THE INFLUENCE OF FOUNDING TEAM COMPANY AFFILIATIONS ON FIRM BEHAVIOR[•]

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Abstract

This paper argues that founding team composition, in particular prior company affiliations, shapes new firm behaviors. Results show that founding teams whose members have worked at the same company (and thus share an affiliation) pursue exploitation strategies and ship products more quickly than other firms. Conversely, founding teams whose members have worked at a wide range of different companies pursue exploration strategies and are more likely to change which ideas to pursue. Firms whose founding teams have both common and diverse prior company affiliations are more likely to grow. The results suggest team composition is an important antecedent of exploitative and explorative behavior and firm ambidexterity.

The terms 'exploration' and 'exploitation' have been used broadly to capture a wide array of firm actions and behaviors. The concepts are central to studies of adaptation, organizational learning and technical innovation (Abernathy, 1978; Benner & Tushman, 2002; Benner & Tushman, 2003; Katila & Ahuja, 2002; Levitt & March, 1988; March, 1991). Exploratory behaviors are those that are variance-increasing and generate internal variety (McGrath, 2001; Tushman & Smith, 2002); exploration involves radical innovation, creating new markets and products, experimentation, broad search, frequent change, and discovery (Katila & Ahuja, 2002; Miner, Bassoff & Moorman, 2001; Rosenkopf & Nerkar, 2001). Exploitation, in contrast, is variance-decreasing and efficiency-oriented (March, 1991); exploitation involves incremental innovation, implementation, refinement, routinization, local search, and efficiency (Beckman, Haunschild & Phillips, 2004; Benner & Tushman, 2003; March, 1991). Although there are benefits to being able to do both (He & Wong, 2004), organizations that explore may have processes, strategies, structures and capabilities quite distinct from organizations engaging in exploitation (Benner & Tushman, 2002; McGrath, 2001; Katila & Ahuja, 2002; Rosenkopf & Almeida, 2003).

Existing research suggests an important antecedent to exploration and exploitation: managers who create the right structures or develop a supportive context (Brown & Eisenhardt, 1997; Gibson & Birkenshaw, 2004; Tushman & O'Reilly, 1996; Smith & Tushman, 2005). How do managers decide which structures or processes to adopt? Despite the presumed rationality around these choices, managers bring ideas with them when they move across firm boundaries, and an executive's career experiences shape the range of firm actions considered (Baty, Evan, & Rothermel, 1971; Boeker, 1997; Kraatz & Moore, 2002; Sørensen, 1999). This paper examines the group of early executives that comprise a firm's founding team and argues that prior

experiences predispose a firm to engage in explorative or exploitative behaviors. In a broader sense, this suggests that team composition both informs and constrains later firm action.

A founding team's past company *affiliations* are an important and understudied component of team composition. Much of the existing research focuses on how the functional experience and key relationships among founding team members influence firm strategy and action (Beckman et al., forthcoming; Boeker, 1988; Roure & Maidique, 1986; Shane & Stuart, 2002). Yet, affiliations are important because the past companies in which managers have worked offer employees' models for what an organization should look like and how it should act. Following Burton et al. (2002), the focus here is not on the *what* of the experience but the *where*. To take a simple example, compare a three person team where everyone had prior experience at Apple Computer and a three person team with one member from Apple, one from Intel, and one from Hewlett-Packard. Regardless of any overlap in functional or industry experience, the two teams bring with them different company affiliations, contacts, and ideas from their prior jobs. The all-Apple team shares a language and set of tacit understandings even if the managers were not at Apple at the same time; whereas the team from three different firms has a variety of experiences and diverse sources of information. These affiliations are a critical source of ideas, frames of reference, and contacts that shape the behaviors in which a new firm is likely to engage. And, unlike the stark example above, teams can both share common affiliations and bring multiple unique affiliations to the firm (for example, if the people from Intel and Hewlett-Packard in the above example also had prior experience at Apple).

In general, I argue that prior team affiliations should shape firm exploration and exploitation behaviors. Teams with some common prior company affiliations share a language and vision (Nahapiet & Ghoshal, 1998) which allows teams to easily implement and routinize

activities. Thus, firms whose teams have shared affiliations should be more likely to pursue exploitative behaviors such as improving on existing processes and moving new products or processes quickly to market. In contrast, founding teams that come from a wide array of past companies bring diverse knowledge and contacts to the firm, and a variety of perspectives stimulates innovation and the discovery of new alternatives (Amabile, et al., 1996). Thus, firms whose teams have diverse affiliations should be more likely to pursue explorative behaviors such as investigating multiple ideas and becoming technical pioneers. Furthermore, teams should benefit from diverse and common prior company affiliations because these firms engage in behaviors that support both implementation and innovation. Thus, having a mix of both diverse and common team affiliations should be a precursor to organizational ambidexterity. Overall, this paper develops the concept of team affiliations as an important antecedent to firm exploration and exploitation.

