons (1975), Vohora et al. (2004)
Formation strategy: How do cofounders select each other?		
Interpersonal attraction	Cofounding relations are based on close relationships, similarity, and interpersonal fit	Discua Cruz et al. (2013), Francis & Sandberg (2000)
Resource seeking	Cofounding relations are based on instrumental and functional criteria, such as complementary knowledge and skills	Davidsson & Honig (2003), Mosey & Wright (2007)
Hybrid strategy	Cofounding relations stem from attention to both similarity and complementarities	Forbes et al. (2006), Grossman et al. (2012), Shah et al. (2019)
Context		
Setting: Where are founding teams embedded?		
Academic entrepreneurship	Founders are initially embedded in university or laboratory setting (e.g., university-based or academic spin-offs)	Agarwal & Shah (2014), Nikiforou et al. (2018), Rasmussen (2011), Vanaelst et al. (2006), Vohora et al. (2004)
Employee entrepreneurship	Founders are initially embedded in an industry (e.g., industry spinouts)	Agarwal & Shah (2014), Iacobucci & Rosa (2010), Rosa (1998), Shah et al. (2019)
User entrepreneurship	Founders actualize a solution for their own need	Agarwal & Shah (2014)
Family businesses	Founders are embedded in family-relations and kinship ties	Discua Cruz et al. (2013), Schjoedt et al. (2013)
Accelerators	Founders are embedded in pre-seed and seed accelerators	Lundqvist (2014)
Social network: Where do founders look for potential cofounders?		
Small world	Localized clusters in which founders have higher chances to cofound with others within their cluster	Aldrich & Kim (2007), Francis & Sandberg (2000), Zhang (2010)
Truncated scale free	Distributed network in which founders have higher chances to cofound with others on a preferential basis (i.e., the rich get richer)	Aldrich & Kim (2007), Franklin, Wright, & Lockett (2001)
National culture: What pushes founders toward or away from entrepreneurship?		
Cultural values	The set of norms, meaning systems, and core principles which influence one's tendency to join or cofound a new venture	Frese & Gielnik (2014), Hayton et al. (2002)
Dynamism of the team formation process: When (and why) are there changes in membership of the incipient founding team		
Critical milestone	Membership changes occur around important landmarks during the pre-startup phase or before the shift from the pre-startup to the start-up phase (e.g., capital raising and moving between developmental stages)	Vanaelst et al. (2006), Vohora et al. (2004)
Crises/failure	Membership changes occur when the founding team faces an often-unforeseen obstacle (e.g., failing to provide a demo)	Bird (1992), Clarysse & Moray (2004)
Internal recognized need	A demand acknowledged by the team (i.e., lack of workforce)	Discua Cruz et al. (2013), Matlay & Westhead (2005)
External recognized need/ requirement	A demand acknowledged by external stakeholders (e.g., VCs, TTOs, and potential customers) or agents (e.g., mentors)	Bjornati & Gulbrandsen (2010), Clarysse & Moray (2004), Vohora et al. (2004)

TABLE 1
(Continued)

Concept and Key Question(s)	Definition	Exemplary Articles
When does the team formation process end?		
Legal incorporation	The venture becomes legally established (after this, the founding team often evolves into management team and board of directors)	Rasmussen (2011), Vanaelst et al. (2006)
Seed-funding	The new venture raises initial funding or investment from a stakeholder (e.g., university or research institute, VCs, and angel investors)	Vanaelst et al. (2006)
First sale	The new venture ships the first product or provide the first service	Shah et al. (2019)
First hire	The founding team ceases looking for potential cofounders and starts looking for employees or service providers	Matlay & Westhead (2005)
Team characteristics: What are the consequences of team formation for the collective features and structure of the newly founded team?		
Diversity	Differences between founders (e.g., personal, demographic, and functional diversity)	Aldrich & Kim (2007), Parker (2009), Ruef et al. (2003)
Leadership	Power and social influence of founders in the newly founded team (e.g., single vs. shared leadership)	Ensley et al. (2000)
Equity distribution	Founder equity allocation in the newly formed team (e.g., equal vs. unequal equity distribution)	Hellmann & Thiele (2015), Hellmann & Wasserman (2017)
Structure/boundaries	Compositional boundaries of the newly formed team (e.g., core vs. peripheral members; multiple-tier structure; external agents)	Discua Cruz et al. (2013), Iacobucci & Rosa (2010), Matlay & Westhead (2005)
Team processes: What are the consequences of team foundation for the dynamics and emergent states of the newly founded team?		
Coordination-related processes	Dynamics/emergent states facilitating smooth communication (e.g., shared perspectives, emotion-based trust, and coordination)	Forbes et al. (2006), Francis & Sandberg (2000), Grossman et al. (2012)
Specialization-related processes	Dynamics/emergent states facilitating knowledge utilization (e.g., cognition-based trust, absorptive capacity, and specialization)	Clarysse & Moray (2004), Harper (2008), Shah et al. (2019), Vohora et al. (2004)

Yli-Renko, & Janakiraman, 2012; Shah, Agarwal, & Echambadi, 2019).

By contrast, the *group* origin proposes that new venture creation results from the desire to work with preferable others, or because preformed groups working on (research or innovation) projects seek to create a new venture together (Agarwal et al., 2016; Discua Cruz et al., 2013; Ganco, 2013). Studies following the group approach documented how teams of founders collectively identify an opportunity, develop a new business idea, and commercialize scientific discoveries, as, for example, in academic spin-offs (Vohora, Wright, & Lockett, 2004).

Formation strategies. Forming teams in the entrepreneurial arena allows individuals to search for, and select, people with whom to initiate a new venture (Forbes et al., 2006). Regardless of whether the initial idea or business opportunity is conceived by an individual or a group, two predominant formation strategies have been identified for the key question of "how do cofounders select each other?"

The interpersonal attraction strategy suggests cofounders select each other because they share similar interests, possess admirable qualities, and return the sentiment of liking. This strategy emphasizes supplementary fit, namely, cofounding with members of the same kind and resemblance between cofounders. In essence, this strategy follows the principle of "birds of a feather flock together," as cofounding relations stem from the need to work with similar others with whom one can initiate a rich and fruitful connection. Studies documenting this strategy have identified linkages among cofounders based on friendship (Francis & Sandberg, 2000), family ties (Discua Cruz et al., 2013), and ethnicity (Ruef, Aldrich, & Carter, 2003).

The resource-seeking strategy suggests cofounders are selected based on the resources required for new venture creation. This strategy emphasizes complementary fit, as the focus is on individuals' human capital—their knowledge, skills, and capabilities—and access to relevant resources and assets. Studies documenting the resource-seeking strategy showed evidence consistent with the selection of cofounders based on the quest for complementary capabilities (Agarwal & Shah, 2014; Müller, 2010; Wasserman, 2012), higher education and experience (Davidsson & Honig, 2003), and related industry knowledge (Mosey & Wright, 2007).

The two strategies need not operate in isolation, and a few studies have documented entrepreneurial team formation with attention to both strategies, either concurrently or sequentially (Forbes et al., 2006; Grossman et al., 2012; Shah et al., 2019).

Context of entrepreneurial team formation. The contexts within which entrepreneurial teams originate have distinctive features that shape the formation process. Three distinct contextual factors were identified: (a) the settings, (b) social networks, and (c) sociocultural environment within which founders are embedded before or during the team formation.

The first contextual factor comprises the various *settings* documented in the review sample which include academic entrepreneurship, employee entrepreneurship, user entrepreneurship, family businesses, and accelerator programs. *Academic entrepreneurship* is defined as a scientific setting wherein founders play an important economic role of translating research-based innovations in universities, national laboratoriess, or scientific institutions into commercial goods and services (Agarwal & Shah, 2014; Nikiforou, Gruber, Zabara, & Clarysse, 2018). Although academic spin-offs do not represent the largest portion of all new ventures, they are the most studied in the entrepreneurial team formation literature (Clarysse & Moray, 2004; Rasmussen, 2011; Rasmussen & Borch, 2010; Rasmussen & Mosey, 2015; Rasmussen, Mosey, & Wright, 2011; Vanaelst, Clarysse, Wright, Lockett, Moray, & S'Jegers, 2006).

Employee entrepreneurship represents the setting wherein employees of an existing organization in a focal industry spin-off to leverage technological, market, or operational utilization of knowledge gained through employment in the organization. Agarwal and Shah (2014) note high prevalence of employee entrepreneurship in multiple industries, and this represents the second most studied setting in the entrepreneurial team formation literature (Agarwal et al., 2016; Iacobucci & Rosa, 2010).

User entrepreneurship represents new venture formation by individuals who originally innovate to satisfy their own needs and subsequently commercialize new products or services. Although covered by theory articles in our sample as one of the three major settings (Agarwal & Shah, 2014), our sample lacks empirical investigations of team formation in this setting.

Whereas the aforementioned three settings focus on the distinct "knowledge context" (Agarwal & Shah, 2014) within which founders are embedded, the *family entrepreneurship* is a setting where entrepreneurial teams form because of familial or kinship relations (Brannon, Wiklund, & Haynie, 2013). Several studies in our sample examine entrepreneurial team formation in family settings (e.g., Discua Cruz et al., 2013; Zhang, 2010) and note new venture teams formed with kinship ties outnumber those lacking family-based relationships (Ruef et al., 2003).

Accelerators or seed acceleration programs are limited-duration programs, lasting a few months, wherein nascent founders are provided cohort-based mentoring, seed funding, and programmed workshops (Cohen, 2013; Cohen, Bingham, & Hallen, 2018; Cohen & Hochberg, 2014; Lundqvist, 2014). Relatedly, *incubators* for early-stage ventures invite new venture teams for a longer duration. Often called "tenants," new venture teams joining these incubators receive mentorship in return for rent payment or equity (Grimaldi & Grandi, 2005).

