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Jewels in the crown: Exploring the motivations and team building processes of employee entrepreneurs

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Abstract

***Research Summary*:** This study examines motivations and team building processes of employee entrepreneurs in the disk-drive industry. Our inductive, grounded theory building approach uncovers that ringleaders—founders who spearhead spinout creation—are driven by a nonpecuniary desire to create in a fertile environment, when they encounter frictions within the parent firm. Cofounders share the desire to create, but ensure departure on good terms to retain the option of returning to paid employment as a safeguard against entrepreneurial risk. We uncover an endogenous team building process in which more successful founding teams engage in "workplace instrumentality"—creating workplaces through deliberate selection of cofounders who have complementary functional knowledge, but are similar in that they possess superior problem-solving abilities, best-in-class talent, and common workplace values.

***Managerial Summary*:** The paper examines the motivations and founding team building processes of individuals who leave existing firms to create new ventures. In contrast to conventional wisdom that suggests preformed teams working on innovation projects leave together, we find founding teams are created when a "ringleader" chooses to venture out and subsequently seeks out cofounders. Ringleaders and cofounders alike are motivated by a desire to create given fertile opportunities and care deeply about equity, but ringleaders additionally experience at least one organizational push factor. Almost

all founding teams are created to ensure the presence of complementary, functional knowledge. However, more successful spinouts also select cofounders who are hands on problem-solvers, best-in-class talent, and who share common workplace values.

KEYWORDS
employee entrepreneurship, founder motivations, founding team formation, knowledge spillovers, strategic human capital

1 | INTRODUCTION

> *So that's how [focal spinout] had started: the negative push from [parent firm] and the positive attraction of opportunity (Ringleader, 16).*
> *I took from [name of parent firm] the best engineers there (Ringleader, 12).*
> *What I do not want to be is somebody who goes in and does the same thing everyday, plods around. What I want to have is a lot of challenge, a lot of commitment and a lot of excitement (Cofounder, 19).*

Spinouts—ventures created by ex-employees of industry incumbents—are important drivers of industrial and regional evolution (Dahl & Klepper, 2015). Utilizing firm-level quantitative data, scholars have documented capability transfer from established firms to these new ventures, leading to their superior performance outcomes relative to other entrants (c.f. reviews in Agarwal, Gambardella, & Olson, 2014; Agarwal & Shah, 2014). However, the interrelated questions of why and how these teams form have received less empirical attention. Few studies empirically examine the motives of employees who become founders (Klepper & Thompson, 2010). And, we know little about the spinout team building process, although the size and composition of teams are important drivers of performance (Eisenhardt & Schoonhoven, 1990; Phillips, 2002; Wezel, Cattani, & Pennings, 2006). Therefore, we examine the following research questions: *What motivates employee entrepreneurs? What is the process by which spinout founding teams are assembled?*

Nearly all theories of spinout generation center on employees exploiting innovative projects developed within parent firms. Agency theories focus on pecuniary rewards and potential opportunism as motives (Anton & Yao, 1995; Hellmann, 2007). Knowledge spillover theories argue employees are motivated to exploit their inventions when established firms have differences in priorities across projects or strategies (Agarwal, Echambadi, Franco, & Sarkar, 2004; Cassiman & Ueda, 2006; Christensen, 1997; Klepper & Thompson, 2010). These theories do not always accord with empirical or anecdotal evidence. For example, Klepper (2002) noted a lack of evidence for agency explanations, and Lepore (2014) identified inaccuracies regarding Christensen's (1997) theory of spinout-incumbent dynamics. Moreover, the experiences of many entrepreneurs are inconsistent with these theories. For instance, American icon Walt Disney did not leave prior employer Pesmen Rubin Art Studio to exploit an existing project. Rather, upon being laid off, Disney convinced his former colleague and friend Ub Iwerks to cofound their first entrepreneurial venture, Iwerks-Disney (Gabler, 2006).[1] Iwerks, a master animator

[1]Ub Iwerks' full name is Ubbe Iwerks. Disney chose a reverse alphabetical naming of their first venture as "Iwerks-Disney" to avoid potential misconception about their business being in optometry—Disney "Eyeworks" (Gabler, 2005).

was a "*perfect complement for Walt Disney...While Iwerks, who was diligent, meticulous and extremely facile with the brush, stayed at the drawing board, Walt could talk up customers and hustle business*" (Gabler, 2006, p. 47). Scholars have also suggested explanations revolving around nonpecuniary motives (Carnahan, Agarwal, & Campbell, 2012; Franco & Filson, 2006) and managerial frictions (Klepper & Thompson, 2010; Moore & Davis, 2004).

Research on how spinout teams form is limited, and more generally, little research examines the endogenous processes through which individuals self-select into teams of any kind and in any context (Bell & Kozlowski, 2012). In the spinout literature, scholars, consistent with the agency and knowledge spillover models discussed above, tend to assume that new ventures are formed when team members working on a specific innovation project depart together (Agarwal, Campbell, Franco, & Ganco, 2016; Eisenhardt & Schoonhoven, 1990; Ganco, 2013). These assumptions are not backed by empirical evidence or consistent with anecdotal examples. For example, Walt Disney and Ub Iwerks had not worked with each other directly at Pesmen Rubin; their decision to cofound their first venture occurred well after each had left the firm. Looking beyond the spinout literature, we see conflicting theories for team formation that emphasize either differences/complementarities (Mindruta, Bercovitz, Feldman, & Mares, 2016; Wasserman, 2012) or similarity/homophily (Chen & Rider, 2015; Ruef, Aldrich, & Carter, 2003).

To address the practical and theoretical need for answers to the above research questions, we collect rich, first-hand data from entrepreneurs who founded spinouts in the disk-drive industry between 1977 and 1997, capturing 30 founding narratives. We supplement and triangulate these narratives with archival data when possible. We analyze these data using an inductive methodological approach. We chose the disk-drive industry because of its extensive use in spinout studies (Agarwal et al., 2004; Chesbrough, 2003; Christensen, 1997; Franco & Filson, 2006). This enables us to contextualize our findings and interpret them in light of received wisdom about the industry.

We uncover several key findings. First, there is a clear delineation in roles among founders: *ringleaders* are the originators and champions of new spinouts, and *cofounders* are recruited by ringleaders through a deliberate search process. Second, while ringleaders and cofounders alike have similar "pull" motives—a desire to create in the presence of fertile opportunities—ringleaders are also triggered by organizational "push" factors (e.g., bureaucracy, interpersonal/ethical frictions). Cofounders do not exhibit push motives, rather, they view returning to corporate life as insurance against the risk of failure in entrepreneurship. Third, the complete team formation process relies heavily on ringleaders' ability to identify and attract human capital within their networks with selection along three dimensions: complementary knowledge and skills, hands-on problem-solving ability and talent, and aligned values guiding how they will work together. Thus, spinouts are created through a process we refer to as "workplace instrumentality" where founders pay deliberate attention to the need to build a solid resource base for the spinout and create a workplace based on aligned values. Fourth, spinouts built through selection along *all three* dimensions outperformed other spinouts. Taken together, our findings highlight how endogenous selection of better founding team members leads to the endogenous creation of superior opportunities and more successful spinouts.

Our findings result in several contributions. In contrast to received literature, we show that existing innovation projects are *not* at the root of spinouts, founding teams are *not* composed of team members who worked jointly on projects at the parent firm, and the motives predicted by agency theory are notably absent. Instead, individuals' nonpecuniary aspirations are critical drivers for entrepreneurial venturing, thereby underscoring a need to focus on the *people* who found, rather than the possibility that they appropriate a parent firm's technology. This refocusing is not only consistent with insights from the psychology of entrepreneurship literature (Baum, Frese, & Baron, 2014;

Shane, Locke, & Collins, 2003), but also from classical economics (Schumpeter, 1934; von Mises, 1949). Moreover, given the paucity of research on *endogenous* team formation processes in the spinout, broader entrepreneurship, and organizational behavior literatures, we contribute with evidence of deliberate quest and matching processes between ringleaders and cofounders. Our findings show that economic rationality for resource seeking (Kamm & Nurick, 1993) occurred in all multimember founding teams, and selection based on similarities in talent and workplace values served as a differentiating factor among more versus less successful spinout teams. We use the term workplace instrumentality to refer to the process of selecting both for resources and values. Given asymmetric information, these attributes are best gauged through personal interaction, so team building processes reveal small world social networks, rather than random search, to be at play (Aldrich & Kim, 2007). Our study points to the need for future work on team formation to integrate insights from economics, sociology, and psychology, rather than simply assume certain processes based on disciplinary silos.

2 | CONCEPTUAL BACKDROP

Although spinout research has exploded in the last two decades, much of it has been conducted at the firm-level, using large-scale, quantitative data and analysis (c.f. review in Agarwal et al., 2014; Mawdsley & Somaya, 2015). A key implication of these research designs is a focus on firm-level attributes (Agarwal et al., 2004; Elfenbein, Hamilton, & Zenger, 2010; Klepper & Sleeper, 2005), and even when at the individual level, a focus on capabilities rather than motives (Campbell, Ganco, Franco, & Agarwal, 2012). As a result, when scholars incorporate motives in their theorizing, the analyses at best offer inferences and secondary support for motivations, through anecdotal evidence (Agarwal et al., 2004; Anton & Yao, 1995; Hellmann, 2007). The same holds true for the founding team formation literature: scholars document larger and more experienced teams have superior performance (Agarwal et al., 2016; Eisenhardt & Schoonhoven, 1990; Phillips, 2002; Wezel et al., 2006), but the research design precludes a comprehensive understanding of the team formation process, including effects of team member motives on the process and resultant development of capabilities. In what follows, we take stock of what we think we know about spinout founder motives and team formation.

2.1 | Motives of employee entrepreneurs

The motives driving employee entrepreneurs are key to examining spinout formation. As Klepper and Thompson (2010, p. 526) aptly state: "*The prominence and distinctive performance of intra-industry spinoffs raises fundamental theoretical and policy-related questions… Answers to these questions hinge on understanding why employees leave established firms to start firms in the same industry…*" Theoretically, scholars have offered four sets of competing explanations, based on the underlying factors at play.