THEORY AND HYPOTHESES

To understand how prior founding team affiliations shape firm behaviors, it is first important to discuss how new firms are created. What brings founders and ideas together? At the extreme, the founding team comes together without a clear idea of what the potential firm will do. For example, Bill Hewlett and Dave Packard decided they wanted to start a company together, then decided what type of firm to create (Collins & Porras, 1994: 24). Their prior experiences and affiliations informed the early activities pursued and ideas generated. Indeed, the process of idea generation cannot be separated from the experiences of the founders. In many cases, an individual's experiences shape which technological opportunities are recognized (Shane 2000); thus, the characteristics, experiences, and affiliations of the team members shape the ideas and opportunities that are eventually pursued. Together an idea and the founders evolve

into a firm (Clarysse & Moray, 2004). Imagine two engineers from the same company deciding they should exploit an innovation that their current employer is not. Or imagine two sales representatives from different firms comparing notes and deciding to take advantage of a market opportunity that neither firm has acknowledged. The team and initial idea emerge in a dynamic, reciprocal fashion such that the idea is embedded in the context and experience of the founders (e.g., the firm and market experiences of founders shape the type of new firm created).[1]

Indeed, prior work on new ventures has shown that founders and the founding team shape a firm's initial strategies, structures, actions and performance (e.g., Beckman et al., forthcoming; Boeker, 1988; Burton et al., 2002; Eisenhardt & Schoonhoven, 1990; Gompers, Lerner & Scharfstein, 2005; Roure & Maidique, 1986). Routines and competencies are embedded in managerial experiences, and these routines are passed to new firms through employee mobility (McKelvey, 1982; Phillips, 2002, 2005). Consistent with this literature, the general argument of this paper is that shared understandings and unique knowledge are embedded in prior team affiliations which shape firm exploitation and exploration.

Common Company Affiliations and Exploitation

Distinct from the commonalities that come from a shared discipline or a prior relationship, founding teams that have worked at the same company share an understanding of how organizational work should be managed and coordinated. Founding teams with common prior company affiliations have a shared language, culture, and narratives. A shared language suggests a common perspective and trustworthiness (Tsai & Ghoshal, 1998). A shared organizational culture provides a common frame of reference, a shared vision and set of goals,

[1] Thanks to an anonymous reviewer for making this point.

and a conceptual filter that helps generate expectations about work (Nahapiet & Ghoshal, 1998). A shared narrative suggests that people from the same company will have many of the same stories and examples of appropriate and inappropriate behaviors. In fact, common work experiences affect the development of shared beliefs and culture as well as firm performance (Baron, Burton & Hannan, 1996; Chattopadhay, Glick, Miller & George, 1999). Eisenhardt and Schoonhoven (1990) find that founding teams with joint prior work experience have higher levels of growth than teams with less overlapping experience. These studies discuss the cohesion stemming from having worked together in the past; but I argue that this cohesion may result from shared affiliations rather than direct experience with one another.

When founding teams share some common prior company affiliations, they share routines that aid the firm in "the exploitation of old certainties" (March, 1991: 71). Commonality will help teams be efficient and improve incrementally on existing processes or practices. Routinization and implementation is faster and easier when team members have shared understandings because team members will quickly agree on what needs to be done and how to do it. Of course, people from different companies will have some shared understandings (e.g., if they are from companies with similar strategies), but the level of mutual understanding and shared tacit knowledge will be greater when teams have shared affiliations.

When two founders come from the same prior company, they are more likely to talk to each other about the firm-specific knowledge that they share. This is consistent with the common knowledge effect: people talk about what they have in common (Stasser, Taylor, & Hanna, 1989). Firm-specific shared knowledge among founders encourages local search because team members find discussion straightforward, disagreements minimal, and the appropriate actions

relatively clear. Taken together, this suggests common prior company affiliations among the founding team will encourage incremental innovation or, in other words, exploitation.

Exploitative behaviors are those that build upon existing products and technologies and seek competitive advantage through technical enhancements or cost advantages. Exploitation requires the efficiency and consistent implementation that common understandings facilitate. If all founders come from a similar starting point (e.g., the same company), a narrower range of experience and knowledge suggests firms are more limited in their routines and competencies and thus less likely to discover an innovation that is not readily apparent (Levinthal, 1997).

Firms pursuing exploitation will bring a product to market more quickly because they have the required routinization and standardization to move swiftly. In addition, the trust that arises from shared understandings will increase the speed of strategic decision making (Talaulicar, Grundei & Werder, 2005; Tsai & Ghoshal, 1998). Common understandings facilitate the execution and implementation of ideas (Williams & O'Reilly, 1998); indeed, Schoonhoven, Eisenhardt & Lyman (1990) argue that joint work experience increases trust, common goals and mutual understandings, thereby decreasing the time inefficiencies of learning new roles and expectations. This, they argue, should translate into a shorter time to first product shipment. Similarly, Reagans, Zuckerman, and McEvily (2004) find that shared work experience results in shorter project duration. The argument of this paper is that having worked at the same company, even if not together, will also result in faster time to market because of the language and understandings that founders share from their prior company affiliations.

Counter examples exist of spin-offs pursuing exploration strategies (like from Fairchild Semiconductor), but these examples, as the analysis demonstrates, are not typical. Generally, a group of founders breaks off from their employer to fill a particular competency niche. The

innovativeness achieved by the founding team with common prior experiences may be quite high if the founding team spins off from parents that themselves have innovator strategies (Christensen, 1993), but spin offs generally exploit existing technologies rather than introduce new innovations (Klepper, 2001). A founding team from the same parent is more often involved in extending and utilizing knowledge that the parent company has little interest in pursuing – not in pursuing a technology at the knowledge frontier. It is also important to point out that not all teams with common prior company affiliations are spin-offs because team members may not come directly from that company and they may not have been there at the same time.