A second contextual factor relates to the *social network* within which founders seek each other. Defining the relational ties of founders, the configuration of the network relates to how founders may leverage these ties when starting a new venture. Aldrich and Kim (2007: 148) posit the social structure is critical for new venture formation because of its "dominating role in who tries to become an entrepreneur and who succeeds." Theoretically, they note three network configurations may shape the formative process of entrepreneurial teams: (a) a *random network* configuration which assumes a world with no order and design, wherein entrepreneurs could potentially cofound with anyone in the egalitarian network, and their current position does not limit their access to others; (b) a *small-world network* configuration wherein social relationships are clustered in local networks, resulting in higher chances (improved access) to cofound with others in one's own cluster but reduced chances (impaired access) to cofound with others in nonlocal clusters; (c) a *truncated scale-free network* configuration wherein cofounding relations are formed based on a

preferential attachment in an increasingly unequal network. None of the entrepreneurial team formation articles in our review reported evidence for a random network. Several studies reported small-world networks at play (Discua Cruz et al., 2013; Parker, 2009; Zhang, 2010), whereas others noted the potential of truncated scale-free networks in well-institutionalized fields, where entrepreneurs use weak, distant, and indirect ties to seek cofounders in a broad and distributed network (Aldrich & Kim, 2007).

A third contextual factor is the sociocultural environment, or the *national culture*, which shapes an individual's propensity to form or join an entrepreneurial team. However, as with the user-entrepreneurship setting, although national culture was discussed in theory articles in our sample (e.g., Frese & Gielnik, 2014; Hayton, George, & Zahra, 2002), there are no empirical articles that explicitly examined team formation with attention to national culture.

Dynamism of the team formation process. Implicit in the "process" nature of entrepreneurial team formation is the element of time (Clarysse & Moray, 2004; Mosey & Wright, 2007; Rosa, 1998; Vanaelst et al., 2006). Collectively, scholars stressed a sequential search for and identification of potential cofounders, as not all cofounders join the team simultaneously[2]; even with a group origin, there may be additions/attritions to the incipient team. Two interrelated questions regarding dynamism are as follows: when (and why) are there changes in the membership of the incipient founding team? And when does the team formation process end?

In addressing *membership changes* during the formation process, scholars documented cofounder additions because of several reasons. First, the incipient founding team can internally recognize a need for additional talent (Matlay & Westhead, 2005) or a champion to actualize a new opportunity (Iacobucci & Rosa, 2010). Cofounder additions (and early exits) may also occur at critical development milestones because of externally recognized needs by stakeholders, including VCs, university technology transfer offices (TTOs), potential customers, and accelerators' staff and mentors (Rasmussen, 2011; Vohora et al., 2004). In addition to membership changes due to development or growth indicators, crisis, such as failure to fill internal or external needs, may also precipitate such changes (Clarysse & Moray, 2004).

Indicative of the complexity of the phenomenon itself, there seems to be "fuzzy boundaries" between milestones that propel membership changes *during* the team formation process and those that signal the end of the team formation process. The latter relates to the second interrelated question regarding dynamism, and our review revealed significant diversity in scholars' use of various markers, such as legal incorporation, capital raise, first sale, and talent acquisition. In part, this may be because there is no consistent empirical pattern among these markers across new ventures.

Legal incorporation is a key milestone emerged from entrepreneurial team formation studies, as it is accompanied by formalization of roles in the management team and/or creation of a formal board of directors (Nikiforou et al., 2018; Vanaelst et al., 2006). Of note, however, is the wide time frame within which founding teams legally incorporate, if at all. For example, academic spin-offs often legally incorporate after a few years, but in extreme cases, ideas may gestate in the laboratory for much longer periods before managerial and commercial capabilities are put in place (Nikiforou et al., 2018). External legitimacy milestones/markers relate to both financing and customer acquisition. *Capital raises* and *seed funding* have been examined both as milestones within the formation process that engender cofounder entry or exit, or as marking the termination of the formation phase (Rasmussen, 2011; Vanaelst et al., 2006). Relatedly, successful *customer identification*, such as the first customer or first sale milestone, has also been used to demark the end of the team formation phase (Shah et al., 2019). Finally, fuzzy boundaries also relate to *talent acquisition* of cofounders versus "joiners"—early-stage employees who do not necessarily make strategic decisions (Honore, 2015a; Roach, Sauermann, Roach, & Sauermann, 2015; Stewart & Hoell, 2016). Held, Herrmann, and van Mossel (2018) note founding teams may either evolve through a linear growth process wherein the team formation period ends when they hire the first employee, or they may add/remove employees and service providers at different time points before and after the end of the formation process.

Team characteristics. In answering the question of "what are the consequences of entrepreneurial team formation for team characteristics?", studies

[2] As an exception, Mindruta (2013) used a two-sided assortative matching model where the "best" match with "best" simultaneously for team formation based on complementarities.

have examined four interrelated characteristics. These include founding team *diversity*, *equity distribution*, *leadership*, and *structural boundaries.* The immediate result of entrepreneurial team formation is the team configuration (or composition), referring to the collective characteristics of the founding team (Schjoedt & Kraus, 2009). This particularly relates to team *diversity* along demographic-personal and functional-informational dimensions. Demographic-personal diversity has been studied in terms of both surface attributes such as age, tenure, gender, and race, and deep-level aspects such as personality traits and values (Discua Cruz et al., 2013; Francis & Sandberg, 2000; Ruef et al., 2003; Shah et al., 2019). Functional-informational diversity has been measured through founders' education, professional background, and prior experience (Davidsson & Honig, 2003; Shah et al., 2019; Ucbasaran, Lockett, Wright, & Westhead, 2003).

Research has also explored the *equity distribution* in founding teams, particularly the equal or unequal distribution among cofounders (Hellmann & Thiele, 2015; Hellmann & Wasserman, 2017). Often, equity distribution among cofounders depends on the *leadership* structure defined as whether the *leadership*, such as the responsibility for the new venture vision, goals, and strategy, is concentrated in a single founder or shared across several founders (Ensley, Carland, & Carland, 2000; Ensley et al., 1999; Jaskiewicz, Combs, Shanine, & Kacmar, 2017; Rasmussen, 2011). The division of equity and leadership is often characterized by the "throne versus kingdom" paradox (Wasserman, 2017): lead entrepreneurs may desire possession of major shares and leadership authority (i.e., owning the throne), even though it may undermine venture survival and financial performance (i.e., the kingdom).

Structural boundaries represent another important founding team characteristic. First, it distinguishes between members considered core or peripheral in the founding team. Core members are enduringly involved and significantly committed to the new venture activity, whereas peripheral members have a more temporary and sporadic involvement, addressing specific needs during limited time periods. Such distinctions may occur in virtual teams (Matlay & Westhead, 2005), could be correlated with aforementioned equity distributions (Hellmann & Thiele, 2015; Hellmann & Wasserman, 2017; Wowak, Gomez-Mejia, & Steinbach, 2017), or indicate the presence of "sleeping partners" who provide their own capital or reputation but are barely involved in the venture activity (Lloyd, 1986). Second, some new venture teams have blurred boundaries (Mortensen & Haas, 2018) that encompass external agents, such as consultants or surrogates who provide critical knowledge and management skills (Grimaldi & Grandi, 2005; Lundqvist, 2014). Notable is the fact that external supporters or surrogate entrepreneurs often join the team during later stages (Vohora et al., 2004). A final structural boundary relates to occurrence of double-tier formation of new venture teams, such as the presence of junior subteams to pursue specific opportunities, whereas senior members oversee activities alongside broader venture management. These multitier structural boundaries are mostly observed in family settings (Discua Cruz et al., 2013; Jaskiewicz et al., 2017) or portfolio entrepreneurship (Iacobucci & Rosa, 2010).

Team processes. Although team processes have long been studied as an outcome of team characteristics (Klotz et al., 2014), a key question is "what are the consequences of entrepreneurial team formation for team processes?". In line with recent organizational behavior models of team research (Mathieu, Hollenbeck, van Knippenberg, & Ilgen, 2017), our review illuminates the direct consequences of team formation on team processes, and particularly the interrelated *coordination* and *specialization team processes*. The relational fit between cofounders may facilitate or impair effective communication, mutual trust, and smooth *coordination* of knowledge and perspectives (Francis & Sandberg, 2000). These coordination-related processes also include alignment of values and vision (Discua Cruz et al., 2013; Shah et al., 2019) as well as cohesion in the form of interpersonal emotional bonds within a close-knit unit (Jaskiewicz et al., 2017). In some settings, better coordination processes have been associated with superior performance outcomes (Francis & Sandberg, 2000; Shah et al., 2019).

Specialization-related processes may enable cofounders to rely on others' diverse knowledge-bases, gain deeper expertise in different specialized domains, and improve venture capabilities and access to a larger pool of resources (Clarysse & Moray, 2004; Iacobucci & Rosa, 2010). Similar to coordination processes, specialization processes have been linked to higher performance because of a sustained ability to leverage expertise, as well as absorb and apply deep knowledge from a large team knowledge-base (Forbes et al., 2006; Shah et al., 2019).

Team performance. As indicated earlier, successful efforts at entrepreneurial team formation

were associated with desirable performance outcomes. Some of these performance indicators have been associated with the milestones and markers discussed previously, including whether the team was successfully incorporated, raised seed capital, shipped the first product/made the first sale, and hired a first full-time employee. Other interim performance measures have been related to the ability to create demonstrations and minimum viable products (Clarysse & Moray, 2004), the evaluation of pitches (Cohen, 2013), and successful transitions across developmental phases (Vohora et al., 2004). Venture performance has also been measured by financial, growth, and survival indicators (Iacobucci & Rosa, 2010; Shah et al., 2019).

Disciplinary Perspectives for Examining Entrepreneurial Team Formation

As depicted in Figure 2, studies of the entrepreneurial team formation use three disciplinary lenses—economics, psychology, and sociology. In Table 2, we provide a summary of theoretical lenses and underlying assumptions used to investigate the phenomenon. This bird's-eye view unveils how the siloed research is rooted in separated disciplinary lenses which have developed in isolation, leading to mixed findings and disciplinary "ground truth."