Given high technology contexts, many spinout theories center on innovation projects undertaken by employees at established firms as their genesis. "Agency theories" focus on incentive compatibility to align investment of effort in innovation projects, and guard against potential opportunism (Anton & Yao, 1995; Ganco, Ziedonis, & Agarwal, 2015; Hellmann, 2007). The key driver is individuals' pecuniary motives. Using the economic calculus of incomplete contracting, scholars model the decision to stay or create a new venture as a dynamic optimization of returns to innovation. If individuals believe the expected monetary returns to a technological opportunity (factoring threat of intellectual property litigation) are higher outside the firm than inside, they leave, sometimes

opportunistically, and create new ventures in the process. Empirical examinations and tests of these theories rely only on indirect evidence, at best documenting the effect of intellectual property protection strategies on turnover (Ganco et al., 2015; Kim & Marschke, 2005), but do not link entrepreneurship directly to pecuniary motives or opportunistic behaviors.

Closely related are "spillover theories," which also give primacy to innovation projects. Here, the driver is the parent firm's strategic choice to *not* pursue opportunities (Agarwal et al., 2004; Agarwal, Audretsch, & Sarkar, 2007; Cassiman & Ueda, 2006; Chesbrough, 2003). Underutilization of employees' innovation by the firm (Cassiman & Ueda, 2006; Christensen, 1997) and "strategic disagreements" lead individuals to venture out (Agarwal et al., 2004; Klepper & Thompson, 2010). To the best of our knowledge, Gambardella, Ganco, and Honore (2014) provide the only direct support for this theory. They show inventors are more likely to become entrepreneurs when they and their firms deem the patents as highly valuable, but the firm foregoes commercialization.

A third set of theories (conflated with strategic disagreements) focuses on "managerial frictions" and highlights interpersonal conflicts (Klepper & Thompson, 2010; Moore & Davis, 2004). Individuals who clash with existing management are motivated to leave and often seek to create their own ventures. Within the spinout literature, however, there is little systematic development or evidence provided for this class of theories, though anecdotal evidence is provided in automobile, lasers, and semiconductors (Klepper & Thompson, 2010; Moore & Davis, 2004).

Finally, the last set of explanations provided, though without the consistency and clarity of the above theories, relate to nonpecuniary motives. Franco and Filson (2006) posit an innate desire to be an entrepreneur leads to apprenticing at the best firms to equip themselves for success. Carnahan et al. (2012) allude to nonpecuniary benefits such as job satisfaction and autonomy to reconcile their finding of high performers experiencing "pay-cuts" to create new ventures. Nanda and Sorensen (2010) theorize individuals are motivated to start new ventures due to peer effects, and Dahl and Sorenson (2012) theorize and use survey data to show location choices for spinouts are influenced by a desire for proximity around family. However, there is a lack of systematic empirical evidence; work in this area either assumes importance of nonpecuniary motives, or invokes them to explain high-order patterns documented through analysis of quantitative data.

2.1.1 | Related literature on psychological motivations of entrepreneurs

Gartner, Bird, and Starr (1992) review literature at the interface of organizational behavior and entrepreneurship and note goal theory and expectancy theory are most relevant for entrepreneurial contexts. Goal theory emphasizes the importance of setting specific, challenging goals and following through with commitment and knowledge (Gartner et al., 1992; Locke & Baum, 2007; Locke & Latham, 2002). Expectancy theory relates to modeling choices after thoughtfully considering the entrepreneurial opportunity by taking into account costs, benefits, and potential alternatives (Gartner et al., 1992; Shane et al., 2003). In empirical work, Locke (2000) identified the motivational traits of entrepreneurial individuals—chief among these are a desire for independence, experienced when they felt thwarted in existing firms, and a desire for achievement, propelled by the joy of creation. Summarizing insights across these theories, Shane et al. (2003) conceptually identify the importance of entrepreneurial motivations, and specifically note "relatively little of the motivation research on entrepreneurship has considered the effects of motivations on the specific steps of the entrepreneurial process… researchers could theorize more deeply about how motivation might impact entrepreneurial decisions."

Thus, theories offered in the spinout, entrepreneurship, and organizational behavior literatures offer a broad inventory of potential factors. However, the evidence is largely inferential and indirect, and/or makes assumptions about singularity of motives. There is a paucity of primary, qualitative data that systematically investigates underlying motivations, notwithstanding a couple of case studies (Klepper & Thompson, 2010; Locke, 2000) and survey-based large-n studies (Dahl & Sorenson, 2014; Gambardella et al., 2014). As a result, we have yet to devise a coherent explanation for the motives driving employee entrepreneurship. Scholars note "there is surely no single motive for their occurrence (Klepper & Thompson, 2010, p. 538)" and a need to distinguish between "the motivation and the ability to be an entrepreneur [and] the motivation to leave one's employer" (Audia & Rider, 2006, p.126).

2.2 | Team building processes of employee entrepreneurs

Eighty-five percent of startups in high-technology industries have more than one person in the founding team (Wasserman, 2012). This is not surprising, as the complexity of knowledge often requires multiple individuals with expertise in technological, regulatory, and market domains (Agarwal et al., 2004; Chatterji, 2009; Eisenhardt & Schoonhoven, 1990; Klepper & Sleeper, 2005). Scholars have accordingly focused on spinout team characteristics–performance relationships, and examined how prior work affiliation impacts team characteristics. In addition, scholarly work finds evidence for positive effects of founding team size, years of industry experience, and the diversity in years of industry experience among team members on spinout performance (Delmar & Shane, 2006; Eisenhardt & Schoonhoven, 1990; Honoré, 2015; Phillips, 2002; Wezel et al., 2006). Amongst more representative samples of founding teams, scholars have noted a strong tendency toward homophily, particularly around gender, age, and prior work affiliation (Ruef et al., 2003), even as they note that diversity, rather than homophily, is associated with higher survival (Chen & Rider, 2015).

Little attention, however, has been paid to the team *building* process. This gap stems partly from underlying theoretical assumptions and partly from reliance on quantitative data. Consistent with the focus on innovation projects as genesis, theoretical explanations assume team formation *prior* to the decision to spinout. Agency theory-based explanations theorize managers of larger teams are more likely to engage in entrepreneurship due to loyal subordinates departing with them (Agarwal et al., 2016; Campbell et al., 2012; Rajan & Zingales, 2001). Alternatively, knowledge-based theories highlight technological complexity of innovation projects resulting in greater interdependencies between project team members, causing entire teams to venture out (Ganco, 2013). Also, the use of quantitative data precludes illumination of underlying processes, so empirical studies can only infer team formation based on their ultimate composition (Ruef, 2002; Ruef et al., 2003). For example, Agarwal et al. (2016) theorize about high performing founders assembling bigger and more experienced teams, but their statistical analysis permits only inference and not direct tests.

2.2.1 | Related literature on team building processes

While extensive, the organizational behavior literature on teams has largely focused on relationships between team characteristics, processes, and outcomes (Bell & Kozlowski, 2012; Cohen & Bailey, 1997; Mathieu, Hollenbeck, van Knippenberg, & Ilgen, 2017; Mathieu, Maynard, Rapp, & Gilson, 2008). Moreover, given the focus on work groups and teams within pre-existing organizations, scholars assume teams are preassigned, presumably by managers in hierarchical organizations. Accordingly, the processes through which team members are endogenously selected rather than

exogenously assigned are understudied (Bell & Kozlowski, 2012; Lazar et al., 2019). The little literature that does exist, focuses on the socialization of team members once the team is already in place, but is silent on how teams are formed in the first place. The following quote by Bell and Kozlowski (2012, p. 430) is illustrative: "the formative period of team development offers an unprecedented opportunity to shape the nature and functioning of new teams. Unfortunately…there is relatively little research addressing work team development…this is a topic for which **some basic descriptive research could be very valuable in moving theory and research forward** [emphasis ours]." Much of the broader entrepreneurship literature also focuses on team characteristics—outcomes; however, some studies (reviewed below) provide useful insights.

Forbes, Borchert, Zellmer-Bruhn, and Sapienza (2006) and Lazar et al. (2019) review existing theories relevant to entrepreneurial team formation and document the use of *either* an economics lens focusing on instrumental rationality (Kamm & Nurick, 1993) *or* the social pscyhology lens focusing on similarity and interpersonal attraction (Byrne, 1997). The economic lens puts primacy on decision theoretic behavior wherein teams are assembled in response to resource needs through problemistic search, while the social psychology lens privileges interpersonal attraction such that shared characteristics or values drives the choice of team members (Forbes et al., 2006). A third lens—the sociological lens—puts primacy on networks as the key mechanism, arguing that access to necessary resources are dependent on whether founders are assumed to have random or small world networks (Aldrich & Kim, 2007). The role of networks is, however, implicit in the other two lenses that focus on individual relationships: the economic lens invokes random networks where team members are accessed with few constraints on search and the social psychology lens invokes small(er) world networks where team members possess similar characteristics or values.

An unaddressed issue is whether a single explanation or lens dominates, or if they jointly explain team formation processes, that is, common prior work affiliations (Honoré, 2015) would likely be observed whether teams are formed for resource seeking or because of similarity/attraction. Moreover, it is not yet clear whether some observed characteristics drive the team building process or are the consequence of the team building process that is, homophily on dimensions such as race, gender, and prior work affiliation may *drive* the team building process, or *be a result of* the process. It is also not known whether founding teams form through a simultaneous matching process with two-sided competition (Mindruta et al., 2016), or through sequential search to create a founding team (Agarwal et al., 2016).

Thus, existing research tells us founding team members are likely to have common prior affiliation, and founding team characteristics have significant bearing on new venture performance. However, a number of fundamental questions regarding team formation remain unanswered. Our inductive study—rooted in rich, primary source data—addresses these questions.

3 | METHODOLOGY

3.1 | Empirical setting and data description

The disk-drive industry is widely studied for spinouts (Agarwal et al., 2004; Christensen, 1997; Franco & Filson, 2006; King & Tucci, 2002) because of its high incidence of spinouts and detailed data available through *Disk/Trend Report* for the industry from 1977 to 1997. This makes the disk-drive industry an ideal context for our qualitative analysis of founder motivations and team formation processes. It permits an in-depth analysis of several foundings within the same industry context, and enables comparison of findings with quantitative data and received scholarly wisdom.

TABLE 1 Disk-drive spinout population and sample-key descriptive statistics

Variable	Population	Sample
Number of spinouts	40	21
Number of distinct founders	94	22 (30 founder narratives due to serial entrepreneurship)
Number of distinct parent firms	27	18
Spinout survival rate (5 year)	45%	52%
First movers (market pioneers)	11	6
Spinout 5-year average technological know-how	0.60	0.57

We highlight key facts here, and refer readers to more detailed industry histories (e.g., Agarwal et al., 2004; Christensen, 1993, 1997; Franco, Sarkar, Agarwal, & Echambadi, 2009). The first stand-alone disk drive was introduced by IBM in 1973, and the industry evolution over the next 25 years conforms to typical life cycle patterns (Franco et al., 2009). Through 1997, the industry experienced five technology S-curves which were critical to new submarkets serving miniaturization needs (Christensen, 1997; King & Tucci, 2002). The technological and market opportunities attracted many entrants, but spinouts were the most prevalent (25% of all firms) and successful among them (Agarwal et al., 2004). During 1977–1997, 40 spinouts had an average of 2.47 founding team members, of which 72% had research or operational experience (Agarwal et al., 2004).