Hypothesis 1. Founding teams with common prior company affiliations are likely to engage in exploitative behaviors.

Diverse Company Affiliations and Exploration

Although common company affiliations may give a team shared understandings, firms also need access to external social capital to improve the amount of available information. External social capital refers to the actual and potential resources, outside information, and new ideas obtained through external ties (Adler & Kwon, 2002). External social capital can come from a wide range of places, such as alliances, joint ventures, and professional associations, but the prior company affiliations of founding teams are likely to be an important source of such social capital at firm founding (Burton et al., 2002). Consider again the earlier example of an all-Apple team and a team from three different companies. The team from three different firms has access to significantly more external social capital. While common prior affiliations build internal communication, diverse prior affiliations provide new insights and knowledge that allow firms to pursue explorative, innovative behavior. External social capital increases the heterogeneity of available information, encourages deeper deliberations and discussions about

the reasons for variety, and can result in debate and the surfacing of new alternatives (Beckman & Haunschild, 2002).

Innovation often comes from bringing together knowledge from disparate places (Damanpour, 1991; Hargadon, 2003; Rodan & Galunic, 2004; Schumpeter, 1934). Katila (2002) finds innovation comes from old extraindustry knowledge. The creativity literature suggests that access to diverse information, ideas and alternatives stimulates creativity and ground breaking advancement (Amabile et al., 1996; Perry-Smith & Shalley, 2003). Thus, access to information, contacts, and perspectives from a diverse set of company affiliations should encourage and facilitate exploration and innovation. These firms will have the internal variety and external reach to develop new technologies and markets. As Kanter (1988) argues, "[c]ontact with those who see the world differently is a logical prerequisite to seeing it differently ourselves" (175). This ability to gather information, adapt and innovate is consistent with the pursuit of technical innovation. Explorative behaviors are those that seek to win a technology race in a new niche or attempt to gain competitive advantage by being the first to develop new, hitherto unproven, technologies. Innovators develop routines and competencies that are different from existing organizations (Aldrich & Martinez, 2001), and teams with a diverse network are more likely to engage in innovative activities (Ruef, 2002). When founders come from a range of prior companies, the common knowledge they share includes broader market issues. Sharing broad-based market knowledge will encourage innovation and the development of new technologies more than a discussion of narrow firm-specific knowledge because teams with a variety of former company affiliations have different understandings about technical procedures, customer requirements, productive organizational cultures, and appropriate routines and processes. In fact, unique knowledge is more likely to be shared and integrated in teams where people are not

familiar with one another (Phillips, 2003). Thus, founding teams that draw on diverse prior company affiliations are more likely to pursue explorative behaviors because they have the knowledge and capacity to innovate.

Founding teams with a broad range of prior company affiliations have, in addition to a wealth of collective internal knowledge, a wide range of potential contacts and diverse relationships on whom to draw. Access to diverse contacts may increase firm centrality, which further privileges the firm to a variety of information. In fact, an "exploration" trap refers to the pattern of behavior where firms continue to seek new and different ideas, without fully exploiting earlier ideas (March, 1991). Entrepreneurial firms are often trapped in this type of exploration (Aldrich, 1999). This suggests that firms with diverse affiliations will not be tied to a particular idea, and different ideas will be pursued. Not only will diversity of affiliations encourage new and innovative behaviors, but, consistent with the nature of innovation, frequent change. Thus:

Hypothesis 2. Founding teams with diverse prior company affiliations are likely to engage in explorative behaviors.

Managing Exploration and Exploitation

The paper thus far suggests that the prior company affiliations of the founding team shape exploitative and explorative firm behavior, but it has not addressed the outcomes associated with these behaviors. Research on organizational ambidexterity suggests that firms capable of both exploring and exploiting do better than firms rooted in either one (Gibson & Birkinshaw, 2004; Katila & Ahuja, 2002; Tushman & O'Reilly, 1996). For example, He and Wong (2004) find firms that have both exploitative and explorative innovation strategies have higher growth rates than other firms.

Existing research focuses on the structural and cognitive requirements for a firm to both explore and exploit (Tushman & O'Reilly, 1996; Smith & Tushman, 2005). For example, Tushman and O'Reilly (1996) describe organizations with ambidextrous organizational forms. Loosely coupled units maintain different selection and search criteria, which allow both exploration units and exploitation units to operate. It is the group or individual at the top that must manage across these subunits (Smith & Tushman, 2005). Within a larger ambidextrous organization, where some units explore and others exploit, this can lead to exploration *and* exploitation at the organization level. In entrepreneurial firms, however, the organization is more likely to exist as a single business unit.