The economics lens. The economic lens, and its concomitant use by strategic management scholars, dominates entrepreneurial team formation research. Drawing on Schumpeter's (1934) emphasis on novel recombination of resources for new products, processes, markets, factors of production, and organizational forms, the almost universal focus of the economics lens is on the assembly of resources and capabilities through entrepreneurial team formation, given pecuniary incentives (Agarwal, 2019). Building on human capital (Becker, 1994; Schultz, 1961), the mechanisms and frameworks used to explain the entrepreneurial team formation process invoke agency theory (Anton & Yao, 1995; Hellmann, 2007), and resource and capability-based views (Barney, 1991; Teece, 1986; Teece, Pisano, & Shuen, 1997). Notably, many studies use the firm or founding team as the unit of analysis and draw on theoretical mechanisms of the economic models to make inferences about the entrepreneurial team formation process, but do not observe the processes itself.

Agency theory focuses on incentive compatibility within an incomplete contracting setting (Anton & Yao, 1995; Gambardella, Ganco, & Honoré, 2015; Hellmann, 2007). Particularly germane to employee

TABLE 2
Disciplinary Lenses Used for Examining Entrepreneurial Team Formation

	Disciplinary Lenses		
	Economics	**Psychology**	**Sociology**
Theoretical frameworks	Human capital	Interpersonal similarity; attraction	Social networks
	Resource-based view	Social categorization; social identity	Social capital
	Agency theory	Fit	Homophily
Origins	Lead entrepreneur; group approach	Lead entrepreneur	Lead entrepreneur; group approach
Level of analysis	New venture firms; the founding team	Entrepreneur; cofounding dyads	Social network; the founding team
Formation strategies	Resource seeking	Interpersonal attraction	Interpersonal attraction
Underlying mechanisms	Matching	Shared frameworks	Network configuration
Contextual factors	Knowledge context	National culture	Social network
Dynamism	Varying need for resources drives the search for additional cofounders	Immediate short-term goals shape the way founders look for cofounders	Networks are viewed dynamically and the search for cofounders changes accordingly
Team characteristics	Functional diversity; equity distribution	Personal/demographic diversity	Personal/demographic diversity; core versus peripheral members
Team processes	Absorptive capacity, specialization	Shared perspectives, coordination, and trust	Cohesion and trust

entrepreneurship, theoretical explanations center on occupational choices (of lead entrepreneurs or cofounders) regarding fixed-wage employment versus new venture creation. Such decisions rely on dynamic optimization of the expected monetary returns of leveraging human capital and the ability to convince loyal subordinates to join the team (Agarwal et al., 2016; Campbell, Ganco, Franco, & Agarwal, 2012).

Building off *capabilities* and *resource-based views*, the knowledge context has been highlighted as key to lead entrepreneurs or teams identifying and configuring opportunities for new venture creation (Agarwal & Shah, 2014). Employees of existing organizations (Ganco, 2013), scientists in academic institutions (Lockett, Siegel, Wright, & Ensley, 2005), and users of existing products and services (Shah & Tripsas, 2007) each have unique vantage points and specialized human capital. According to Agarwal and Shah (2014), these "informational advantages serve as the basis for the creation of a new firm" (p. 1109).

The economic lens also predominantly focuses on the resource-seeking strategy. Given the specialization of human capital, scholars theorize instrumental rationality of team formation (Kamm & Nurick, 1993). Lead entrepreneurs and groups alike aim to ensure new venture success by assembling the requisite complementary assets (Wasserman, 2012). Here, scholars invoke not only functional considerations of complementary fit (Davidsson & Honig, 2003) but also assortative matching whereby high human capital founders match with other high human capital cofounders with complementary expertise (Mindruta, 2013).

Such resource seeking may occur within the same or different contexts. For example, among employee entrepreneurs, Shah et al. (2019) document cases of lead entrepreneurs drawing cofounders from colleagues in their existing organizations in the disk-drive industry. By contrast, in an academic setting, Clarysse and Moray (2004) document that a scientific team may search for cofounders across settings to address industry-related needs. Accelerators too focus on learning and capabilities of teams when recommending additions of members to improve prospective performance (Cohen et al., 2018; Cohen & Hochberg, 2014; Lundqvist, 2014).

The emphasis on addressing resource and capability needs in economics-based studies results in a primary concern on cofounder entry rather than exit when examining team formation dynamics. Temporal patterns of membership changes have been studied through interim development milestones and in response to stakeholder needs, particularly as it relates to external financing factors and resource gaps (Clarysse & Moray, 2004; Rasmussen, 2011).

Given the predominant focus on monetary incentives and resource needs, it is not surprising that the economic lens privileges functional diversity and equity distribution as key founding team characteristics. Heterogeneity among team members is primarily assessed by their human capital (Davidsson & Honig, 2003; Honore, 2015b; Ucbasaran et al., 2003), and team characteristics are additionally examined based on the contractual equity distribution among members (Hellmann & Wasserman, 2017). Moreover, specialization-related processes are determined by routines to ensure cumulative knowledge across functional expertise (Müller, 2010) and team absorptive capacity, namely, the ability to incorporate external information and address dynamic changes in the team resource-base (Clarysse & Moray, 2004).

The psychology lens. Scholars using the psychology lens use the vantage point of the *individuals* who engage in entrepreneurial team formation. Interestingly, early work incorporating the psychology lens was also built on the seminal work by Schumpeter (1934). However, rather than focusing on resource recombination, these accounts stress the lead entrepreneurs and how their personal, motivational, and cognitive characteristics influence their propensity to engage in entrepreneurial activities (Frese & Gielnik, 2014). Given this focus on people, the mechanisms and frameworks used to explain entrepreneurial team formation include interpersonal attraction, social categorization/identity, and fit theories.

With lead entrepreneurs as the origins (Frese & Gielnik, 2014), the selection of cofounders is largely based on *interpersonal attraction theory*, which explains the formation of personal (e.g., romantic and friendship) and professional relationships based on an individual's positive evaluation of another person (Berscheid & Hatfield, 1969). Accordingly, scholars focused on the search for interpersonally attractive cofounders. These exchanges are perceived to be rewarding and deemed favorable (Forbes et al., 2006).

A second framework relies on *social categorization* and *social identity* theories to explain formation strategies. Social categorization refers to clustering of individuals who share important characteristics (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). Relatedly, social identity theory suggests people

define themselves by their social interactions and actual or perceived membership in relevant groups (Tajfel, 1974). Both theories privilege selection based on the fit of traits, sharing salient identifications, and in-group classifications (Frese & Gielnik, 2014). For example, Grossman et al. (2012) show social identities (e.g., gender) influenced the valuation of cofounding ties. Moreover, embracing the person–environment fit model (Schneider, 1987), scholars also payed attention to individual behavior within a given context to theorize that social and national culture, namely, the norms, meaning systems, and endorsed values, influence the desire or avoidance of creating/joining a new venture (Hayton et al., 2002).

The dynamism of the entrepreneurial team formation has been examined through both cofounder entry and exit, with exit also being explained because of interpersonal chemistry issues (Forbes et al., 2006). For example, although friendship in entrepreneurial teams predicts membership stability in the long term, it may also create an exodus because a single cofounder's exit may precipitate other loyal members to follow the departing founder (Francis & Sandberg, 2000). Given the inherent focus on member fit, psychology-based studies examine resultant team characteristics of diversity on both surface attributes and deeper aspects. Together, they suggest entrepreneurs tend to form homogeneous teams with similar and close others, drawing disproportionally from friends and family members. For team processes too, the psychology lens examines the role of interpersonal ties in creating dynamics and emergent states which foster positive synergy. For example, in Discua Cruz et al.'s (2013) multiple case studies of Honduran entrepreneurs, cofounders held shared perspectives and developed the same mental model. In addition, in three U.S.-based university spin-offs, coordination processes between cofounders enabled smooth operations with little misunderstandings (Forbes et al., 2006). Last, research documented interpersonal trust between cofounders was evident in their self-disclosure, candor, and honest discussion (Francis & Sandberg, 2000).

The sociology lens. Sociologists have focused on how the *social structure* can dictate entrepreneurial team formation. Rooted in the classical social network perspective (Simmel, 1955), this lens examines team formation by emphasizing that social ties of the founder(s) can be used to create cofounding relations, as network ties (dyadic, triadic, and so forth) are converted into social capital exchange ties (Larson & Starr, 1993). Key frameworks invoked in sociology-based studies include homophily and social capital theory.

Regardless of whether they study lead entrepreneur or group origins, sociology-based studies examine formation strategies using *homophily theory*. Homophily refers to the selection of others based on like characteristics (Lazarsfeld & Merton, 1954). This theory posits that people socialize with similar others with whom they share external (e.g., gender and race), internal (e.g., values), and achieved (e.g., experience, status, and formal group membership) characteristics. Accordingly, the sociology lens (like the psychology lens) proposes that entrepreneurs will associate with similar others more than with dissimilar ones (Mcpherson, Smith-lovin, & Cook, 2001). For example, scholars argue that homophily drives the formation of networks and that this results in the leverage of kinship and friendship ties for formation of entrepreneurial teams within one's close network (Aldrich & Kim, 2007; Parker, 2009; Ruef et al., 2003).

Given the emphasis on social networks within which entrepreneurs are embedded, studies also examine what forms of *social capital* are used to form teams. Here, close ties within a local cluster or distant ties within a distributed network represent the context of the team formation. Because social networks are themselves dynamic, changes in the founder(s) network configuration may lead to changes in the search for cofounders (Aldrich & Kim, 2007). For example, founders may break out of existing clusters to grow their network or bridging ties.

Consistent with the fundamental focus on social networks and homophily, studies depict prior network ties resulting in similarity of characteristics within the founding team. For example, leveraging the Panel Study of Entrepreneurial Dynamics dataset, Ruef et al. (2003) showed that among 830 nascent U.S. entrepreneurs, ethnically homogenous teams were more common than ethnically mixed teams. Moreover, others view these teams as units of ties, stressing how cohesive ties between cofounders facilitate early functioning of teams (Aldrich & Kim, 2007) and how dense clusters can powerfully mold trust among cofounders (Parker, 2009).