The *Disk/Trend Report* provides a census of spinouts and their founders over a 20-year period. We supplemented these data with information from company news releases, scientific journals, books, and directories to identify the population of 94 spinout founders (across 40 firms). We then searched for contact information for all founders. Practically, this was laborious and uncertain, as founders had moved on to different ventures or established firms, retired, or passed away. With no one source for contact information, we used a variety of sources, including: personal, corporate, and institutional web sites; social networking sites (LinkedIn, Facebook); Forbes and BusinessWeek databases of executives and boards of directors; patent applications; and discussions with other founders. We sought out personal or corporate email addresses, telephone numbers, and postal addresses.[2] These efforts yielded 75 founders for whom we had potential contact information. Given disconnected phone lines, email bounce-backs, and returned postal mail, we were ultimately able to contact 23 founders. All but one (who had suffered a recent personal loss) agreed to be interviewed.

Thirty founding narratives were captured in these interviews (five founders founded more than one disk-drive startup), representing 21 unique spinouts. We were able to collect information from the perspective of multiple (two or three) founders for seven spinouts, and from multiple perspectives from individuals who were *employees* of those firms and later founded their own firm for several additional spinouts. Table 1 reports key descriptive statistics for the population and our sample. About 50% of all disk-drive spinouts, almost a fourth of the total founder population, and more than two-thirds of the total parent firm population are included in our sample. Average technological capabilities were computed as the average of a spinout's relative technological position, reflected in terms of relative areal density, across all diameters (Agarwal et al., 2004). More than 50% of the market-pioneering spinouts, that is, spinouts that entered in the first year of a submarket's

[2]Very, very few founders had kept in touch with their team members and were hence not able to provide contact information.

introduction, are included in our sample, and there is no significant difference across the two sets in either average technological capabilities, or 5-year survival rates.

Methodologically, our sample is more than sufficient. Grounded theory building principles suggest that qualitative interviews should continue until theoretical saturation is achieved, that is, when additional data collection efforts result in no new insights (Glaser & Strauss, 1967). This bar was not only met, but exceeded, as we chose to interview all founders with whom we established contact.

3.2 | Interviews

We asked a series of open-ended questions, augmented by follow-up and clarifying questions as is common practice in qualitative inquiry (Spradley, 1979).[3] We guaranteed anonymity to interviewees to promote candid responses. Questions addressed several general themes: (a) The founder's educational and career history; () the founder's responsibilities, past promotions, satisfaction, and anticipated future career path at the parent firm; (c) reasons for the founder's decision to leave the parent and found a spinout; (d) the spinout's technological, market, and organizational goals; how these goals were determined; and the extent to which these goals overlapped with or differed from those of their parent firm; (e) how the founding team came together, including details on each member's background and contributions; (f) the parent firm's reaction to the news that the founder was leaving and any actions taken vis-à-vis the spinout; and (g) any additional thoughts that were not discussed. In addition, we solicited two sets of related information: the reasons why the founder left prior and subsequent employers, and the reasons other founders (some whom we were unable to contact) left their parent firms. As is common practice in qualitative data collection, follow-up questions allowed for clarification and better understanding of actual events. Our interviews provide broad and deep data about the details of day-to-day life and the critical decisions that underpin innovation and change that often go undocumented (e.g., Barley, 1986; Orr, 1996).

3.3 | Analytic method

Our first data analysis task was to understand each interviewee's actions within their context. Then, we abstracted away from individual narratives to construct a framework for understanding the spinout genesis. In doing so, we followed an inductive process based on grounded theory building principles (King, Keohane, & Verba, 1994; Strauss, 1987). We began by constructing categories, or first-order analysis (Gioia, Corley, & Hamilton, 2013; Locke, 2001). After a category was named, we searched for other data fragments that supported, contradicted, or suggested refinement of a category; such iterative comparisons enabled the cementing or refining of categories. As categories emerged, we sought to understand how they fit together into a coherent picture, or second-order analysis. Second-order analysis involves understanding causal patterns (Van Maanen, 1988). In our study, this was the work involved in distinguishing between ringleaders and cofounders, identifying their distinct situations at the parent firm, their reasons for departure, and their subsequent actions. These comparisons often led us back to the data as we sought to understand and document particular patterns. Consistent with standard practice, both first- and second-order analyses commenced as data were collected.

[3]Interviews ranged in length from 50 to 120 min, and on average lasted 86 min. Interviews with serial entrepreneurship founders were longer in length. The same coauthor conducted all but one interview by phone. We randomly assigned each founder a number between 1 and 23, which appears with the quotes attributable to them.

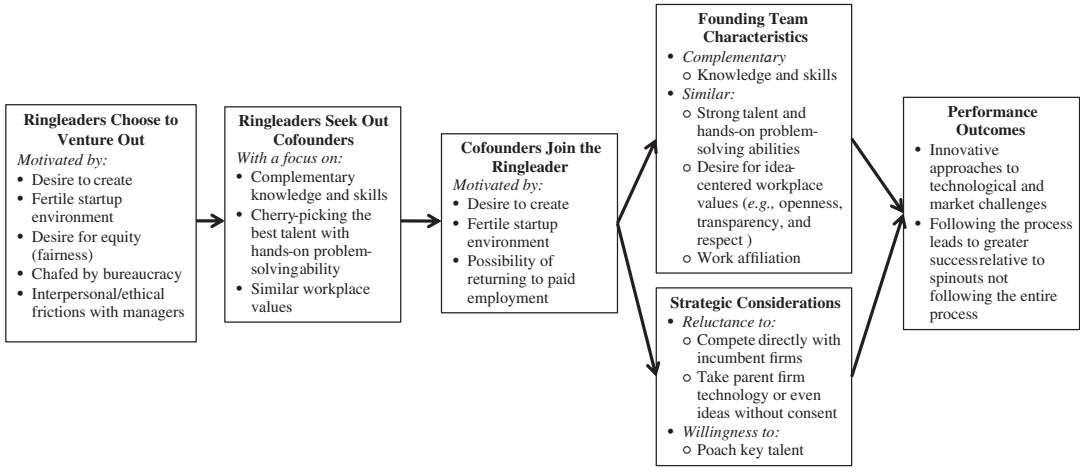

FIGURE 1 A process model of successful spinout team formation: Founder motives, team building, and spinout outcomes

Two investigators—a coauthor and a research assistant—independently analyzed and coded the data. The investigators compared the categories they had created, compiling a set of distinct (non-redundant) categories and adding several additional ones based on their in-depth discussions. These discussions served as occasions for clarifying category meanings, breaking down or consolidating categories to reflect the nuance captured in the data, and building and refining the framework emerging from second-order analyses. The quantitative data (Table 5) comprise objective measures compiled as part of a prior study (Agarwal et al., 2004).

Our findings are derived from retrospective interviews. We believe retrospection is not a source of major bias for two reasons. First, there is high consistency across accounts across individuals, both across narratives of founders of the same spinout, and of narratives from founders of other spinouts from when they were employees of the same parent and observed the focal spinout. This consistency is remarkable given few founders reported staying in touch with each other. Moreover, the narratives are consistent with secondary data (e.g., the *Disk/Trend* Report). Second, we found founders very willing to admit mistakes and lessons learned. Most founders had retired from successful careers, and perceived nothing to lose in sharing their stories: they were open about the politics they encountered, the disagreements they had, and even volunteered information on family challenges they encountered. Thus, the richness of their responses and their consistency with others' accounts preclude concerns of "whitewashing."

4 | FINDINGS

Figure 1 provides the process model summarizing our key findings regarding founder motivations and the spinout formation process. The analysis revealed two types of founders, each with different sets of motives and roles in the founding process: ringleaders and cofounders. Ringleaders spearhead and initiate the process, often triggered by a "push" factor due to issues at the parent firm. They then search for suitable cofounders, who have their own set of motives. As ringleaders and cofounders come together in this manner, they form spinouts with particular characteristics and performance outcomes. Not all spinouts engaged in all aspects of the team formation process; this incompleteness

TABLE 2 Backgrounds of ringleaders and cofounders

Background characteristic	Ringleaders	Cofounders
Education[a]		
Bachelor's degree	100% (10 of 10)	92% (11 of 12)
Master's degree (engineering)	20% (2 of 10)	42% (5 of 12)
MBA	10% (1 of 10)	8% (1 of 12)
PhD	10% (1 of 10)	0% (0 of 12)
Other (JD or MD)	10% (1 of 10)	8% (1 of 12)
Age at founding		
30–40	60% (6 of 10)	67% (8 of 12)
40–50	40% (4 of 10)	25% (3 of 12)
50+	0% (0 of 10)	8% (1 of 12)
Highest position attained at parent firm		
Consultant/other	0% (0 of 16)	7% (1 of 14)
Engineer	25% (4 of 16)	29% (4 of 14)
Manager	25% (4 of 16)	21% (3 of 14)
Executive position	50% (8 of 16)	35% (5 of 14)

[a]Education and age variables reported for each founder at time of founding first disk-drive startup, $n = 22$. Other variables reported for each founder at the time each disk-drive startup was founded, $n = 30$.

appears to alter the spinout's characteristics and has negative implications for performance. Detailed information on these patterns is reported below.

4.1 | Founder types

An important first-order distinction appeared regarding different types of founders. Across all the spinouts, it was clear there was one person—the *ringleader*—who conceived the idea of venturing out and spearheaded team formation by identifying and persuading other individuals—the *cofounders*—to join. Sixteen founder narratives are of ringleaders and 14 are of cofounders.

The ringleaders and cofounders in our sample were similar on some dimensions and different on others (Table 2). All founders were male, and nearly all held bachelor's degrees in science and engineering (with one exception of a cofounder who was a chief financial officer); some held master's degrees in engineering, with cofounders more likely than ringleaders to hold such a degree; and a small numbers held doctoral degrees or MBAs. Nearly all founders interviewed were between thirty and fifty at founding, with ringleaders being somewhat older than cofounders. Ringleaders were more likely than cofounders to have held an executive position at the parent firm, although many ringleaders and cofounders held mid-level managerial or engineering positions.