The question that surfaces, then, is whether the same team can engage in both explorative and exploitative behaviors. Brown and Eisenhardt (1997) observe entrepreneurial firms that shift from exploration and exploitation through sequential attention or rhythmic pacing. This is distinct from contextual ambidexterity (Gibson & Birkinshaw 2004) where organizations manage to simultaneously reinforce adaptation and alignment tendencies (akin to exploration and exploitation) within the same organizational subunit. Contextual ambidexterity and rhythmic pacing both suggest that the same organizational units, and thus the same organizational personnel, can engage in both explorative and exploitative behaviors either sequentially or simultaneously with the right organizational context. Despite this possibility, in the studies above the numbers of ambidextrous business units and firms are small. This suggests engaging in both exploration and exploitation may be particularly difficult. I argue the pattern of affiliations on a founding team may be important in understanding which firms are able to do both and thus be important in understanding firm performance.

If founding team affiliations predict exploitation and exploration, firms should see performance benefits when their founding teams have both common and diverse prior company affiliations. Diversity of prior affiliations alone will not improve performance because diversity encourages innovation but not implementation. Common prior affiliations alone will not improve performance because shared affiliations promote efficiency but not new discoveries. Teams with both common and diverse prior company affiliations will have the shared understandings to efficiently transmit knowledge and the unique perspectives to support innovation and change.

This performance benefit should be maintained over time for several reasons. First, the founding team creates the initial structures and processes that shape future actions (e.g., Beckman & Burton, 2005). This suggests the founding team will leave a lasting imprint, and a team with both common and diverse founder affiliations will leave an imprint that provides the basis for both exploration and exploitation. In addition, although the founding team is eventually replaced or supplemented with other managers, evolutionary arguments of path dependence and inertia find that subsequent teams are shaped by the founding team (Aldrich, 1999; Baron, Burton & Hannan, 1996; Beckman & Burton, 2005; Phillips, 2002, 2005). Through an attraction-selection-attrition cycle (Schneider, 1987), founders select managers like them, and managers that do not fit the existing organization leave. Thus, patterns of founding team affiliations will be perpetuated over time. As a result, firms whose founding teams have both types of affiliations will be more likely to recruit managers with both types of affiliations. Taken together, this suggests that founding teams with both common and diverse affiliations will both explore and exploit over time. He and Wong (2004) point to performance benefits for those firms that explore and exploit, thus:

Hypothesis 3. Firms whose founding teams have both common and diverse prior company affiliations will have higher levels of performance.

DATA AND METHODS

Sample

Data for this study were drawn from a longitudinal study of more than 170 young high-technology firms in California's Silicon Valley (for sampling details, see Baron et al., 1996). The sample focused on a subset of high technology industries: computer hardware and/or software, telecommunications (including networking equipment), medical and biological technologies, manufacturing, research, and semiconductors. By focusing on firms within a single region and a narrow range of similar industries, constant key labor market and environmental conditions are held constant. Sampled firms had at least 10 employees and were no more than 10 years old at the time of first contact in 1994-95 (Certo, Covin, Daily & Dalton, 2001, use a similar age cutoff). About half of the firms were founded before 1989, with a range of 1982 to 1995.

Interview, survey, and archival data were collected to gather data on the founding and evolution of these companies. Trained MBA and doctoral students conducted semi-structured interviews with a member of the founding team to gather information about the firm formation and early practices. From the interviews, data on the background and experience of the founding team were obtained. The interview was supplemented with archival data on the firm and initial founding team. Data were collected for all firms from founding until they were acquired, died, disappeared, or until July 2001. At the point of the last observation, the median firm was thirteen years old, with a range of four to 21 years. Of the 173 firms in the initial sample, I dropped 14 firms from the analysis because of missing data on key variables and an additional 18 because they were founded by solo entrepreneurs, giving a final sample of 141 firms. I eliminated solo

entrepreneurs because, although a solo entrepreneur can have narrow or diverse prior company affiliations, the notion of shared understandings is more consistent with a team. Although a team of two may operate differently than a larger team, two founders were considered a team because they exhibit team characteristics: ongoing interaction, interdependence, shared responsibility and identification as a social entity (Cohen & Bailey, 1997).[2] To account for differences in team dynamics as a result of team size, I included the number of founders as a control in all analyses.

I constructed the key study variables from the career histories of individual team members. Career backgrounds were hand collected for every founder and executive who held the role of vice president or higher from a variety of sources including: interviews, internal company documents, SEC documents, *Lexis/Nexis* news searches, *Dow Jones Interactive, Edgar Archives*, *The San Jose Mercury News*, and extensive web searches. The human resources department was contacted for 20% of the firms to confirm the founder's prior place of employment. It was confirmed that at least 38 founders started the company directly after school, so their prior employment experience was non-existent. For founders with no background experience, it was difficult to ascertain whether there was no data because the founder had no prior jobs, or whether the experience was simply not reported in available sources. There is likely some bias toward large, established firms being mentioned in press accounts (although the local paper tracks the personnel of a good number of large and small companies in a regular column). However, since job history interviews were not administered to every executive, these data are imperfect records of entrepreneurs' career histories. That said, at least four complete searches were conducted for

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[2] Similar results are obtained when including the 18 firms with solo entrepreneurs and when excluding the 52 two-person teams.

each person and thousands of person-hours were spent searching for career data on all team members. The career data were updated monthly (for the analyses presented here, data are collapsed to yearly team-level observations) for the entire time frame. A mean of two positions for each executive was collected, including employer identity and job title, with a maximum of six positions. The resulting dataset contains 1,948 distinct employers and 6,643 person-positions.