ENTREPRENEURIAL TEAM FORMATION: AN INTEGRATIVE VIEW

As noted in the introduction, significant attention in the broader entrepreneurship literature has been

devoted to the sequential input–process–output framework. In this framework, founding team characteristics impact founding team processes, which in turn influence venture performance (for reviews and meta-analyses, see de Jong, Song, & Song, 2013; de Mol et al., 2015; Delgado García et al., 2015; Jin et al., 2017; Klotz et al., 2014). Figure 3a provides a stylized depiction of this framework. Within this standard model, entrepreneurial team formation *would* precede and determine founding team characteristics. Our integrative model "zooms in" on the entrepreneurial team formation stage. Presented in Figure 3b, this model synthesizes the existing literature to make it more analytically tractable, and situates the aforementioned elements within a process model to elucidate their interrelationships. As we explicate in the following paragraph and in the road map for future research, this integrative model challenges the depiction in Figure 3a—it identifies deep interdependencies that reveal endogeneity of not only founding team characteristics but also founding team processes and new venture performance.

Figure 3b illustrates the idea that the entrepreneurial team formation is a *dynamic process* which unfolds over time, rather than a single, one-shot occurrence. Temporally, entrepreneurial team formation begins with the origins, when either a lead entrepreneur or an initial group of cofounders embark on the path to creating a new venture. The process ends when founders believe the formation process has finalized the *team characteristics and processes.* As noted earlier, the clear demarcation of the formation process termination is fuzzy among the articles we reviewed. Synthesizing across articles, we posit legal incorporation should be used as an end marker because of several logical factors. Legal incorporation demarcates a transition from the pre-startup to the startup phase. This symbolically determines all founding team members, given role formalization in the management team and/or board of directors (Nikiforou et al., 2018; Vanaelst et al., 2006). Moreover, a legal founding often signals that necessary elements are in place, as other important milestones (e.g., first sale and financing) may precede the legal incorporation (Bjørnåli & Gulbrandsen, 2010; Nikiforou et al., 2018). Pragmatically, after this phase, scholars mainly refer to the entrepreneurial team as an "existing" team whose characteristics can be tracked to forecast future performance. Accordingly, in the broader entrepreneurship literature on team characteristics-outcomes depicted in Figure 3a, studies rely on legal incorporation data to determine founding teams as firmly "registered" legal tax-relevant entities (Agarwal et al., 2016; Campbell et al., 2012; Hmieleski & Baron, 2008).

During the formation process, the lead entrepreneur or cofounders seek additional cofounders using distinct *formation strategies*. The primary formation strategies used to initiate cofounding relationships include either interpersonal attraction or resource-seeking strategies. Notably, there may be shifts or combinations of these strategies as the formation process unfolds. These strategies influence *incipient team characteristics*, *processes*, and *performance*. Specifically, they determine incipient team structure and diversity, and shape team processes related to coordination and utilization of specialized resources. Importantly, both formation strategies and the incipient outcomes are shaped by the underlying *context* within which founders are embedded (and/or engage in search), including the setting, social network, and culture.

Entrepreneurial team formation may require multiple iterations between formation strategies and incipient outcomes. These iterations can both cause and result in cofounder entry and exit. The incipient team may assess its characteristics, processes, and performance to determine whether they need to reengage in search strategies, particularly at interim milestones where they receive valuable feedback. Alternatively, crisis or misalignment of team members—both in characteristics and processes—may result in the early exit of some cofounders even during the formation phase. Accordingly, rather than a linear process from origins to the termination of the formation stage, internal and external needs entail multiple iterations and feedback loops. The dynamism of the formation process, such as the frequency, intensity, and duration of the iterations, is affected by other elements of the process, and their interrelations.

Situating the various elements related to entrepreneurial team formation as depicted in Figure 3b enables two high-level insights, which we turn to next. The first stems from a cross-disciplinary integration and relates to duality of formation strategies with implications to cofounder entry and exit throughout the formation process. The second stems from a cross-context integration and relates to the role of the key contextual factors, namely, settings and social networks, and their interrelations with formation strategies, dynamism, and team characteristics.

FIGURE 3a
Standard Model of Entrepreneurial Teams

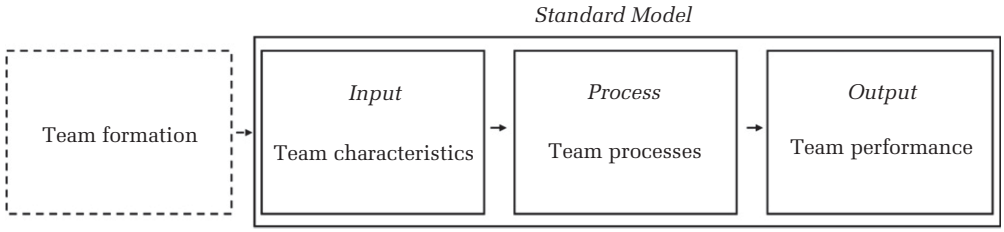
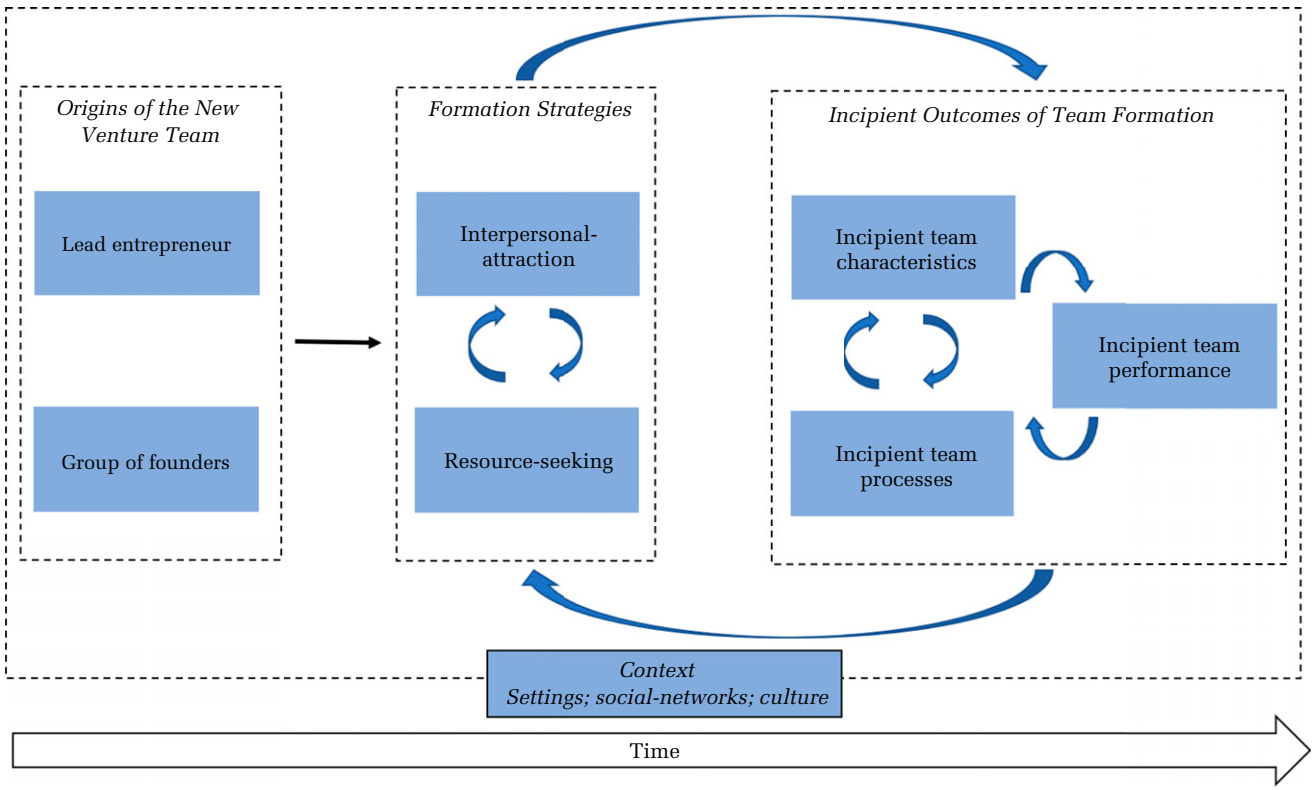


FIGURE 3b
Zoom-in: An Integrative Model of the Entrepreneurial Team Formation Process



A Cross-Disciplinary Integration: Duality of Formation Strategies and Implications for Cofounder Entry and Exit during Entrepreneurial Team Formation

The model presented in Figure 3b is based on a *cross-disciplinary integration* of key theories and mechanisms identified in the literature. To create a holistic view of entrepreneurial team formation, we compare and contrast the assumptions, mechanisms, and relationships examined within economics, psychology, and sociology disciplinary lenses, and focus on how the disciplinary views complement each other.

We first discuss how the two primary strategies may be combined—simultaneously or sequentially—for a *dual formation strategy*. Whereas psychological and sociological accounts coalesce on cofounder selection based on an interpersonal attraction strategy, economics accounts base cofounder selection on a resource-seeking strategy. Our integrative model elucidates trade-offs between these two foci and offers potential ways in which a dual formation strategy may address shortcomings of adopting one strategy in isolation. Hence, these seemingly competing formation strategies can become mutually reinforcing.

Current evidence suggests that cofounder selection based on an interpersonal attraction strategy puts primacy on the need for interpersonal connections and search within a small-world social network of similar individuals (Frese & Gielnik, 2014; Ruef et al., 2003). In some cases, this relational fit between members resulted in homogenous teams characterized by low personal and demographic diversity, and facilitated coordination-related processes, such as effective communication, mutual trust, smooth division of tasks, and shared perspectives (Discua Cruz et al., 2013; Francis & Sandberg, 2000). A drawback of relying on interpersonal attraction alone, however, is the inattention to teams having diverse and complementary skills necessary for tackling the vast range of technological, strategic, financial, and managerial tasks. For instance, when members possessed overlapping expertise, position allocation was problematic (Jung, Vissa, & Pich, 2017). Similarly, in a sample of 170 Silicon Valley young technology firms, Beckman (2006) documents that limited access to external social capital at times restricted the potential accessible knowledge.