4.2 | Founder motivations

We find multiple motives at play for both founder types. An analysis of these motives reveals ringleaders and cofounders possessed distinct, but overlapping sets of motives. Both ringleaders and cofounders were motivated by "pull" factors–most commonly a desire to create, a fertile startup environment, and a desire for equity. However, nearly all ringleaders noted at least one "push"

TABLE 3 Founder motives

Key reasons for leaving parent to found a startup	Ringleaders	Cofounders	Relative number of founders expressing the motive
Pull factors			
Desire to create	100% (16 of 16)	93% (13 of 14)	High
Fertile startup environment	88% (14 of 16)	100% (14 of 14)	High
Desire for equity	88% (14 of 16)	50% (7 of 14)	High among ringleaders, moderate among cofounders
Desire for money	12% (2 of 16)	14% (2 of 14)	Low
Desire to work on own	6% (1 of 16)	7% (1 of 14)	Low
Possibility of returning to paid employment	0% (0 of 16)	36% (5 of 14)	Moderate among cofounders
Push factors			
Strategic disagreements	38% (6 of 16)	21% (3 of 14)	Moderate among ringleaders, low among cofounders
Chafed by bureaucracy	31% (5 of 16)	7% (1 of 14)	Moderate among ringleaders, low among cofounders
Interpersonal/ethical frictions with managers	25% (4 of 16)	14% (2 of 14)	Low

factor—frustration due to bureaucracy, frictions with managers, or strategic disagreements; in contrast, most cofounders were comfortable at the parent firm. Table 3 presents the motives grouped as pull or push factors, and the frequency of citations of each motive.

4.2.1 | Pull factors

Desire to create: Nearly all ringleaders and cofounders expressed a desire to create something new as a critical driver for spinning out:

> *I just like to create that stuff… I just get this idea a powerful idea and then, along with the vision [of]… how the world would be if we could get this product out. We could change things. We could make the world different and that's the exciting part (Ringleader, 4).*

> *The biggest benefit …being able to harness your imagination; come up and develop something of value, which would be highly valued by other people (Cofounder, 10).*

> *In retrospect, you look back and say, what a huge risk, you know, with mortgage and kids on the way… It could've turned out vastly different. But at the time, it's an exciting thing to think about starting and building a company… You're just looking at "what we*

> *can do here?" And there's a lot of psychic reward in that… You don't get up every morning [thinking] I'll go to work because I'll make money… You go to work because it's exciting to build it. But in the back of your mind you always know if you are successful building it, there will be a reward. That's just the way the structure of starting things and having founder stock works in today's world (Ringleader, 5).*

Fertile startup environment: Much of the 1977–1997 period represented the growth phase of the industry life cycle (Franco et al., 2009), and not surprisingly, nearly all ringleaders and cofounders found opportunity beckoning, given the industry's fertile startup environment.

> *Doing start-ups in those days was a fairly common thing to do. If you could spell disk drive, you could get funded (Cofounder, 6).*

> *The trouble with [parent firm] was there's so many people that were getting ready to leave and start their own company. It was a Goddamn training ground for entrepreneurs. That's what it was (Cofounder, 14).*

The *observation* that other employee entrepreneurs were doing well was inspiring, and they also received calls from headhunters and venture capitalists.

> *At that time, there were many, many disk drive [startups]… in the Bay Area. And, I had headhunters call all the time (Ringleader, 18).*

> *There were a couple of other people who left too and you know all the bad things they said would happen didn't happen. They all seemed to be successful and doing very well so I thought, well, even though I was making a very nice salary, I decided that this is fun and exciting (Ringleader, 14).*

Desire for equity (fairness): Nearly all ringleaders and half of cofounders cited equity (fairness), offering two (inter-related) interpretations of the term: the first related to receiving stock ownership as returns to effort, and the second to generating and maintaining fairness for contributions made.

> *I had contributed to a patent that saved [parent firm] about $12 million in one quarter. They rewarded me with a check to $90 and that said, I'm really wasting my time up here. And… I was a die-hard [parent firm employee]… I'll call it a break out. We all sort of realized that [parent firm] wasn't a great place to stay for anybody that had big brains or any skill (Ringleader, 17).*

For these founders, receiving compensation and recognition as *rewards* commensurate with their efforts and performance was important. Not surprisingly, the importance of receiving shares of stock in return for effort was often brought up (not all parent firms in the industry distributed stock to employees). The importance of stock ownership was often tied to building a retirement nest egg.

> *… working through a salary is not a great, great way to live a good retirement (Ringleader, 20).*

> *If I didn't have a job, I couldn't last three months with the amount of money I'd saved… (Ringleader, 17).*

Further, ringleaders responded to perceived inequity not just for themselves, but also for their team members, and sought to ensure rewards were commensurate to performance.

> *However [equity sharing] is done, it has to be consistent with the culture that you're trying to establish. … I mean, we paid for performance. … [But] we went out of our way to not create this aloofness and this chasm between the Haves and the Have-nots. … And that started with equal equity… Well, if you have a real key employee, it's not a negotiation. You're meeting their needs before they even have one… You're giving them bonuses or rewards before they even think about asking (Ringleader, 16).*

Desire for money: Just four founders (two of each type) brought up money per se as a reason for spinning out. Each made clear money was one of several, but generally not the primary motive.[4]

> *The two… reasons why I decided to start [name of spinout]… I was a new manager… exposed to what I think were poor management behavior, so I knew a better way. Nobody had taught me a better way, but I knew a better way I wanted to do it better. And the second reason is it was a very fruitful time to start a business [in the disk drive industry], and I wanted to make a lot of money. So put the two together and there's a compelling reason to leave (Cofounder, 16).*

In contrast, some other founders made it clear that money was *not* a motivator for them.

> *I'm a serial entrepreneur, but it just gave me an idea and I visualized or have this vision of building a product and getting it packed up and making it, and making a change in the world. That's the real motivation. It's not so much making money… (Ringleader, 4).*

> *[discussing the primary reasons for founding]… the excitement of it… And, I had begun to have ideas on what the company I would work for was and therefore [thought] let's start a company that's like that and make it a great place to work (Cofounder, 8).*

Desire to work on own: Just two founders–one ringleader and one cofounder–expressed a desire to work on their own and/or be in charge.

> *… my biggest motivator as an entrepreneur is I want to be in charge of my own work flow, my own destiny, my own activities (Cofounder, 10).*

> *I never worked very well… for others. I wanted to do my own thing. And sometimes I had problems with managers, you know, but I usually I guess I was pretty good because I never lost a job in my life. I always got a new job when I wanted to get a job and never had a problem with that. But I never wanted to work for others. It basically sums it up.*

[4]Money was not considered a taboo topic. Interviewees often cited money as a reason for *moving* across firms, particularly early in their careers. However, when discussing *founding* a firm, other motivators appear to be more salient.

> To point, this ringleader describes the division of activities at the spinout as *I was the inside person, and I was in basically engineering and manufacturing…* His cofounder also focused on engineering, and they left it to their key investor to be *the more outside person, he was the person with marketing. He used to talk to investors (Ringleader, 12).*

Possibility of returning to paid employment: Many cofounders enjoyed corporate employment. A third of cofounders, particularly those without startup experience, noted the importance of maintaining the option to return to paid employment as a safety net should the startup fail.

> *I loved the place. It's a good question because you're getting into my feelings. I'll give you an example what I thought of [parent firm]. I came home and told my wife I was going to a startup and she, I thought, was going to drop dead… I would come home and say, 'What an opportunity it is here, leading-edge technology. What a great job I have.' And that's all she heard for the first eight years, until eight years and two days. I said, 'I'm quitting' (Cofounder, 2).*

> *We left without any financing. We were just doing this on our own. At that time, that wasn't so bad. It sounds risky, but it wasn't as bad as it sounds. If you left a company to do a startup and it didn't work, you were always in demand at any other company because they knew you could do the work and they knew you had enough nerve to try it. So you weren't really taking that risk that these other people thought you were taking, because the people who ran the existing disk drive companies looked at that as a plus. It really wasn't that bad (Cofounder, 6).*

As a result, cofounders were open with their parent firm managers about their intentions. A number of cofounders (and ringleaders) received and sometimes took offers to return to large corporations:

> *He called and wanted to know if I would go back to work at [large parent firm], that he would put all my seniority back in place and make it very worthwhile for me to return. And, I hated to turn him down, because he was one of my best managers. But I did (Cofounder, 15).*

> *And then [name of established firm] called me back, they wanted me to come back. And I was getting tired of John's [name changed] antics, plus I was getting to a point in my life where I wanted to make some more money. I wanted to see what I could do. And I thought if I could go back to [name of established firm] that there might be a chance to use that as a spring board to do something else, which was common in those days… And if you are willing to take the chance and if you showed you have some experience on it, you could do OK. So, I went back to [name of established firm]. They were still using the same old circuits I had designed all those years ago (Cofounder, 6).*

4.2.2 | Push factors

In addition to the above pull factors, we found at least one of the following push factors were at play for ringleaders, though they were less often observed for cofounders.

Strategic disagreements: About one-third of all ringleaders and a few cofounders reported strategic disagreements with managers at their parent firm as motivating their decision to spinout. These related to either the direction of the technology's evolution, or to strategic restructuring and refocusing of the firm around new opportunities. Often these disagreements occurred after ringleaders, knowledgeable about the technological possibilities, interacted with customers, and found their managers unresponsive to their enthusiastic efforts.[5]

> *I learned that this is not the way the world is going to be a year from now… the disk drives are going to get more capacity and smaller diam[eter] to disk…[But] they just didn't give me credence… And, I was wondering where I was going to be in the next ten years (Ringleader, 17).*

> *I tried and tried…. I did everything I could to get the company to change their strategy (Ringleader, 18).*

Other strategic disagreements related to a lack of professionalization, and an over emphasis on either technology or cost reduction:

> *And then after several years, I left the company, because of a difference of opinion… I felt that we needed a full time… CEO... a professional business guy. And so, it became such a technical controlled company, you know, engineering driven company that they missed, in my estimation, the direction for new market and customer requirements (Ringleader, 1).*

> *[The ringleader] left after the board of directors, which obviously included venture capitalists, didn't see eye-to-eye… the board of directors wanted some drastic cost-cutting measures, which included more offshore work and less U.S. work, which would've involved restructuring in the U.S. So I think that was the essential part of what [ringleader] disagreed with* (observation about a Ringleader of a startup by one interviewee who was then an employee of the parent firm, 21).