To investigate the sequence of events leading to firm formation, I coded and analyzed interviews with founders where stories of firm formation were recounted. The data is consistent with the idea that the founding team and initial idea evolve together in the early days of a firm's life. This is contrasted with established firms where managerial selection is often driven by the needs and espoused strategy of the firm (Fligstein, 1987). In reporting key events on a founder survey, 62% of the firms reported that employees were hired before product development or legal incorporation. The sequence of firm formation was coded from the interviews by two people blind to study conditions (kappa-statistic .69; ICC .78). For example, firms could be coded as a spin-off, as a restart, as a firm that began with a team that wanted to be entrepreneurs, or as a solo entrepreneur that began with a specific idea then sought out team members. In the 100 interviews where there was enough data to code the sequence, 64% of the firms reported the team evolved before or with the idea. In the remaining firms, one founder often had a specific idea before bringing on other founders. As other founders are brought in, the idea is fine-tuned and a strategy developed. Again, ideas develop in the social context in which they operate. To argue that firm strategy drives team selection ignores the dynamic process of firm formation where these decisions co-evolve.

A t-test indicates that the sequence variable varies neither by the type of prior company affiliations nor by whether the firm has an exploration strategy. Interestingly, firms with an

exploitation strategy are more likely to have a founding team that was formed prior to the firm idea. This points to a subset of firms where a group of entrepreneurs come together first, then decide which idea to exploit or pursue. The sequence variable was included as a control in supplementary analyses. The results described below remain significant (with the exception of firm growth which becomes marginally significant at $p<.10$) despite the significantly reduced number of observations. Taken together, this supports team formation and idea generation as a dynamic, reciprocal process.

Dependent Variables

In order to predict whether founding team prior company affiliations are associated with explorative or exploitative behaviors (H1 and H2), several outcomes are examined. Maximum-likelihood logistic regression is used to predict whether the firm pursues an exploration strategy and changes initial ideas (change is consistent with pursuing an exploration strategy). ML logistic regression is also used to predict the pursuit of an exploitation strategy, and event-history analysis is used to examine time to first product (speed of product shipment is consistent with pursuing an exploitation strategy).

For Hypotheses 1 and 2, the strategic behaviors and intentions that comprise firm strategy are examined. Most of the organizational strategy typologies employed by empirical scholars allow for the distinction between innovators and incrementalists (e.g. Miles & Snow, 1978; Porter, 1980). A theme across all of the typologies is the importance of differentiating firms that are exploiting an existing market from those that are exploring or creating a new market. In the interviews, founders reconstruct early firm actions. Each founder was asked to describe the core competence of the firm at founding. The open-ended response (supplemented by early press reports, product announcements, business plans and prospectuses) comprised the raw data that

was used to categorize each of the firms into one of four strategic archetypes: Innovators, Enhancers, Marketers and Low-Cost Producers (see Hannan, Burton & Baron, 1996). Innovators seek to gain first-mover advantages by winning a technology race. Firms that explore may also pursue other strategies, but here the focus is on exploration through technical innovation. Exploration strategy is equal to 1 if the firm had a technical innovator strategy and 0 otherwise (48% of the sample firms). Enhancer firms seek to produce a product similar to other companies but develop a general modification or enhancement to gain competitive advantage. Low Cost Producers are firms that seek cost advantages through efficient production techniques, relationships with low cost suppliers, or economies of scale. The Enhancer and Cost strategies both revolve around extending existing products or services and are coded as pursuing an exploitation strategy; exploitation strategy is equal to 1 if the firm had an enhancer or cost strategy and 0 otherwise (25% of the sample firms). Firms with marketing strategies seek competitive advantage through superior sales, marketing or customer service, and this does not clearly fall into an exploration or exploitation strategy. The remaining 27% of the sample firms had marketing or hybrid strategies.

There is reason to be confident that the strategy measures capture differences in firm behavior with a high degree of accuracy. Respondents were not asked to classify the strategies themselves; rather two people independently coded strategies in an iterative fashion based on the interview and archival research. A list of phrases and words were created to assist in coding. For instance, firms with exploration strategies used words like “forefront”, “pioneer”, “first-mover”, “innovation” when discussing their activities. Firms with exploitation strategies used words and phrases such as “clone”, “low cost”, “better design”, and “feature-rich.” Disagreements were reconciled through discussion with both coders by a third person. Hellmann and Puri (2000)

perform a number of post-hoc analyses of these same firms, linking patenting activity to these firm strategies. They find that innovators accumulate larger patent portfolios, generating further confidence that the measure captures actual firm behaviors. These strategies describe the initial activities and behaviors of the firm as recounted by the founder and early press releases. In later interviews, it was determined whether the initial firm strategy changed (e.g., from innovator to incremental). Although not the focus of this paper, these initial strategies were relatively stable in the early years of a firm's life (Hannan, Burton & Baron, 1996).