By contrast, cofounder selection based on resource-seeking places primacy on the instrumental need for resources and sole attention to monetary incentives (Hellmann & Wasserman, 2017; Kamm & Nurick, 1993). Theoretically, this resource-seeking strategy may contribute to heterogeneous teams characterized by high functional and informational diversity, with specialization-related processes enabling team members to rely on others' knowledge, gain deeper expertise, and leverage these skills to integrate external knowledge and enlarge the team resource-base (Clarysse & Moray, 2004). However, a focus on resource seeking alone may result in inattention to the development of a shared understanding, aligned aspirations, cohesion, and trust, which likely facilitate team success. Members with diverse experience can lack shared perspectives, which may lead to challenges in coordinating activities for smooth functioning (Forbes et al., 2006). For example, disk-drive firms formed solely based on functional expertise were less likely to grow beyond the first product offerings (Shah et al., 2019).

Interpersonal attraction and resource-seeking strategies are accordingly duals of each other. Although no doubt requiring more attention and search efforts during the formative stage, the use of both logics increases the likelihood of having the requisite characteristics (e.g., personal/demographic homogeneity and functional/informational heterogeneity) and fostering necessary processes (e.g., coordination and specialization processes) for superior performance.

Dual formation strategies may occur either simultaneously, through a *hybrid* strategy used from the onset, or sequentially through *shifting* strategies during the formation stage. A scant few interdisciplinary studies have documented the hybrid formation strategy, and some have additionally related it to team characteristics, processes, or venture performance. Forbes et al. (2006) interviewed founders of three academic start-ups to provide evidence of cofounder additions and removals through simultaneous use of "personal" factors such as chemistry and "professional" factors such as knowledge and capabilities. In their examination of disk-drive industry spinouts, Shah et al. (2019) document variance in formation strategies used by ringleaders. Although almost all founding teams were formed with attention to resource seeking for complementary functional knowledge, some ringleaders also ensured similarity in talents, and alignment of values and goals. Shah et al. (2019) additionally documented an association of the use of hybrid strategy with superior spinout technological and market-pioneering capabilities, and a higher rate of survival. Relatedly, in a panel of Indian entrepreneurs, Vissa (2011) found both task complementarity and caste similarity were related to the entrepreneur's tie-formation intentions. Last, using data on 1,407 cofounder dyads, Grossman et al. (2012) show positive interaction effects between the two strategies. Specifically, lead entrepreneurs perceived greater value provided by potential cofounders who represented resource multiplexity (i.e., a greater number of distinct knowledge categories), and this effect was stronger in the presence of gender or age similarities. Interestingly, both Shah et al. (2019) and Grossman et al. (2012) suggest that resource seeking is often the basis of initiating cofounding relationships, but it is not a sufficient strategy for ensuring higher value. Both document that interpersonal attraction played an amplifying role in their respective settings. To the extent that these phenomena generalize to more settings, they provide initial warrants for our model's assumption of the mutually reinforcing nature of interpersonal attraction and resource-seeking strategies.

Sequential shifts in strategies during the formation stage enable incipient entrepreneurial teams to address deficiencies (lack of either complementary or supplementary fit) by complementing the formation strategy used at the onset with a temporal change to

the other strategy. Sequential shifts in strategies have been documented in several studies that explicitly examine the temporal development of teams (e.g., Clarysse & Moray, 2004; Leung, Zhang, Wong, & Foo, 2006; Vohora et al., 2004). Such shifts appear to benefit entrepreneurial teams, and occurrences have been due to member exits and/or feedback about incipient team characteristics/processes at interim milestones that provide early performance indicators.

Of note, all studies documenting sequential shifting in formation strategies document that the shift occurs from interpersonal attraction strategy to resource-seeking strategy, rather than the other way around. However, this may be an artifact of the academic setting. Academic scientists who initially sought cofounders through close networks shifted to a resource-seeking strategy across a broader network of stakeholders because of financing and commercialization pressures. These shifts occurred because teams of scientists lacked complementary industry and market knowledge (Bjørnåli & Gulbrandsen, 2010; Clarysse & Moray, 2004; Vohora et al., 2004).

Moreover, our cross-disciplinary integration reveals the need for a more balanced perspective with attention to both cofounder entry and exit during the team formation process. The predominant use of the economic lens in examining cofounder entry to bolster resource accumulation creates a blind spot in the literature, given its inattention to examining cofounder exits. Here too, the psychological perspective—which has examined both member entry and exit—can complement the economic perspective. Psychology-based research implicitly suggests teams formed based on the interpersonal attraction strategy are more stable over time and less likely to experience cofounder exit because the strong and cohesive interpersonal ties keep them together when facing unforeseen challenges. Although there might be higher collective turnover following a departure of a founding team member, these teams are expected to be more resilient in the long term (Francis & Sandberg, 2000). In their examination of member entry and exit in 621 manufacturing and service U.K.-based ventures, Ucbasaran et al. (2003) document that on average, cofounders were less likely to leave family firms founded based on the interpersonal attraction strategy than nonfamily-based firms. Moreover, functionally heterogeneous teams where members possessed different types of experience had higher attrition rates relative to more similar teams. In Chandler et al. (2005) samples of 408 Swedish and 124 U.S. emerging firms, founding teams composed of members from different disciplines and employment backgrounds had higher turnover than founding teams with somewhat similar backgrounds. Thus, these studies indicate that a sole reliance on a resource-seeking strategy may be more likely to result in cofounder exits. This can create the need for additional iterations within the formation process or, if left unaddressed, have implications for outcomes related to team characteristics, processes, and venture performance.

A Cross-Context Integration: Contingencies between Context and Formation Strategies with Implications for Dynamic Iterations during Entrepreneurial Team Formation

The second main insight from our integrative model stems from the important role played by the context in shaping the formation process. To explicate its implications, in Table 3 we situate the elements related to entrepreneurial team formation within a grid of contextual factors. Such a cross-context integration reveals a complex nexus of interrelations that provide nuanced answers to the questions related to *why*, *how*, *and when* entrepreneurial teams are formed.

First, intersections between social networks and settings dramatically shape the way founders are selected. Here, we reveal that when founders are embedded within institutionalized settings characterized by broad and distributed networks, such as academic institutions or accelerators, they rely primarily on a resource-seeking strategy. Inherent within both settings, competence is an important criterion for the assembly of new venture teams, and the search for knowledge using outspread ties exemplifies the rational process of founding new teams. In academic settings, founders are embedded in a large and international network of individuals who are selected according to their expertise and capabilities. Initial groups of founders in such academic spin-offs can use weak, distant, and indirect ties to seek cofounders in a broad and distributed network (Mosey & Wright, 2007). Similarly, in accelerators, the accelerator network is used to search for qualified external agents who can boost resource accumulation and learning (Cohen, 2013; Grimaldi & Grandi, 2005; Lundqvist, 2014).

Perhaps more surprisingly, when founders are deeply embedded within local clusters of social relations, such as family and employment, they have been documented to follow not only interpersonal

TABLE 3
Cross-Context Integration of Entrepreneurial Team Formation Research

Social Network	Small-World Configuration		Truncated Scale-Free Configuration	
Setting	**Employee entrepreneurship**	**Family business**	**Accelerators/incubators**	**Academic entrepreneurship**
Origins	Lead entrepreneur and initial group of founders	Initial group of founders	Initial group of founders	Initial group of founders
Formation strategies	Resource seeking and dual strategy	Interpersonal attraction	Resource seeking	Resource seeking and dual strategy
Dynamism using a dual strategy	Hybrid formation strategy *(simultaneously)*			Shifts between formation strategies *(sequentially)*
Triggers for membership changes	Cofounders are added because of an internally recognized need	Cofounders are added because of an internally recognized need	Cofounders are added because of an externally recognized need	Cofounders are added because of an externally recognized need
Characteristics	Unequal equity distribution, single leadership, and core vs. peripheral membership	Low demographic and personal diversity, relatively equal equity distribution, and double-tier formation structure	High functional diversity and low demographic/ personal diversity	High functional diversity, shared leadership, and core vs. peripheral membership
Processes	Credibility, task conflicts, specialization, and interpersonal trust	Coordination, interpersonal trust, perspective taking, cohesion, and shared vision (stewardship)	Absorptive capacity, knowledge sharing, and acceleration of learning	Specialization, credibility, absorptive capacity, interpersonal trust, and open communication
Exemplary article(s)	Grossman et al. (2012), Iacobucci & Rosa (2010), Shah et al. (2019)	Discua Cruz et al. (2013), Zhang (2010)	Grimaldi & Grandi (2005), Lundqvist (2014)	Clarysse & Moray (2004), Forbes et al. (2006), Vohora, Wright, & Lockett (2004)

attraction, as one would assume, but also resource seeking. In samples of family businesses, founders searched within tight-knit family and friendship networks to select others who were viewed as more likely to feel stewards of the family business (Discua Cruz et al., 2013) or were believed to have greater similarity and interpersonal fit (Francis & Sandberg, 2000; Zhang, 2010). However, we uncover that founders within these local clusters, such as founders in employee entrepreneurship settings, have also been documented to use the instrumental criteria within networks of embedded ties to identify potential cofounders (Shah et al., 2019). This implies there is at least some diversity within one's small cluster so that the search for dissimilar others might be forthcoming in small and close networks (Aldrich & Kim, 2007; Parker, 2009). Indeed, founders in industry spinouts may use local clusters of previous work affiliation and ex-employees to initiate cofounding relations with those who might bring complementary resources. For instance, U.S. legal service professionals who were founders searched for potential cofounders through knowledge corridors to facilitate knowledge mobilization from the parent firm (Agarwal et al., 2016). Similarly, portfolio entrepreneurs asked employees to join their team because they possessed key skills (Iacobucci & Rosa, 2010).