Chafed by Bureaucracy: Frustration due to bureaucracy was a factor for nearly a third of ringleaders and one cofounder for spinning out.

> *I had to punch a time card. And I kept going in early and staying in late, and I kept getting chewed out by the boss who said, "You're not allowed to do that. You have to work this specific time, you have to check in at this exact time, check out at this exact time." And me being a rebel, I'm used to being free to complete my job even though it's five o'clock or come in early or stay late (Ringleader, 9).*

> *It was the only time in my life where I could not tell my boss what I was doing… The reality is after I left, my product was the last successful hard drive product [by parent*

[5]As discussed later, such technological disagreements involved conceptual prototypes rather than functioning technologies. Ringleaders typically requested (and were given) approval to take the concepts with them.

company]… because, they put controls in place to make sure that a maverick would never do it again. So, no one ever did (Cofounder, 22).

These founders often noted that "one-size-fits-all" policies not only limited their own ability to thrive, but also prevented them from ensuring that their direct reports thrived:

I spent a lot of time talking to [name of parent] about that. They wanted to have world-wide policies, and I told them, "In [headquarter city outside of Silicon Valley] people work 10 years to go from second shift to first shift. That's not the case here in Silicon Valley. You're going to have to do something." Well, they didn't want to do anything, so as a result, everyone started leaving (Ringleader, 11).

Interpersonal/ethical frictions with managers: Roughly a quarter of ringleaders and a few cofounders cited interpersonal or ethical frictions with managers as a component of their decision to spinout.

This guy was a very insincere, non-committal, terrible manager…He was the kind of guy that looked good to people above him and looked terrible to people below him. And he'd tell you one thing, go off and do another. I mean, perfectly charming guy, but he talked out of both sides of his mouth for political reasons, and engineers just can't relate to that kind of [expletive] (Ringleader, 16).

Well, John [name changed] and I did not see eye-to-eye. One day I was in his office, and he told me, "George [name changed], the only two people in this company that matter are you and I." I told him, "John, you're really screwed up," … and I thought he was going to run the company in the ground and I said, "OK, I'm out of here" (Ringleader, 11).

So they had a very bad way of treating people, and I didn't like that at all. … when you had a staff meeting, … you would be dressed down for whatever little reason there was… it was a bit of a, 'Why are you so stupid? Why are you so dumb?' All of those things were highly personalized. And when I was in my first role, I said, "You are in business with these other people. That's their choice. I'm out of here" (Ringleader, 9).

4.2.3 | Summary: Ringleader and cofounder motives

The above patterns depict both differences and similarity in motives of ringleaders and cofounders.[6] Ringleaders' decision to start a firm was triggered by at least one parent firm push factor: bureaucracy, irreconcilable interpersonal or ethical frictions, or strategic disagreements. In contrast, most cofounders were comfortable at and reported good working relationships at the parent firm. Nearly, a third of cofounders saw a return to paid employment as providing a safety net if the startup were to fail. In terms of shared motives, several factors "pulled" both ringleaders and cofounders into entrepreneurship. Nearly all ringleaders and cofounders were motivated by the desire to build better

[6]Motives also evolved over time. Specifically, we observed the emergence of "push" motives in career histories of some individuals who were first cofounders and then ringleaders (in subsequent entrepreneurship efforts).

technologies and by the fertile startup environment. And almost all ringleaders and half of cofounders were motivated by a desire for equity.

4.3 | Team building: Whom do ringleaders recruit?

Our second research question relates to the process by which founding teams form. Most ringleaders built a team rather than going alone, and the data illuminate three key elements they seek in cofounders: complementary skills, superior problem-solving ability and hands-on knowledge, and similar values guiding how to work together.

4.3.1 | Ringleaders sought cofounders with complementary knowledge and skills

Ringleaders largely recruited individuals with deep, hands-on knowledge in engineering, manufacturing, or marketing, seeking to build a founding team with complementary skills:

> *I took good engineers out of [parent firm]. I don't claim to have devised everything related to that disk drive. I came up with the concept of it. I sensed I did 80% of the design, but there were some parts of the machine I couldn't design (Ringleader, 17).*

> *My job was VP of Marketing and Sales. My number one job was very simple—bring in some orders, and number two was to setup a marketing and sales organization, a customer service organization, sales organization: sales manager, marketing manager, marcom, all the traditional marketing functions. The bottom line is, I brought in 30 million dollars worth of orders (Cofounder, 10).*

4.3.2 | Ringleaders cherry-pick cofounders with hands-on problem-solving ability

Ringleaders sought to recruit the best individuals they could find as cofounders. These individuals were often known for being talented problem solvers.[7]

> *… we hired the three engineers [who] were the best guys [from the parent firm]. And it's like, well, of course they are the best guys. We are not going to start the company with dummkopfs. Of course we are taking the best digital engineer the company had and the best mechanical engineer the company had, and the best analog engineer that the company had (Ringleader, 5).*

[7]Both ringleaders and cofounders recounted multiple incidents of problem-solving success prior to founding a firm. They were aware of their own talents as problem-solvers, due to a history of problem-solving success:*During my [military] career, I really was considered one of the sharpest people… Although a lowly enlisted guy, I would sit in the command center with the general in case anything goes wrong to tell them how to fix the airplane… I thought, "Well, I'm only sharp in the [military branch], because the sharpest people aren't in here." When I got to [firm], I excelled as well, so I said, "Well, maybe I am okay" (Ringleader, 11). Success breeds confidence…. when you are successful, everybody tells you you're successful, so that helps. And it grows (Ringleader, 20).*

Ringleaders and cofounders noted scarcity of such individuals, for both expertise and willingness to devote the sustained effort. The fact the parent firms often litigated against ringleaders when they began to recruit talent supports this idea (see more detail below).

> *Well, in those days, it's probably the same as these days. If you look at a typical high tech company in this Valley, out of several hundred or a thousand employees, there are only a handful that make it really work; that are the core contributors; that, if they leave, you're really in deep [expletive]. Maybe 20 people (Cofounder, 16).*

Our interviews also revealed instances where cofounders lacking hands-on skills were recruited and invariably did not work out.

> *Gary was somebody who tended to get really flustered if things weren't going well, and then sort of got off keel to some extent. If I had to really give you why he left, I think it's because [the ringleader] asked him to leave. And to be honest, he should've left earlier, in my opinion. He was an individual who liked to think he was a really good engineer but he basically was just looking to hire people he could delegate to, and that bothered me because he didn't seem to really have, certainly not a Steve Jobs 'I know exactly how I can design this in a wonderful fashion,' and he never did (Cofounder, 19).*

> *The first level manager is doing probably 70-30, 60-40 managing and personal contribution, … if you don't have the experience at some of those lower levels, it's difficult for you to know whether or not the people you're managing are doing the job right (Ringleader, 13).*

Just as ringleaders sought talented cofounders, cofounders were lured by ringleaders' reputations:

> *You know [name of ringleader] is a wonderful credential and reputation… So, he left and he brought with him a large number of engineers… he truly was a Pied Piper for the engineers. You know they follow him, they love him, and he was a wonderful leader to them (employee at the parent firm of a ringleader's first spinout by Ringleader, cofounder in subsequent spinout, 1).*

4.3.3 | Ringleaders sought cofounders with similar values guiding how to work together

Shared values regarding *how to* work also brought and held teams together. Motivated in part by what they did *not* want to emulate from the parent firm—bureaucracy, ethical/interpersonal disagreements, or the difficulty in executing on innovative ideas—some founding teams intentionally created an "idea-centered" organizational culture centered on openness, transparency, and respect when starting afresh.[8] As illustrated in the quotes below, founders believe that these workplace characteristics would help create open communication that would allow ideas to be shared, debated, and tested.

[8]As noted above, and consistent with founders' focus on work rather than personal friendship, founders rarely reported staying in touch over time, even though their respect for one another's skills and contributions was clear.

> *Before we founded the company… we had a homework assignment where we wrote down the most important values to us in working in a company. And, we condensed them and combined them into a core list of values, like a half a dozen of them, maybe more, and those were the values that were on the coffee cup and on the wall. Things like conflict management and one-on-one communications as opposed to third-party communications and treating people with dignity and respect. … One of the values was results. So it wasn't all touchy-feely and 'be kind'. You had to deliver (Cofounder, 16).*

> *Generally, there are a central group of people that are known entities… Have a good team of people, an environment where you can exchange ideas and I think that's absolutely important...you want a create an environment where people are willing to take the risk and if they fail…it's a matter of what happened so we can learn from it and go forward… I think creating an environment where it's fair, everyone shares a piece of the pie (Ringleader, 11).*

Combined with the selection of cofounders with complementary skills and cherry-picking, described above, some founders strongly believed that such workplace characteristics would create a backdrop that encouraged and supported contributions by every team member and foster trust and cohesion among team members, such that their knowledge and skills benefitted the firm.[9]

The narratives also provided numerous instances of missteps—either because ringleaders did not pay attention to these issues in their first efforts, or because they misjudged their cofounders. Several ringleaders and cofounders noted learning from these initial missteps; this awareness led them to make changes to the founding team or disband the firm to start anew.

> *That's when I learned a most important, very costly, very bitter lesson… Do not join a startup with [people who have not] shed that… mentality… that method of management [where] the emperor or the CEO, the top man, would be surrounded by layers and layers of other people. … I felt so disillusioned, so soiled, so dirty (Cofounder, 10).*

> *[Name removed] was a marketing guy that didn't carry his own weight. He kind of was always on the phone but never delivered anything. In fact, we asked him to leave the company before we even shipped the first product. So the six founders became five founders before the first year was up (Cofounder, 16).*

4.3.4 | Founding team characteristics

Founding teams built using the team building process described above were diverse on some dimensions and similar on others, acknowledging the need for diversity:

> *We made a very good team like that. Cause when you start a company, it's not just one person. It's a lot of different talents. And you have to have a good combination of these talents to make the thing work… (Ringleader, 17).*

[9]This finding is entirely consistent with the motives of ringleaders and cofounders experiencing "push factors" at parent firms: after experiencing strategic disagreements, bureaucracy, and/or interpersonal/ethical frictions, they wanted to create a better organization with low levels of bureaucracy, where new ideas could be debated, and where talented people felt respected.