In addition to the above coding, I used two additional measures of exploitation and exploration. Firms with exploitation strategies are likely to ship products more quickly. The date of product shipment comes from a founder survey. Not all founders completed the survey, but interviews and other company data were used to supplement when possible. Firms with exploration strategies are likely to change ideas or direction more often than other firms. In fact, changing products or marketing channels is an important part of exploration. In order to measure whether the founding idea changed, two independent coders examined the interview transcripts. The interview did not contain enough information to adequately code this dependent variable for a sizeable number of firms. Thus, there are 68 observations for Model 3 in Table 4 (Hypothesis 2). The coders examined ten transcripts to develop and agree on a coding scheme then independently coded the other transcripts. Differences were resolved through discussion, and the initial agreement was substantial (.76 kappa-statistic; .83 ICC). The coding scheme for the founding idea included "stable", "elaborated", "one major restart", "multiple ideas pursued", and "multiple ideas considered." The variable was coded 1 if the initial idea changed and 0 if the idea was stable or elaborated.

Hypothesis 3 predicts firm performance. In new ventures, firm growth is an important marker of success (Eisenhardt & Schoonhoven, 1990). Particularly in this time period and region, firms desire growth. Thus, new ventures founded with both types of affiliations should grow more quickly because the resources, routines and behaviors of these founding teams support both exploitative and explorative behaviors. Firm growth is measured as growth in employees. A proportional firm growth measure was created:

$$G_{i,t} = \log(Emp_{i,t+1}/Emp_{i,t})$$

where *Emp* is the number of employees for the i^{th} firm and *t* represents the yearly time period. The number of employees was measured at the end of a given year and was collected through survey and archival sources.

Independent Variables

Using the career histories described above, the most recent three firms for which each founder had worked were identified. Three past company affiliations were used although results are similar when using one prior company affiliation for each team member and all available data. Diverse prior company affiliation is a count of the number of discrete prior firms across all members of the founding team. Common prior company affiliation is a count of the number of firms at which more than one member of the founding team worked. For example, if one founder had worked at Apple, another founder at Global Village and Apple, and a third at Fairchild Semiconductor, Apple, and Applied Materials, the founding team was coded as having one common (Apple) and four diverse (Apple, Global Village, Fairchild, Applied Materials) prior company affiliations. Results are the same if diverse affiliations only include those firms where there was no overlap (three in the above example), but I include all discrete firms because ideas come from the full range of prior companies in which founders have worked. There was a .15

correlation between common prior company affiliation and diverse prior company affiliation at founding. These measures are calculated at founding and thus are not time-varying because imprinting arguments suggest that these founders will have a lasting impact even when those founders leave and new managers join the firm. This impact occurs through subsequent recruiting of similar others and established routines and practices that will remain past the founder's employment at the firm (Beckman & Burton, 2005; Phillips, 2005).

Control Variables

Industry. Some industries may be more likely to adopt a particular strategy or develop a product quickly. For example, biotechnology firms are more likely to have exploration strategies and ship products late in the firm's lifecycle. Preliminary analyses revealed that the medical-related industry (including medical devices and biotechnology), networking and telecommunications industry, and the manufacturing industry were significantly different from other industries (results available from author). Those industry dummy variables that were significantly different from the other industries were included in each set of analyses.

Venture capital. An important external factor to consider when predicting speed to product shipment is whether the firm obtained venture capital (VC) backing. VC financing data was collected via a combination of public and proprietary databases, SEC filings and annual reports, internal company documents and a survey instrument that was sent to the most senior finance executive at each of the firms (see Hellmann & Puri, 2000). The number of cumulative VC rounds obtained by the firm in each year is included in Table 3 and 4.

Firm Controls. Exploration and exploitation strategies are used as control variables when examining firm performance and time to product shipment, and they are described above. Product shipment speed and growth may depend on firm size, so number of employees is

included in Tables 3 and 4. Firm growth may also be a function of firm age, so firm age (in months) is included in Table 4.

Team Controls. Larger founding teams have the potential for both more diverse and more common past company affiliations. Founding team size was coded as part of the interview process and corroborated with the career history data. Founding team size ranged from two to twelve (with a mean team size of 3.3) and was included in all analyses. I included the proportion of founders currently employed by the firm for Tables 3 and 4 to account for changes in the founding team over time. Hypothesis 3 examines firms over time, so it is important to control for changes in the top management team from founding. I include top management team size, cumulative executive entrances and exits in Table 4. In so doing, I can be certain there are lasting effects of the founding team over time, regardless of how these teams have changed over time.

RESULTS

Table 1 presents the descriptive statistics and correlations among the study variables. Although cumulative entrances and exits are highly correlated with firm age, firm size, and top management team size (ranging from .4 to .8), the effects for team affiliations do not change with these variables in the model.

Table 2 examines the effect of founding team prior company affiliation on firm-level strategy. The Pearson ?2 goodness-of-fit test suggests a reasonable model fit for all models (not reported). Model 1 presents the control variables. The medical industry (biotechnology and medical devices) is 7.8 times more likely to have an exploration (i.e., innovator) strategy. As predicted, Model 2 demonstrates that founding teams with diverse prior company affiliations are more likely to have an exploration strategy. Model 3 replicates the finding in Model 2 and also finds that founding teams with prior common company affiliations are less likely to have an

exploration strategy (which is not hypothesized but is consistent with the theory). Odds-ratios are reported, so Model 3 suggests teams with one more diverse prior company affiliation are 1.22 times more likely to have an exploration strategy. The pseudo R^2 in Model 3 is .126, and the overall hit rate of the model is 67%. This suggests, although industry is the largest predictor of an exploration strategy, there is also strong support for Hypothesis 1.