Second, context has a strong imprint on the dynamism of the formation process, affecting the triggers, frequency, intensity, and duration of the iterations that occur during the formation period. In part, this is because settings and social networks create variation in use of formation strategies and subsequent search, as noted earlier. Our cross-context synthesis reveals the formation process of teams within a small-world configuration, such as in an employee entrepreneurship setting, may be faster and require fewer iterations and membership changes, relative to counterpart teams embedded within distributed networks, such as in academic settings (Forbes et al., 2006; Vanaelst et al., 2006). Three reasons relating to inherent feature of these contexts may be at play. First, it may be the case that founders have greater decision and control rights in family business and industry spin-out settings, and the need for membership changes stem from internal factors. By contrast, the founding team's control may be relatively limited in academic spin-off and

accelerator settings, where mentors or surrogates might be involved, and the need for membership change is likely to be identified by external agents. Second, local clusters and small-world network configurations are hypothesized to allow founders to use the deep knowledge about and familiarity with different members in their circumscribed search space (Aldrich & Kim, 2007). When compared with their counterparts embedded within truncated scale-free networks, such familiar "information corridors" arguably facilitate identification of cofounders in a more direct manner. Third, and relatedly, we argue that even in the use of dual strategies, a hybrid strategy is more likely within small-world networks of ex-employees, whereas shifting strategies is more likely in academic settings. This is because search in local clusters may enable founders to identify and cherry-pick other cofounders who are both interpersonally attractive and provide specialized resources (Shah et al., 2019). However, such cherry-picking may not be feasible for founders in distributed networks, requiring them to shift between strategies rather use a hybrid one at the onset.

Last, the aforementioned contingencies of context on the formation process also have implications for founding team characteristics and processes. Characteristics of the context seem to transform to characteristics of the new venture team. For example, small-world networks are inherently more homophilous, so it is not surprising that the resultant entrepreneurial teams would also be more homogenous. The same principle applies to teams formed within truncated scale-free networks where there is more dissimilarity among members. Teams formed within broad networks of distant and indirect ties are expected to be more heterogeneous. This points to a critical distinction: some characteristics of the new venture team may be dictated by the context, rather than being a consequence of deliberate search. As an example, Shah et al.'s (2019) best explanation is that homophily in gender and race in disk-drive spinouts was an artifact of the underlying demographic composition in the employee context, whereas functional diversity and workplace value similarity are outcomes of a deliberate search strategy. Similarly, unequal equity distribution in employee entrepreneurship contexts and double-tier formation structures in family businesses may be context driven, rather than strategically designed. The effect of context is also evident in team processes—not surprisingly, many accelerators and incubators promote learning and knowledge-sharing processes (Grimaldi & Grandi, 2005; Lundqvist, 2014), and other specialization processes are more frequently observed in teams stemming from employee or academic contexts (Clarysse & Moray, 2004; Forbes et al., 2006; Grossman et al., 2012; Iacobucci & Rosa, 2010). Our cross-context integration also uncovers interactive effects of context and formation strategies are at play. For example, in both small-world and truncated scale-free configurations, teams that followed dual formation strategies benefited from both interpersonal similarity and functional diversity.

To conclude, our identification of core elements, and the further integration across disciplines and contexts, invites scholars interested in entrepreneurial team formation to eschew using a singular disciplinary lens and also appreciate the role of the underlying context in arriving at a more holistic and representative understanding of this complex and rich phenomenon. Based on this, we next delineate potential future research avenues.

A ROADMAP FOR FUTURE RESEARCH

The aforementioned integrative process view of entrepreneurial team formation enables identification of fertile opportunities for future research. Here, we describe a research agenda which stems from existing gaps, new uncovered questions, links to broader bodies of literature on entrepreneurship and teams, and methodological challenges and opportunities.

Need for Integration across Elements, Disciplines, Contexts, and Levels of Analyses

In bringing together the various elements studied within disciplinary and contextual silos, new questions emerge at the intersections, as we describe in the following text.

Integration of elements in a process view. The comprehensive and dynamic model depicted in Figure 3b emerged based on our situating studies examining different elements within a temporal framework, rather than the studies we reviewed themselves conducting such a holistic examination. Accordingly, future research using a longitudinal perspective would be helpful in enhancing our understanding of the linkages between the elements, and the role of feedback and iterations in shaping the founding team and the opportunities being pursued.

Such a perspective may help address existing "origin" debates regarding opportunity creation versus opportunity identification that are often

framed as an *either or* perspective on the primacy of the idea or the team. Rather than portraying two mutually exclusive paths where the idea precedes the creation of the team (cf., Shane & Venkataraman, 2000) or the idea is effectuated by the team through team formation (cf., Sarasvathy, 2001), a process perspective of entrepreneurial team formation allows for simultaneity and continuous identification and development of ideas and teams through multiple iterations, thus blurring the distinction. As the team blends its unique experience and perspectives, new directions are contemplated and become feasible, and in the extreme case, teams that embarked in the process by identifying some initial ideas collectively act to create opportunities that were not possible before. Accordingly, rather than inferring origins as in most research examining founding teams without a process perspective, future research can undertake an examination of the process through which opportunities are neither completely identified nor completely created, but depend on interactions of the founding team members, other stakeholders, and an emergent market. Research may uncover how similarities or differences across various cofounder attributes may matter for changes in perceived opportunity, and, in turn, how perceptions of opportunities shape identification of additional cofounders. Such a process perspective requires rethinking the standard model in Figure 3a to acknowledge that incipient team characteristics and processes interact to shape the opportunity ultimately pursued in the newly formed team (as in Figure 3b).

In the same vein, future research may examine how team formation strategies interact with the emergence and development of opportunities. For example, do teams built on functional necessities influence changes in perceived opportunity more than teams built on familiarity? How do formation strategies influence decision-making processes about potential opportunities and shape potential pivots? Also deserving of future research is the impact of formation strategies on dynamic attributes of the process, such as speed and frequency of pivots, as incipient teams transform initially identified opportunities to final opportunities.

Last, our cross-element integration revealed an intriguing gap: studies of group origins documented all three formation strategies—interpersonal attraction, resource seeking, and dual—but studies of lead entrepreneurs predominantly focus on resource seeking and sometimes on the use of a hybrid strategy. Conceptually, it is unclear why lead entrepreneurs may not pursue an interpersonal attraction strategy, given the social network assumption, e.g., that individuals often tend to look for similar others in their close cluster (Aldrich & Kim, 2007).

Integration of disciplinary lenses. Research integrating economics, psychology, and sociology perspectives will provide a more holistic view of entrepreneurial team formation. First, a promising direction is an in-depth examination of dual formation strategies, as this is where current disciplinary-based bodies of research are most complementary to each other. We need more research examining the trade-offs and difficulties associated with pursuing dual formation strategies—hybrid or sequential—as well as the impact of their use on dynamism of the process, team characteristics, processes, and venture outcomes. Moreover, an intriguing possibility could be that founders use hybrid formation strategies not only when vetting characteristics *within a focal individual* but also *between individuals* such that one member is recruited using one strategy and the other with another strategy. Also, when examining sequential shifts, is it better to team-up with familiar others and then seek members with complementary and necessary skills? Or do effective teams form based on resource seeking alone, but then invest in processes that build close relationships, or recruit familiar others? Anecdotal examples suggest teams that first form based on familiarity and then recruit experts are more likely to survive adversity and succeed over time (Bjørnåli & Gulbrandsen, 2010; Clarysse & Moray, 2004), but shifts in the reverse order have yet to be documented. Such research will not only inform important questions regarding the effect of shifting strategies on team characteristics, processes, and outcomes but also shed light on whether paying attention to economic versus social-psychological criteria have a temporal order. Finally, we need research that compares efficacy *across* the dual strategies: Are teams formed using the hybrid strategy more effective than teams that shift between strategies?

Second, future research could integrate theories of human capital (a focus of the economics lens), interpersonal relations (a focus of the psychology lens), and social capital (a focus of the sociology lens) to examine the interplay between the various elements related to entrepreneurial team formation. As an example, such use of disciplinary lenses may help parse out the component elements of entrepreneurial experience. Founders of new venture teams exhibit heterogeneity in prior efforts at new venture creation, ranging from *nascent entrepreneurs*, who have

entrepreneurial intentions but no prior experience in new venture creation; *novice entrepreneurs*, who have experience in establishing a new business once; *serial entrepreneurs*, who have sequentially established and sold multiple entrepreneurial ventures in the past; and *portfolio entrepreneurs*, who engage in multiple entrepreneurial activities simultaneously by retaining earlier ventures even as they engage in new venture creation (Mosey & Wright, 2007; Westhead & Wright, 1998). Wasserman (2012) suggested experienced entrepreneurs have better success chances in their "second shot." However, the mechanisms through which entrepreneurial experience translate to superior performance remain underexamined. Do the potential benefits (or costs) of prior entrepreneurial experience on the focal team formation process stem from differences in human capital, interpersonal proximity, or social capital?, or an interplay of these theoretical drivers? In a similar vein, studying the evolution of formation strategies of habitual entrepreneurs will yield a deeper and "within-person" understanding of benefits and costs of resource-seeking, interpersonal attraction, hybrid, and sequential formation strategies.

Integration of contexts. Our synthesis reveals a lack of studies examining team formation within multiple contexts or investigating between-context variations. Similar to Agarwal and Shah (2014), we found most entrepreneurial teams are reported to have emerged from a single setting. In part, this may be an artifact of the empirical approach in several studies, where a new venture is categorized based on at least one founder stemming from that context. For sure, settings are not mutually exclusive. For example, academic and employee entrepreneurs may invent products or services for their own use (Fontana & Malerba, 2010), and cofounders may possess differing career histories that represent multiple knowledge contexts (Mosey & Wright, 2007). Research examining when and why entrepreneurs rely on singular versus multiple contexts, and how these affect the formation process would yield fresh insights. As an example, such an examination of contextual factors may reveal trade-offs between relational and instrumental factors. Presumably, engaging in cross-context search requires more cognitive, emotional, and economic effort, which may only be pursued if there are perceived greater benefits for the team formation process. These benefits may also differ based on which resources (e.g., human and financial; Zhang, 2010) are being sought within and across contexts.