As noted above, ringleaders sought cofounders who were complementary (*different*) in functional domains to create a founding team possessing the required skills. Many of the founding teams represented this functional diversity, regardless of the team size:

> *We had three other cofounders. One was [name removed], an angel who was an engineer, another was [name removed] who is an engineer, and then the operation was [name removed]. So the effective founding team was the five of us (Cofounder, 1).*

> *We were very different people. I'm sort of introvert, he's an extrovert. He's marketing and I'm in engineering. It worked particularly well (Cofounder, 21).*

Members of successful teams were *similar* in three important ways. One, members possessed a similar desire to create within a fertile industry environment. Two, founding teams represented individuals recognized for superior problem-solving ability and hands-on knowledge, also due to the deliberate intentionality of ringleaders cherry-picking the most capable cofounders.

> *We didn't have much at all [when approaching a cofounder and then investors]. We had a mechanical model, obviously non-working…basically, in that business, you're selling yourself, not a product. So people invest in people, not the products. And your story and your reputation is what brings the investment as opposed to actually going physically to perfect it (Ringleader, 21).*

Finally, because knowledge on the above dimensions is discerned only through frequent and prolonged interaction, most founding teams drew from the immediate or previous employers.[10] Thus, work affiliation similarity stemmed from ringleaders seeking out talented cofounders from within their parent firms and broader networks. Ringleaders noted they did not just recruit from their direct contacts and subordinates, rather, they cast a wider net and searched through the entire organization, recruiting talented potential cofounders through word-of-mouth, not resumes or titles.

> *He was one of those guys that early on [at the parent firm], every time I turned around, someone would talk about some technical issues and would say, "We'll get [name removed] on it." So, I made it my business to go down and meet this guy (Ringleader, 11).*

> *I contacted each one of them, put the whole thing together, invited them and told them what their responsibilities would be…. I had known [Cofounder A] at [a previous employer] and he was ready to look for something new and exciting….[Cofounder B] was with me at [parent firm] so we knew each other. …[Cofounder C] came with [Cofounder A]. They were both at this company that was going through a dramatic change, and that loosened them up from the company. [Cofounder D]? We went on a search for him, And I have to say that, as a salesman, he was probably one of the best I've ever seen. He was outstanding (Ringleader, 20).*

[10]Although not the study's focus, it is worth mentioning the same pattern appeared with venture financing: *And I have been working with him since [earlier firm founding], so he said he'd back me with seed money* (Ringleader, 7).

The few exceptions to this pattern included ringleaders recruiting well-known and highly successful individuals or the recruitment of a finance/accounting specialist through investor introductions.

4.3.5 | Strategic considerations

The interviews also provided insights into the founding team's strategies, particularly in the context of positioning relative to the established firms, including the parent organization.

Reluctance to compete directly with incumbent firms: Founding teams defined their firm's value proposition by ensuring differentiation from industry incumbents in technology and market choices.

> *So [spinout firm] was the first company to launch a 3.5-inch drive into the market. With the concept and design and with [cofounder's] brilliance of design… all of a sudden they brought total credibility to small form factors… you couldn't make a luggable with 5.25-inch disk drive (Ringleader, 1).*

> *At that time, the 3.5-inch hard disk drive was just coming into the market. And it was going to be a transition from the 5.25 to the 3.5. So we designed that and we developed that…. What inspired me was… I had the opportunity to look at what everybody was doing [while at the parent firm]… And, then I said, My God, how come these guys are not applying this principle or that. So that what kind of inspired me. I said, "I can make a much better system than what these manufacturers [are making] (Cofounder, 3).*

> *[Parent firm] had developed tremendous demand for the 2.5-inch hard drive. At [spin-out firm], I set out to do the 1.8-inch drive. I think it took about 3 years to develop it and again and again in production, 2-3 years (Ringleader, 4).*

Founders were also cognizant of technology replication, of other firms and their own alike:

> *Oh, it doesn't take long for anybody to catch up in this business. It's very competitive. We used to figure that it would take about two years for a company to do the catch-up, but that's wrong, because the technologists that came along were probably smarter than we were at the time (Cofounder, 15).*

As a result, across multiple spinout teams, founders expressed the consistent strategic sentiment that they wanted to be different in either technology, market, or both from the existing competition, and spent significant energy and effort developing new products and innovations.

> *If you want to start something, start something that nobody else has or [has] very little competition (Ringleader, 12).*

Reluctance to take parent firm technology without consent: Another consistent theme was founders' attention to ensuring they were *not* taking technology or developing products without prior consent.

> *We weren't really doing anything illegal. We weren't copying anything except the footprint. What we were copying was in the public domain (Cofounder, 16).*

In anticipation, and seeking to avoid legal battles, founders openly revealed their ideas to their managers, and sought explicit permission to pursue them upon leaving.

> *So, I said OK obviously you guys want me out of here and I had [stock] options… about 10 percent of the company. And I said I'll give you options back, but I want to go ahead do this 5.25-inch Winchester and I don't want you suing me. So, I need a full release. And they said, "OK you got it" (Ringleader, 1).*

> *When I left, my boss of course was upset, and they were a little bit upset because they knew what I was going to do. And there was a little bit of cautionary stuff with lawyers and that sort of thing, which never materialized that, gee, if you guys are going to do this, obviously you're using some information from [name of parent firm]. And I said, "Hey, I supplied all this to you and you said no, you weren't going to do it." So they finally gave up on pecking us a bit (Ringleader, 9).*

In a few cases, founders described how parent firms threatened to and/or brought lawsuits regarding technology against the spinout; however, these threats were either not pursued or subsequently dropped, given clear differences between the parent and spinout firms' technology:

> *Anyway, that got settled out. I came up with a second-generation design and they said that I had stolen this design from the other company [the parent firm], which I hadn't. I hadn't designed at that company. It was in my head. But I walked out with it in my head. I didn't steal any drawings or anything. And it was a totally different design. This lawsuit was settled by actually laying these two designs side by side, and they were so totally different that there was no case (Ringleader, 17).*

> *Oh, we kept getting threats from [parent company] for a while that they were going to sue, because they thought we were copying something they were doing, and we told them they weren't doing anything like we were doing." Again, they were at 6 megabytes trying to get to 12, so we weren't shooting for the same target [the startup was shooting for 50 megabytes]. But, they thought we were (Ringleader, 11).*

Willingness to poach talent: In contrast to their attention regarding not appropriating parent firm technology, founders were quite willing to poach talent, even at the risk of antagonizing the parent firm. Indeed, several ringleaders believed parent firms were fearful of losing talent and the true purpose of lawsuits was to scare away investors, cofounders, and employees[11]:

> *They weren't upset at all about the technology. We took some key people; they were pretty upset about that (Ringleader, 2).*

> *And, when we quit… nothing happened. But, when the three engineers quit, [the startup and the three engineers] got sued by [name of parent firm]. They didn't go after him*

[11]The threat of technology litigation stemmed, to a large extent, from the fact that most disk-drive firms are in California, which is known to not enforce noncompete agreements in employee contracts (Gilson, 1992).

[cofounder] or me [ringleader], but when we hired the engineers… [that] upset them. And they had six counts against us and they served the warrants at 10 o'clock at night in our homes. The idea was to scare us and more importantly, to scare away the money because the deal hadn't closed… The lawsuit ended up getting dropped later, because it wasn't successful in doing what they wanted it to do which was scare people away, scare the money away (Ringleader, 5).[12]

4.3.6 | Performance outcomes

We now turn to examining how the completeness of the team building process effects performance. Table 4 shows 10 of the 11 spinouts that engaged in the complete team building process grew to develop additional products beyond the first working product. In contrast, 4 of the 21 spinout firms were created by solo founders–none of these grew beyond developing/shipping the first working product. The six teams with incomplete team building processes did not grow beyond this stage either—each had complementary skills and knowledge, but either discovered that not all team members were able to solve the problems and set up the systems as expected or did not agree on the characteristics of the workplace that they wanted to build. Among these teams, both ringleaders and cofounders alike expressed dissatisfaction. One team following the complete team building process failed, attributing an inability to execute (build the product in high numbers) due to a contested strategic decision (in this case, several founders and employees left together to form another startup that was quite successful).

We also coupled our qualitative data with available quantitative data to investigate additional performance variables. Table 5 maps the completeness of the team building process to several firm-level characteristics, specifically, the 5-year survival rate, the level of inherited technological capabilities, whether or not the firm was an early mover, and diversification into multiple diameters of disk drives. Once again, the mapping between the team building process and performance outcomes is striking. Among spinouts spawned from parents with above average technological capabilities, 88% of those surviving past 5 years engaged in all aspects of the team building processes; however, only 25% of those surviving fewer than 5 years engaged in all aspects of the team building process. Of spinouts spawned from parents with below average technological capabilities, 67% of those surviving past 5 years engaged in all aspects of the team building processes; however, only 17% of those surviving fewer than 5 years engaged in all aspects of the team building process. One sees similar performance distinctions on other measures: most early movers and diversifiers in other diameters also engaged in complete team building process.[13]

Thus far, we have (a) illuminated the motives of founding team members, (b) presented an empirically derived model of the process by which founding teams are built, (c) showed that spinouts utilizing a complete team building process outperform other spinouts. One might ask *how* the coupling of complementary knowledge and skills, similarity in superior problem-solving abilities, talent, and shared workplace values, and overarching strategic considerations resulted in success (discussed above and summarized in Figure 1). Although not the focus of our study, our data suggest these

[12]There was only one case through all founder career narratives in the sample where a disagreement between a parent firm and a founder was litigated in court. The parent firm sued the spinout for hiring an employee (not a founder), and the judge requested the case be settled out of court. The charge was dropped with no payments by the spinout.

[13]In a few cases, founders realized they had made mistakes in selecting cofounders, leading them to leave the first spinout and/or incorporate what they had learned as they built subsequent teams.