Model 4, with the control variables, shows that firms in the manufacturing industry are significantly more likely to have an exploitation (i.e., incremental) strategy.[3] Model 5 demonstrates that firms with prior common company affiliations are more likely to have an exploitation strategy. Model 6 adds diverse prior company affiliations to be sure that the relationships are consistent with the theory (which means not significant in this model). Model 6 confirms Model 5 and thus Hypothesis 2 is supported. The overall hit rate of the model is 75%, and teams with one additional common prior company affiliation are 1.41 times more likely to adopt an exploitation strategy. Although the pseudo R^2 is only 5%, results do show that common prior company affiliations predict exploitation rather than exploration strategies. This is consistent with prior work on spin-offs (Klepper, 2001) although not all teams with common prior company affiliations are spin-offs. In sum, founding teams that have worked for some of the same prior companies are more likely to pursue an exploitation strategy and less likely to pursue an exploration strategy; whereas the behavior of founding teams from different prior companies are more likely to support an exploration strategy.

Models 7-9 examine the effects of team affiliations on the stability of the initial idea. Model 7 includes the control variables. Large founding teams are 60% more likely to change the

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[3] The medical industry drops out because no firms in that industry pursue an incremental strategy.

basic firm concept. Model 8 supports Hypothesis 2 and shows that when firms have an additional diverse prior company affiliation, the initial idea is 38% more likely to change, and the overall hit rate of the model is 88%. Although no industries are significant, industry is included for consistency with earlier models.[4] Thus, founding teams with diverse prior affiliations are more likely to explore and change ideas.

Table 3 examines the effect of founding team common prior company affiliation on time to first product shipment, another indicator of an exploitation strategy. Model 1 reports the control variables and the most important predictor of time to market is industry. Hazard ratios are reported, so firms in the biotechnology/medical industry have a 61% lower hazard rate for product to market (biotech firms take much longer to bring a product to market). Firms with an exploitation strategy and firms that are larger bring a product to market more quickly, and large founding teams are slower to bring a product to market. In support of Hypothesis 1, Model 2 shows that founding teams with prior common company affiliations bring a product to market more quickly. The effects are not as large as the other variables in the model, but an additional common prior company affiliation increases the hazard rate by 9%. Model 3 demonstrates that it is common prior affiliations, not diverse prior affiliations that increases speed to market.

Table 4 presents the results of panel random-effects GLS regression with robust standard errors clustered by firm to examine whether founding team affiliations have a long-term impact on the firm (Hypothesis 3). Model 1 presents the control variables alone. Firms in the telecommunications industry are more likely to grow, and teams with high levels of TMT exit

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[4] The manufacturing industry drops out of the model because the idea never changed for any firm in the manufacturing industry.

are less likely to grow. In addition, older firms are less likely to grow. The next model examines whether founding teams with diverse and common prior company affiliations are more likely to grow. There are no interaction effects between the continuous diverse and common prior company affiliation variables. I examined the distribution of the continuous variables and found that common prior company affiliations were often zero. I then created variables using a median split for both affiliation variables. The median founding team in the sample had no common affiliations and had prior experience in three companies, so founding teams above the median on both dimensions were coded as having both high diverse and common affiliations. To be clear, common prior company affiliation was coded one if any of the founders had worked at the same prior company. Diverse prior company affiliation was coded one if the founding team had worked at three or more unique prior companies. I then created four additional dummy variables: founding teams with both high diverse and common affiliations; common and low diverse affiliations; high diverse and no common affiliations; and low diverse no common affiliations. 22% of the firms were coded in the high prior diverse and common company affiliations, and 32% were coded as low prior diverse and no common company affiliations. By creating dummy variables, it is clear that only firms that have *both* diverse and common prior company affiliations receive performance benefits.

Model 2 includes the high diverse/ common category with all other founding teams as the omitted category. Founding teams with common and high diverse prior company affiliations are more likely to grow. This offers support for Hypothesis 3. I calculated the growth rate from coefficients in Model 2 and found that firms whose teams have common and high diverse prior company affiliations have a 19% higher growth rate than other firms. Model 3 confirms that these effects hold when low diverse/no common prior company affiliations are the omitted

category. Despite the small change in R^2, the hypothesized variables significantly increase model fit. These results give us some evidence that firms with both common and high diverse prior affiliations (those teams that engage in explorative and exploitative behaviors at founding) are more likely to grow. It is important to note that these founding team variables are significant despite controlling for changes to the team over time. The founding team leaves a lasting impact that shapes firm growth. In supplementary analyses, I also control for functional diversity and later team affiliations. None change the hypothesized effects.