Moreover, there are two blind spots pertaining to the investigation of contextual factors. First, the process of entrepreneurial team formation within the user entrepreneurship setting is under-examined, and although it is theoretically assumed to be one of the three areas within which entrepreneurial teams seed (Agarwal & Shah, 2014), none of the empirical investigations in our review sample focused on this setting. This is particularly surprising, given that scholars have documented the important role of user communities in providing feedback to *individual* user innovators as they engage in firm formation (Franke & Shah, 2003; Shah & Tripsas, 2007). Similarly, there is a lack of research examining the effects of the sociocultural environment, or the national culture, which has been theoretically recognized as a key contextual factor in psychology-based research. Here, future endeavors may build on relevant work suggesting individuals internalize the values of their social context and use them as a compass which directs their entrepreneurial choices and behavior (Frese & Gielnik, 2014). Similarly, cultural values embedded in economic and regulatory/legal systems can influence the motives, cognition, attitudes, and beliefs regarding entrepreneurship, as well as the actual behavior, such as new venture creation and self-employment more generally (Hayton et al., 2002). Embracing the cross-context integration presented earlier, research may benefit from exploring the intersections between culture, settings, and social networks to gain a refined view of the interplay between these and other elements in the entrepreneurial team formation process. For example, do lead entrepreneurs form entrepreneurial teams more in individualistic cultures, where singularity is desired? Is interpersonal attraction more salient in collectivistic culture, where communality is celebrated? How do cultural features interact with formation strategies to impact future outcomes? How do culture and setting/network features combine to shape the team formation? Last, if cultural values are reflected in political forces, how do these influence one's incentives to engage or avoid entrepreneurial activity, namely founding or joining an entrepreneurial team?

Integration of levels of analysis. Most research has focused on the team level, namely, examining how team formation strategies affect team characteristics, processes, and initial performance. We know less, however, about how individual characteristics and behaviors shape team-level dynamics and performance. Stemming from our model, a more integrative view of the phenomenon should

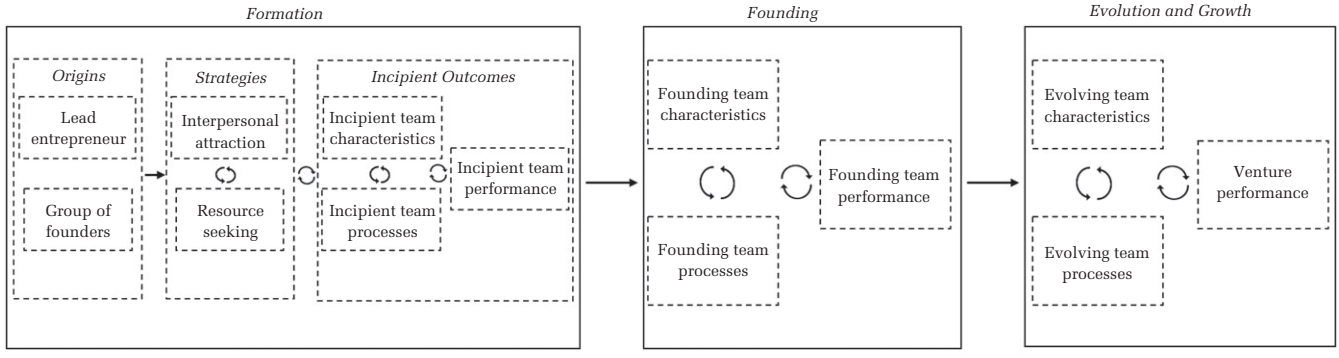
consider, for instance, how newcomers who join new ventures can influence team characteristics and processes (Chen, 2005; Chen & Klimoski, 2003), and how member attrition influences subsequent team learning (Kane, Argote, & Levine, 2005). In addition, as we reviewed earlier, differences in the contexts within which new venture teams are formed may influence not only team-level processes and outcomes but also the likelihood that different individual members will join or depart the team. As such, multilevel research that considers both bottom-up influences of individual members on their teams and top-down influences of the team on its members—and the broader context on these multilevel dynamics—is needed.

Selection and Endogeneity of (Entrepreneurial) Teams

Entrepreneurial team formation is an endogenous process. This fundamental truth raises two key shifts in future research on entrepreneurial teams: (a) attention to selection processes and (b) the endogeneity of the formation process outcomes. These shifts, and concomitant methodological and empirical opportunities, have significant implications for the two broader related literature streams: entrepreneurship literature and team literature in organizational behavior. To explicate these points, we return to Figure 3a's depiction of the standard entrepreneurial teams model using a sequential input–process–output framework. Within this model, the formation process would precede the founding team characteristics or the composition of the new venture team. The "zoom-in" of this process, presented in Figure 3b, stressed the complex and dynamic nexus of key elements related to the team formation. Zooming out again enables future research to question the standard model depicted in Figure 3a. In Figure 3c, we provide a modified model that may be a more accurate representation of entrepreneurial teams along the formation (pre-startup), founding (startup), and evolution (post-startup) phases. This model underscores the need to test characteristics-processes-performance relationships, including evolutionary outcomes, with attention to the preceding phase through which entrepreneurial teams were formed in the first place. Key is the critical role of (self) *selection* for the *endogeneity* of founding team characteristics, processes, and venture performance.

Attention to selection. We believe the first shift in future research should center around embracing selection. There has been a disproportionately higher focus on the model depicted in Figure 3a (i.e., research on *established* teams), relative to the studies examining the model depicted in Figure 3b (i.e., research on nascent teams at formative stages). As a result, embryonic self-selection processes have been thus far largely ignored. In part, this is because entrepreneurial input–process–outcomes mirrors related research in organizational behavior on team composition—the

FIGURE 3c
Zoom-out: The Influence of the Team Formation Process on Subsequent Phases of Entrepreneurial Teams



Developmental stage	Pre-startup	Startup	Post-startup
Key milestones and success indicators	Legal incorporation; seed capital; first sale/hire	Credibility threshold; sustainability threshold	Scaling; maturity
Key review papers and meta-analyses	The current paper	Jin et al., 2017; Klotz, et al., 2014	Desantola & Gulati, 2017

configuration of team member characteristics (Levine & Moreland, 1990)—with relation to subsequent processes and performance (for reviews, see Humphrey & Aime, 2014; Mathieu et al., 2017; Shuffler, Diazgranados, Maynard, & Salas, 2018). Building on seminal group and team-development theories (Tuckman, 1965), the research starts with teams already being formed and focus on socialization and development along sequential stages (Kozlowski et al., 1999; Tuckman & Jensen, 1977). Similarly, entrepreneurship research has largely drawn from the strategic management concepts of upper echelon theory (Hambrick, 2007; Hambrick & Mason, 1984) to link attributes of TMTs to firm performance (Beckman & Burton, 2008; Eisenhardt & Schoonhoven, 1990).

The team characteristics–performance research in both broader literature streams has generally used a "treatment" view and is largely silent on how teams are formed in the first place. The implicit assumption of these studies is that team configuration is *exogenous* or predetermined, so characteristics of its members may be used as the starting point (e.g., Eesley, Hsu, & Roberts, 2014; Higgins & Gulati, 2006). Such assumptions stem from a heavy focus in organizational behavior on teams in established organizations being assigned by hierarchical fiat, such that selection processes are mainly made by managers or team leaders in a top-down manner in light of organizational factors (Kozlowski et al., 1999). In entrepreneurial teams research, the assumptions stem from a heavy focus on innovation project teams as the genesis of new venture formation (Agarwal, Echambadi, Franco, & Sarkar, 2004; Ganco, 2013).

Our review points to a formation process that requires the incorporation of a *selection* view. Such a selection view requires different assumptions (and methodologies as we explicate further below) for a study of the processes through which the team forms, and an awareness to potential contingency effects of context and time. As future research may emphasize selection processes rather than treatment effects, economics and strategy theories of resource orchestration (Chadwick, Super, & Kwon, 2015; Sirmon, Hitt, Ireland, & Gilbert, 2011) and matching models (Becker, 1973; Mindruta, 2013) may become more relevant, adding to the existing theories based on knowledge spillovers, agency, and opportunism. Similarly, theories of cognitive and network activation (Menon & Smith, 2014) may add to existing theories of static identities and networks when explaining the role of psychological and social factors.

Moreover, a selection rather than a treatment view requires moving away from a *retrospective* examination of entrepreneurial characteristics–performance relationships to a *prospective* and evolutionary process view. Figure 3c underscores a need for a temporal perspective. Importantly, team characteristics and processes are heavily affected by cofounder selection, which require attention to the sequence, timing, and dynamic nature of the process. Embracing this view, future research could shed light on the way decisions made during the formation process affect the entire spectrum from formation to founding to evolution—impacting both intra- and interstage relationships among core elements of the process, and its outcomes.

Focusing on the early phase of team formation will inform team research more generally speaking. Although entrepreneurial team formation is a natural context for studying self-selection processes, it is by no means the only context where teams may self-form, rather than be pre-assigned with a top-down imperative. Team literature can benefit from insights on entrepreneurial team formation for extensions into the study of, and best practices for, forming informal or ad hoc teams, such as self-managed teams, project teams, or corporate entrepreneurial teams (i.e., intrapreneurship), as well as academic research teams (e.g., Dahlander & McFarland, 2013) or other environments where self-selection may need to be encouraged, such as in corporate R&D teams. Moreover, even in contexts where team formation occurs through pre-assignment by managerial fiat, insights on selection processes will benefit team research for decisions on team member assignment, including the role played by prior familiarity or complementary competencies for both team formation and future outcomes (Jaskiewicz et al., 2017; Pillemer & Rothbard, 2018). For example, our aforementioned review suggests potential benefits of hybrid and sequential dual strategies. Applying this to research on team learning (Reagans, Miron-Spektor, & Argote, 2016), fit (Cable & Edwards, 2004), and team composition (Miron-Spektor, Erez, & Naveh, 2011) could yield fascinating insights.