TABLE 4 Completeness of the team building process and spinout outcomes

	Number of spinouts that developed or shipped a single product	Number of spinouts that grew beyond a single product
Complete team building process	**1**	**10**
Incomplete team building process[a]	**10**	**1**
Single-founder firms: Did not choose cofounders based on cherry-picking, complementary skills/hands-on knowledge, or shared workplace values	*(4)*	*(0)*
Complementary skills/hands-on knowledge only: Did not choose cofounders based on cherry-picking, or shared workplace values	*(6)*	*(0)*
Total	**11**	**10**

[a]The complete team building process (Figure 1) has three elements: cherry-picking talented cofounders, choosing cofounders with complementary skills and hands-on knowledge, and choosing cofounders with shared workplace values. The team building process is incomplete when one or more of these elements is missing.

teams were intent on innovating (due to strategic considerations). Although innovation was difficult, they were focused on solving key technological and market problems. This required strong team cohesion, which was more likely to occur when founding teams had engaged in the complete team building process. The following quotes suggest the ability of each team member to execute their own tasks, coupled with a desire to create an idea-centered workplace in which ideas could be aired, debated, and tried, allowed team members to trust one another and focus efforts on problem solving (rather than blaming or questioning one another).[14]

> *Well, you fit them and respect, and you really trust them to do the right thing. And you empower them, first off, you got to find the screening process to get you the best people and figure out you don't have to… Achievements and attitude should be the keys. And then you basically agree on high-level goals and the deadlines. And then you empower them to get that done. And you provide support for them to get it done. And don't second guess. It's just really, essentially, through empowerment. You really want the best people come back and say, "I really screwed up"… [you want them saying] "it didn't work" rather than trying… to cover the trails (Cofounder, 22).*

> *And the founders, the guys that founded the company, have to recognize that they're not always the stars. You get the sales guys, the marketing guys; these are the stars. And they step up in succession as the company grows and you have to let them go with that.*

[14]In contrast, the feeling toward individuals who abandoned the team was sour: … *at [name of startup] we had one guy who did cop out in the very early days of our research and development. When he came into the office and said he was going to resign, I said,* "*You have free will, you could go wherever you want to go, but why are you doing this?*" *And he said,* "*Hey, this is a stepping stone to something more interesting to me.*" *And I said,* "*Don't you have some feeling for your fellow engineers here? You're part of a team.*" *He said,* "*Hey, I didn't join this to become part of a team. I joined this as a stepping stone.*" … *and then he left. Two weeks later, he was skydiving with his girlfriend, and his shoot didn't open. We felt bad, but it wasn't our problem (Cofounder, 9).*

TABLE 5 Spinout performance outcomes-key descriptive statistics

Technological capabilities	Characteristics	Survival ≤ 5 years	Survival > 5 years
Below average	Number of spinouts	6	3
	Number of market pioneers	1	1
	Number of multidiameter spinouts	1	1
	Spinouts founded by sole founders	2	1
	% spinouts in quadrant employing the full team building process	17%	67%
Above average	Number of spinouts	4	8
	Number of market pioneers	1	3
	Number of multidiameter spinouts	0	6
	Spinouts founded by sole founders	0	1
	% spinouts in quadrant employing full team building process	25%	88%

You have to let them have their position and space in the tenets of fame, if you will. If you don't do that, the company stifles itself (Ringleader, 17).

5 | DISCUSSION AND CONCLUSION

Our study complements existing work on spinouts by examining two under-researched areas: the motives of employee entrepreneurs and the process of spinout team formation. In both areas, our findings do not square with dominant theoretical explanations. With respect to motives, our findings bring existing agency- and spillover-based explanations of spinout formation into doubt, and contribute to the spinout literature by highlighting the importance of nonpecuniary motives. This finding contributes to the broader management literature by showcasing the import of nonpecuniary motives in driving behavior in an entrepreneurial context, joining existing work that examines a variety of other organizational contexts (e.g., Amabile & Kramer, 2011; Roach & Sauermann, 2010; Stern, 2004; Wrzesniewski & Dutton, 2001). With respect to team formation, our findings depict the endogenous formation of spinout teams and we are able to show how adherence to all elements of a multidimensional team building process lead to greater success. This finding contributes to the broader management literature by providing a detailed empirical examination of the endogenous processes through which individuals self-select into teams (Bell & Kozlowski, 2012). With respect to both motives and team building processes, our findings depart from the conventional wisdom that spinouts commercialize ideas originally developed within their parent firms. Instead, our data show team selection processes that *result in* the development of ideas. A key implication of this for the spinout literature is that performance should be modeled by taking into account the selection mechanisms that resulted in founding team characteristics, and not just the subsequent "treatment" effect of founding team characteristics on performance. Put simply, team formation through selection *precedes and shapes* founding team characteristics and performance outcomes. Overall, our study reveals evidence of novel mechanisms—related to motives, team building processes, and the interlinkages between the two—underlying spinout's strategic choices and performance outcomes.

5.1 | Motives for founding spinouts

We revisit the four sets of theories described in the conceptual backdrop in order of the level of the empirical support found, from highest to lowest (please see Table 6 for a summary).

Pursuit of nonpecuniary motives. While least discussed in the spinout literature, nonpecuniary motives are key in leading ringleaders and cofounders alike to create new ventures. Consistent with theoretical arguments made in the literature, we provide empirical support for the idea that both goal setting and expectancy theory are at play. Observed motives such as the desire to create align with goal-setting theory's expectation that individuals seek challenging goals (Locke & Baum, 2007; Locke & Latham, 2002). Founders also acted consistently with expectancy theory (Gartner et al., 1992; Shane et al., 2003), thoughtfully taking the costs and benefits of potential actions into account. Founders noted the availability of resources (i.e., a fertile startup environment) and cofounders factored in the option to return to paid employment as a safety net as they weighed the costs and benefits of venturing out.

Our contribution lies in showing how motives shape and influence the spinout formation process: motives underpin the actions of ringleaders and cofounders, such that the motives and actions observed act as interlocking pieces. Thus, the data reveal an internally consistent explanation of spinout formation in which ringleader and cofounders motives are distinct, yet consistent with the temporal ordering of the team building process, the actions of ringleaders and cofounders, and spinouts' strategic considerations.[15] In addition, we contribute to the entrepreneurship literature by empirically documenting a variety of nonpecuniary motives that influence founders' desire to spinout, thereby lending support to a number of studies arguing for such motives, as well as clarity regarding the actual motives that are at play.

Managerial frictions. Our data show support for the managerial frictions class of theories for ringleaders, but not cofounders (Klepper & Thompson, 2010; Moore & Davis, 2004). Interpersonal conflicts increase the attractiveness of venturing out. Moreover, venturing out affords a ringleader the opportunity to create a new work culture more consistent with their own preferences. The fact that cofounders did not experience these motives as frequently or intensely suggests that only *one* key founder–the ringleader—rather than all founders, needs to experience managerial frictions, and then others follow as the ringleader initiates the team building process.

Spillovers/strategic disagreements. We find limited support for spillover and strategic disagreement focused theories that suggest spinout formation is driven by the presence of underexploited opportunities developed by the parent firm (Agarwal et al., 2004, 2007; Cassiman & Ueda, 2006; Chesbrough, 2003; Gambardella et al., 2014). Our data show only a small number of instances where ringleaders left because the firm did not implement their ideas. Moreover, in a departure from this set of theories, these ringleaders *asked* their parent firm for permission to commercialize their idea; and these ideas were in a highly conceptual stage (i.e., lacking a functioning prototype or design, with no working technology or product in place) *and* the team was not fully formed prior to the ringleader's departure.[16] Our evidence thus points to the primacy of people, not innovation projects as the genesis of spinouts; underutilized opportunities or rejected innovative ideas play a role more as a push factor that triggers the team building process, and follow-on development of strategic goals and objectives.

Agency-based explanations. Strikingly absent in our data are the pecuniary motives that underpin agency- and opportunism-based theories (Anton & Yao, 1995; Hellmann, 2007). Ringleaders were

[15]That the motives act as interlocking pieces that snap together, and do so consistently, should lessen concerns that founders relayed "whitewashed" narratives.

[16]Even in the few instances where two individuals left a parent firm jointly occurred when those individuals were founders of the parent firm itself, choosing to leave due to disagreements with other founders or investors.

TABLE 6 Revisiting theoretical perspectives on the motives underlying employee entrepreneurship

Theoretical perspectives	Evidence from the existing empirical work	Evidence in this study
Pursuit of nonpecuniary motives (Carnahan et al., 2012; Franco & Filson, 2006)	None	Strong support. Ringleaders and cofounders are motivated by a desire to create, as well as a variety of other nonpecuniary motives.
Managerial frictions (Klepper & Thompson, 2010; Moore & Davis, 2004)	Anecdotal: Klepper and Thompson (2010); Moore and Davis (2004)	Moderate support. Many ringleaders reported at least one "push" factor (interpersonal/ethical frictions; bureaucracy or disagreements). Very low support among cofounders.
Spillover/strategic disagreements theories (Agarwal et al., 2004, 2007; Cassiman & Ueda, 2006; Chesbrough, 2003)	Quantitative: Gambardella et al. (2014) Anecdotal: Klepper and Thompson (2010)	Limited support with respect to ringleader motives. We observed some instances where ringleaders left the parent firm with ideas that they themselves created and championed *after* the parent firm rejected the idea. However, in most cases, the ideas and technologies were developed *after* spinout formation motivated by other reasons.
Agency theory-based explanations (Anton & Yao, 1995; Ganco et al., 2015; Hellmann, 2007)	None	No support.

neither motivated primarily by monetary incentives, nor did they generally perceive a lack of promotion opportunities at the parent firm. Our data reinforce this finding in multiple ways. First, ringleaders and cofounders did mention monetary returns, but mostly in the context of rewards commensurate with effort and fairness. Second, cofounders were careful to not burn bridges because they perceived a return to paid employment as a safety net. That some founders were asked to return corroborates that many parent firms did not perceive opportunistic behavior by founders. Third, no references were made to any economic calculus regarding whether an idea was more valuable if exploited within or outside parent firm boundaries. In the few instances where innovative ideas (remember these were ideas, not developed technologies) were developed at the parent firm, ringleaders actively tried to develop them at the parent and, after repeated rejections, sought permission from the parent firm to take the ideas with them. Finally—and importantly—the evidence does not accord with spinouts resulting from preformed innovation projects and teams; the data pertaining to motives, taken in conjunction with evidence on the team building process, strategic considerations, and parent firm actions *all* conflict with agency-based explanations.

Thus, given little evidence to support the agency-based view of employee entrepreneurs as opportunistic individuals secretly exploiting technologies developed at the parent firm, we affirm Klepper's (2002, pp. 661–662) insight regarding the lack of empirical support—anecdotal or otherwise—for agency-based theories of spinout formation: "the findings…do not appear to conform very well with the premise of agency models… [spinout formation] does not seem to have anything to do with contracting or incentive problems concerning their employees or with venture capitalists outbidding the

firms to develop the new drives."[17] Nonetheless, agency-based explanations have continued to be popular (Ganco et al., 2015; Hellmann, 2007), and we hope our study contributes to future scholars using alternative theoretical lenses when studying spinouts.