Endogeneity of outcomes. Relatedly, the interstage relations between formation, founding, and evolution phases depicted in Figure 3c implies that each phase is affected by outcomes of the preceding phase, placing primacy on the nascent formation phase that seeds the whole process. Figure 3c illuminates the intriguing notion that characteristics, processes, and performance of both the founding and evolution phases are *endogenous* to the team formation. Embracing the inherent endogeneity of elements in this model, future endeavors should shift their

thinking from endogeneity "concerns" (i.e., in macro-research), which require controlling for it when examining characteristics–performance relationships using a "treatment" view, to purposely engaging in testing the endogeneity of these relationships to the formation process.

Acknowledging this view (e.g., Agarwal, 2019), future research may examine how the different elements of the formation process influence advanced phases. Do these factors have similar effects on the founding and evolution phases? Future research could build on relevant work on how footsteps of the founder(s) shape the new venture as it scales up (e.g., de Jong et al., 2013), founder-CEO succession and its crucial influence on future entrepreneurial success (e.g., Wasserman, 2003), and whether the original founder(s) should, and can, further lead the venture (e.g., Wasserman, 2017). Such research can shed light on how early origins, selection of co-founders, and dynamism of the team formation impact advanced-phase outcomes.

More specifically, incorporating entrepreneurial team formation research insights into the broader entrepreneurship literature may help reconcile inconsistent findings regarding the superiority of founding team homogeneity versus heterogeneity on new venture performance (Zhou & Rosini, 2015). As examples, whereas some studies suggest that ventures with functionally diverse teams are more likely to survive (Agarwal et al., 2004), attain an initial public offering faster (Beckman & Burton, 2008), and reach their overall business objectives (Wasserman, 2012), other studies find a positive impact of the quality of team members' relationships for lower turnover rates, longer survival, and the overall venture success (Chandler, Honig, & Wiklund, 2005; Francis & Sandberg, 2000; Schjoedt, Monsen, Pearson, Barnett, & Chrisman, 2013; Ucbasaran et al., 2003). In-depth investigations of the preceding formation phase may generate insights that enable reconciliation of mixed findings and enhance our understanding of causal, as opposed to simply associative links. Our review also suggests results may also be context dependent and future research may help illuminate the role of such contingencies.

Another avenue for informing debates in strategic management relates to the formation of teams with blurred boundaries—here teams may be heterogeneous not in terms of the member characteristics but in their structural features. For example, valuable expertise and resources may be leveraged through surrogates and mentors or using a multiple-tier formation (e.g., junior and senior generations of family business), and team structure may additionally differentiate between core and peripheral members. These entrepreneurial team forms have been observed both in historical studies of single versus shared leadership (Agarwal, Braguinsky, & Ohyama, 2019) and in modern structures that are more fluid, overlapping, and dispersed (Mortensen & Haas, 2018). Attention to structural forms of teams, with concomitant focus on the underlying factors influencing such choices, and their effects on characteristics, processes, and outcomes, will contribute to the literature by extending beyond the traditional focus on team structure, diversity, and characteristics as fixed and well-defined features.

Embracing endogeneity of outcomes can also significantly contribute to the team literature in organizational behavior, where recent critiques of the sequential input–process–output framework call for a more integrative view of team compositional and dynamic features (Mathieu et al., 2017). Such calls could be answered through the examinations of the dynamic and intricate relationships explicated in Figure 3c. Future research may shed light on how initial formation processes can trigger, foster, or diminish these compositional and dynamic features over time, and how contextual factors can constrain or shape these relationships at nascent stages of the team. For example, we noted previously how, on the one hand, early addition or attrition of team members can consequently change team characteristics and processes, and, on the other hand, team characteristics and processes can trigger changes in early formation decisions, such as whether the team should look for potential cofounders and, if so, based on which strategy. Inspired by this, the broader team literature may not only adopt a more dynamic, rather than sequential input–process–output view, but also gain insights on how embryonic selection processes determine subsequent team features.

Methodological Challenges and Opportunities

Scholars have primarily relied on pre-assigned teams (in organizational behavior research) and archival secondary data (in entrepreneurship research) to examine (entrepreneurial) team characteristics–outcomes relationships (Agarwal et al., 2016; Beckman & Burton, 2008; de Mol et al., 2015; Delgado García et al., 2015; Klotz et al., 2014). For sure, the team formation process is much more difficult to study. Because formation processes typically occur well before the team is officially founded, many of its important elements are "unobservable" in such datasets, and often stay "under the researchers' radar"

(Rasmussen et al., 2011). Moreover, even if scholars attempt to design new datasets, entrepreneurial team formation may be difficult and costly (in terms of time and effort) to study in a comprehensive, representative design, as early activities in entrepreneurial team formation often leave little public trace. By the time a researcher identifies a venture, much of the process has likely already taken place. Moreover, identifying samples conditioned on observable new ventures precludes identification of team formation failures—at least in its earliest stages.

A second methodological challenge stems from the fact that different contexts may cause different elements of the entrepreneurial team formation process to be more salient than others, and/or impact their manifestation in founding team characteristics and processes. In single-context studies, this makes it difficult to parse out how context shapes the other relevant elements versus the role of these in, and of themselves, shaping founding team characteristics, processes, and outcomes. As such, single-context empirical studies are unable to disentangle the role of formation strategies and dynamism from the role of context. For instance, time to market might be longer for academic spin-offs because of context-dependent features of the process and not because of team features specifically (Nikiforou et al., 2018). This creates important generalizability concerns for insights from any one particular study, over and beyond the typical idiosyncratic factors that may be specific to industry case studies.

Also evident from our review is a critical absence of studies using advanced causal methods in the study of entrepreneurial team formation. This is partially because the information necessary to observe the process often precludes large samples without considerable expense and longitudinal designs documenting how the formation process unfolds over time have used qualitative data to gain insights about the phenomenon. To date, this has left a dearth of reliable knowledge that can be imparted to burgeoning entrepreneurs by knowledgeable experts.

Although these challenges are considerable, we believe there is significant promise for research methods and designs to identify both associative and causal relationships, given decreases in costs of implementation. Research to date, as reviewed in our study, has proffered a rich set of theoretical frameworks and empirical approaches for studying the entrepreneurial team formation process. However, observational and qualitative studies in isolation are insufficient to illuminate the complex process of entrepreneurial team formation, and will not be able to advance our understanding of causal links unless we are willing to make strong assumptions. Instead, we recommend a multimethod approach that triangulates across methods and also incorporates recent methodological advances used in related literature streams. For example, several recent studies leverage randomized controlled trials (RCTs) to evaluate questions such as how team characteristics are evaluated by potential investors, or whether coaching or advice influence entrepreneurial outcomes (Bernstein et al., 2017; Clingingsmith & Shane, 2017; Gambardella, Camuffo, Cordova, & Spina, 2018). Such methods may be applied to the study of the entrepreneurial team formation process itself. Information technology is also opening a window into spaces that were previously difficult to observe. Analysis of cell phone patterns, large-scale sharing of calendars (Bandiera, Guiso, Prat, & Sadun, 2011), and the use of badges or other wearable sensors in conferences or pair up events may be used to track interactions to get a better idea of how teams are formed (Chaffin et al., 2017). Last, incubators and accelerators represent a rich setting in which one can study formation strategies and team dynamics (Cohen et al., 2018; Cohen & Hochberg, 2014; Grimaldi & Grandi, 2005). Scholars can leverage partnerships with incubators to create both quantitative and qualitative data. However, extending insights from such settings to others require caution, as scholars need to discern the degree to which formation processes are being facilitated by the accelerator/incubator staff, which may not be at play in other settings with naturally occurring formation processes (Lundqvist, 2014).

Such multimethod approaches incorporating recent advances that enable us to relax reliance on stringent assumptions have many benefits. First, better measurements will allow us to more directly observe behavior at scale—and this will add to the external validity of studies that investigate the process. Causal links can be validated through randomized controlled field trials (RCTs) or field experimentation—these increase the internal validity of our studies while also maintaining sufficient external and construct validity. However, RCTs are difficult to implement in entrepreneurial environments as sometimes the most interesting entrepreneurial settings to study are those where highly specialized and technical knowledge is exploited by entrepreneurs. Such settings make the development of large, representative samples difficult. We expect that it will be necessary to pair RCTs with additional observational or qualitative data and careful reasoning about the importance of context,

acknowledging the reasonable contention that entrepreneurial contexts are ever-changing. This will allow the identification and qualification of specific behavioral mechanisms—which may then be further explored in the laboratory.

The aforementioned challenges imply that strategies for creating and validating useful knowledge on the entrepreneurial team formation process will require reliance on both rigorous, well-designed empirical studies and carefully reasoned theories. We hope future researchers will heed our call and suggestions for designing well-crafted empirical studies that use inductive, abductive, and deductive methods to help develop and provide evidence for theories of entrepreneurial team formation and its impact on subsequent phases. This will also simultaneously enable the application of reasoned knowledge to real-world practice and provide strong and humble guidance to subsequent scholars.

CONCLUSIONS

Integrating research from different disciplines (e.g., economics, psychology, and sociology) and contexts, our review suggests that studying entrepreneurial team formation holds considerable promise. Throughout the article, we illuminate the complexity and dynamism of this phenomenon and shed light on its eminent influence on subsequent outcomes. We synthesize across different yet complementary approaches to studying entrepreneurial team formation and offer an integrative and synergetic model. Central to the very notion of team formation is that it unfolds over time, requiring a process perspective. Not only does this critical stage in new venture creation represent new avenues for future research but also it holds promise by shifting the current thinking in existing related research in the study of (entrepreneurial) teams. We provide theoretical and methodological opportunities and challenges in studying entrepreneurial team formation and mark promising directions for future research. The avenues we indicate previously may well be only the tip of an iceberg, and we hope future endeavors will continue to further understand how team formation can be a pivotal component to entrepreneurial success.

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