5.2 | The team building process

Both the spinout and organizational behavior literatures explicitly or implicitly assume teams are pre (or exogenously)-formed (Agarwal et al., 2016; Bell & Kozlowski, 2012; Cohen & Bailey, 1997; Ganco, 2013; Rajan & Zingales, 2001), resulting in the understudy of the endogenous team formation processes. As described above, we find little evidence for the idea that teams working together at the parent firm spinout; rather the data highlight a nuanced team building process through which skills and talents are assembled and common values guiding how to work together identified in the face of constrained search. In contrast, many of the team formation processes documented in the organizational behavior literature—and many that occur in real-world contexts—occur as teams are formed by *others* in the organization, rather than by team member(s) themselves. Instead, the team formation process we document can be considered a "bottom up," endogenous process.

Given the lack of both theoretical and empirical studies on (entrepreneurial) team formation, our findings contribute to the literature streams we draw upon by documenting the manner in which founding teams are assembled. Building a founding team relies on a ringleader's ability to identify and attract human capital from within their networks. The asymmetric nature of information channels causes ringleaders to draw largely upon employees within the same parent firm, and then expand options from a wider network. While functional domains may be relatively easy to assess, knowledge regarding problem-solving abilities and shared workplace values require closer contact to assess, so ringleaders follow a path akin to small worlds rather than random networks (Aldrich & Kim, 2007) and seek cofounders within their existing and prior work affiliations. Put another way, the parent firm—and past employers—acts as a "candy-shop" from which talented cofounders and early employees are identified. Accordingly, cofounding occurs as an outcome of deliberate search among potential candidates with these small worlds.[18] The patterns we observe indicate the homophily in gender, age and work affiliation are the *outcome,* not the intent of such search, and largely reflect existing demographic characteristics within small world networks.[19]

Finally, our findings highlight the need for scholars to go beyond running "horse-races" between various theories and instead work toward building contextualized models that align empirical regularities with one or more disciplinary lenses. For example, our findings show that the team building process in the context of high-technology spinouts—what we term workplace instrumentality—utilizes selection processes (Kamm & Nurick, 1993) whereby founders pay deliberate attention to the need to build a solid resource base for the spinout *and* create a workplace based on aligned values. In contrast, scholars examining representative cross-sections of entrepreneurs (Ruef et al., 2003)—that is low-tech and high-tech and from different knowledge sources—have found evidence supporting

[17]Our search in the data for evidence on agency-based views revealed not only little support, but statements which contradicted agency-based explanations. We thank the editor for suggesting this search.

[18]The process of selecting cofounders that we describe is deliberate. However, it does not preclude some element of randomness in the encounters that create founder networks. For instance, a founder may initially meet someone by chance (at a friend's party, for example). As that person's talents and skills are revealed, the individual (in contrast to all others who were met at the same chance) might then be selected through follow-up to be part of a startup.

[19]As an example, the lack of gender diversity in our founding teams is characteristic of the overwhelming majority of potential candidates being male, given the context. Along the same lines, similarity in age may well be a consequence of the time necessary for founders to establish themselves as talented problem solvers in their respective expertise domains.

similarity/interpersonal attraction as a mechanism, that is to say, for homophily. Of note here is that although we observe selection, interpersonal attraction may build on shared workplace values; such attraction may lead founders to work together more successfully. The point is not that one view is correct and the other is not, rather, different contexts may necessitate different behaviors. In our context, for example, founders have social networks that allow them to engage in selection along multiple dimensions and selecting those with expertise likely affords multiple and interrelated benefits, from better skills to greater ease in securing financing.

5.3 | Motives and team formation shape firm characteristics, strategies, and performance

The answers to the two-interrelated questions of founder motives and team formation processes have critical implications for research on the relationship between team characteristics and performance outcome, which has been the predominant focus of spinout, organizational behavior, and broader entrepreneurship literature. Our findings on how motives and team building processes shape team characteristics—and the subsequent variation in spinout firm strategy and performance—highlight the role of selection in shaping team characteristics and the subsequent role of team characteristics in shaping performance. This source of endogeneity may well plague many existing quantitative studies documenting that larger and more experienced teams result in superior spinout performance (Agarwal et al., 2016; Phillips, 2002; Wezel et al., 2006). Rather than focusing on team size alone, our findings suggest that founding teams built through selection on three dimensions possess and build superior capabilities and experience better performance outcomes.

5.4 | Limitations and future research

We acknowledge several limitations and boundary conditions. The use of in-depth, qualitative data offers the opportunity to gain understanding and build theory in understudied areas, however, such theory runs the risk of being idiosyncratic and not generalizable to the entire population (Eisenhardt, 1989). Our findings are consistent with anecdotal evidence on Walt Disney being the ringleader who recruited cofounder Ub Iwerks (Gabler, 2006) and the numerous spinouts in the semiconductor industry (Moore & Davis, 2004). However, potential employee entrepreneurs in other industries may behave differently in spite of similar motives, due to differences in availability and attractiveness of career options outside existing firms. In addition, our framework is built upon retrospective narratives of founders who agreed to the interview. While we address retrospective bias concerns in our design, a limitation is that nonresponding founders may have possessed different, darker, and motives (i.e., they may have taken parent firm technology). Although we cannot rule this out, we expect it is unlikely: not only is our sample representative of the population of disk-drive spinouts across important dimensions (Table 1), all founders with whom we made contact agreed to be interviewed (except one, for personal reasons).

We hope our study sparks future work, both for theory examining contingency conditions and for evidence on the understudied roles of entrepreneurial motivations and team building processes. Future qualitative and quantitative studies might examine whether our results are replicable across different industries and time periods. Our findings also point to the need for theory integrating across disciplinary lenses, and empirics that rely on mixed methods. Future work discerning across and integrating among different motivations, and examining the interplay between motivations and capabilities will yield valuable insights on entrepreneurial firm formation, and their subsequent growth in talent and performance. More specifically, by integrating spinout research with related work in the

organizational behavior and broader entrepreneurship literatures, our study highlights the importance of acknowledging the importance of nonpecuniary motives in designing and leading organizations. In doing so, it also links to work on scientific labor markets which has highlighted the role of motivations in the "selection effect" for individuals' careers, demonstrating the role of diverse motivations in the sorting and selection of individuals into entrepreneurial versus established firms and in the interactions between individual preferences and firm capabilities (Agarwal & Ohyama, 2013; Elfenbein et al., 2010; Gagliardi & Mariani, 2016; Gambardella, Khashabi, & Panico, in press; Giarratana, Mariani, & Weller, 2018; Roach & Sauermann, 2015). Also relating to the underfocus on nonpecuniary motives, organizational behavior scholars have noted an overemphasis on the "treatment effect" of financial incentives in theoretical models of turnover, calling for greater attention to fairness and justice in organizational rules and procedures (Griffeth, Hom, & Gaertner, 2000; Heavey, Holwerda, & Hausknecht, 2013). Theory development to systematically include both selection and treatment effects of nonpecuniary motivations for both employment and entrepreneurship, over and above agency- and opportunism-based explanations, will help advance strategic management research in the design of holistic management practices.

Finally, future research might investigate whether the insights gleaned from this study apply to other types of innovative entrepreneurs–namely academic- and user-entrepreneurs (see review in Agarwal & Shah, 2014). It stands to reason that complementary knowledge and skills, cherry-picking, and a shared desire for certain workplace characteristics will be important across types of entrepreneurs, however, the motives and search processes by which successful founding teams come together may differ across types in a manner deserving of scholarly attention. For example, differences in the networks of aspiring entrepreneurs across contexts may have important selection consequences for observed performance variation. For example, difficulties experienced by academic-and user-entrepreneurs in finding and "vetting" cofounders with complementary industry knowledge, establishing complementarities (in skills and talent), and congruence in workplace values may shape the decision to enter the market for ideas rather than the product market and/or lead to suboptimal outcomes, thereby heightening the risk of failure (Agarwal & Shah, 2014).

5.5 | Managerial and policy implications

The paper's managerial and policy implications stem from the observation that knowledge spillovers from parent firms to spinouts are not as much in the form of (patentable) technology taken from the parent, but the cumulative knowledge within the minds of creative and talented people who build effective teams. At a high level, by refocusing our attention from the transfer of technology stocks to talent flows that result in new product development and venture creation, our data suggest spinouts generate societal value by increasing experimentation and engaging in creative construction (Agarwal et al., 2007; Gambardella et al., 2014; Klepper, 2015). For policymakers interested in spurring economic growth through spinouts as an engine, our findings suggest a need to more closely examine the effects of nonsolicitation restrictions that prevent former employees from attracting current employees to a competing business (e.g., Bishara & Starr, 2016). Nonsolicitation restrictions may hamper the new venture formation and stifle the social welfare increasing innovations that they introduce, although such restrictions may benefit parent firms.

For parent firms interested in losing fewer employees to new ventures, our study complements recent calls in the organizational behavior literature for greater attention to equity in organizations (Griffeth et al., 2000). Here, our study highlights the need for high performing individuals to not only be monetarily rewarded, but to be provided work cultures that support their desires to create and

innovate (Locke & Latham, 2002). Otherwise, outside options in the market for talent will continue to result in the concurrent loss of these high performers and the accompanying creation of competition from within.

6 | CONCLUSION

Spinouts have been hailed as entrepreneurial engines facilitating the creative destruction process of capitalism (Klepper, 2015) and scholarly work has examined their incidence, inheritance of capabilities, and superior performance outcomes (Agarwal et al., 2004; Anton & Yao, 1995; Klepper & Thompson, 2010; Phillips, 2002). Our qualitative study complements this work by examining the under-researched questions regarding the motivations of employee entrepreneurs and the process through which they create founding teams. Our findings reveal a need to extend theories of spinout formation beyond agency and knowledge spillovers, and instead focus on the *people* that generate innovations rather than the innovations themselves. Each of these individuals possesses motives that reflect their current situation and context, as well as their individual preferences. We join recent work in strategy that moves beyond economic incentives as a singular driver and calls for theories that better integrate nonpecuniary motivations and preferences in strategy (Agarwal & Ohyama, 2013; Gagliardi & Mariani, 2016; Gambardella et al., 2016; Giarratana et al., 2018; Roach & Sauermann, 2010) by underscoring the importance of psychological motivations (Locke & Latham, 2002; Shane et al., 2003) and complete team building processes which enable synergies among talented people seeking to build on shared workplace values. Together with this work, we underscore the need to revisit the desire to create as a driver of entrepreneurial activity, consistent with the nonhedonic motivations emphasized by classical economists such as von Mises (1949) and Schumpeter (1934):

> *For the pioneering genius to create is the essence of life. To live means for him to create* (von Mises, 1949, p. 139). *There is the joy of creating, of getting things done, or simply of exercising one's energy and ingenuity* (Schumpeter, 1934, pp. 93–94).

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