I also examined whether founding teams need aligned experience and strategy (e.g., do founding teams with common prior affiliations do better when the firm also has an exploitation strategy?). In supplementary analyses, there was no evidence that firms benefited from founding teams with prior company affiliations and a consistent strategy (e.g., exploration strategy with diverse affiliations). This suggests that, although prior company affiliations shape the *likelihood* of engaging in one pattern of activities or another, it does not necessarily shape the *success* of those particular activities over time. Yet it is those firms with both types of founding team affiliations that do better. The results in Table 4 suggest that initial team affiliation is linked to overall firm growth. Perhaps prior founding team affiliations that are both diverse and common may allow a firm to hire the personnel most necessary for the firm to succeed (Beckman & Burton, 2005) or to engage in exploration and exploitation behaviors that are not examined here.

DISCUSSION

Overall, the results suggest that founding team prior company affiliations predict whether a firm pursues exploratory and exploitative behavior, and they also suggest that firms whose founding teams have both types of affiliations are more likely to grow over time. In general, these results support a strong relationship between founding team affiliations and consistent

patterns of firm behavior. The mechanisms suggested for these linkages are the shared understandings that emerge from common prior company affiliations and the creativity associated with diverse prior company affiliations. Shared understanding suggests easier implementation and speed whereas unique knowledge is associated with innovation and change.

This paper challenges and extends recent work on exploration and exploitation. I examine the antecedents of exploration, exploitation, and organizational ambidexterity, and the results question how a manager might help a firm develop an "ability" to manage exploration and exploitation (Smith & Tushman, 2005). These results suggest that both exploring and exploiting may require teams to draw on both the common and unique experiences of the team, but to date research seems to advocate managerial insight and planning rather than choosing team members with the best set of experiences. This paper suggests that teams are more constrained by history than current work suggests and that differences in firm exploration and exploitation are built in at team formation. Thus, ambidextrous firms may be those firms whose teams have significant common and diverse experience at founding.

For learning theories, these results confirm that initial starting positions shape the potential for change and growth (Levinthal, 1997). The link between firm growth and founding team affiliation is consistent with the path dependencies of learning. Furthermore, research suggests founding teams are generally formed for reasons of convenience not strategy (Ruef, Aldrich & Carter, 2003). This suggests the founding team's ability to support innovation and incremental learning may be an accident of founding.

These findings also contribute to network theory in important ways. The benefits of common and diverse company affiliations are similar to network arguments for cohesion and structural holes. In network theory, dense connections between team members may hinder

exploration but aid exploitation (Coleman, 1988). In contrast, structural holes, where actors have access to disconnected others with non-redundant information, increase a firm's ability to explore and reach diverse information (Burt, 1992). However, past company affiliations do not align with network concepts in several important ways. First, networks may exist without an affiliation. Second, founding team members with the same affiliation may not have a prior relationship because they worked in different divisions or at different times for the organization. In fact, in this data the correlation between whether the founding team members knew each other previously and whether the founding team was from a common set of past companies was .17. The correlation was much higher when founders were co-workers (because by definition at least some of the founders simultaneously shared company experience), but including coworkers as a control does not change the pattern of reported results. This demonstrates that, in addition to shared norms developing through close relationships, shared values and understandings develop through identification and experience with a common former organization. The affiliations that I examine are similar in concept to the study of affiliation or membership networks, where individuals are connected through events (Wasserman and Faust, 1994). But even in this work the focus is on the direct ties formed through shared affiliations. Company affiliations offer an alternative means of developing cohesion or obtaining diverse knowledge without assuming prior dyadic relationships.

For managers, this research suggests that more attention might be usefully spent at founding creating a team with both common and unique prior company affiliations. This is not to say that, without such initial team planning, history dictates firm outcomes. The multiple means by which shared understandings and diverse knowledge can be obtained should be acknowledged. However, rather than focus solely on functional experience, race, or gender, this

research suggests a more subtle experience that shapes perceptions and alters team dynamics – prior company affiliations. These affiliations are important for managers to consider as are the more general benefits of accessing unique knowledge and having shared understandings.

Limitations and Future Research

To be certain, this analysis does not capture all exploration and exploitation behaviors. I focus on behaviors associated with exploitation and exploration strategies, but affiliations may lead to broader patterns of exploration and exploitation. For example, there is evidence that a key means by which firms engage in exploration is through maintaining relationships with other firms (Brown & Eisenhardt, 1997; Rosenkopf & Almeida, 2003). In supplementary analyses team-level affiliations are unrelated to the initial number and range of external advisors; but, prior company affiliations may be influential in predicting specific external relationships. A longitudinal study of external partnerships is a promising topic for future research.

Future research should also examine these issues in other samples of firms. For two key reasons, this sample is success-biased. First, the sample of firms is observed during the 1980s and 1990s. The latter half of the 1990s was an extraordinary economic time in general, and in particular in Silicon Valley. Thus some of the sampled firms may have survived longer than they would have in another time period, buoyed by the optimistic financial markets. Second, the nature of the sampling frame (i.e., at least ten employees) means that the firms under investigation have achieved some minimum scale. Despite this data limitation, the sample has some noteworthy advantages for the purposes of this study. The sample spans a range of industries, includes firms that do and do not receive venture capital, go public, become successful. This in itself is quite unusual. Due to data limitations, much of the research in this

vein looks only at firms that receive VC or have gone public. Although many valuable things can be learned from that type of research, this sample gives a much broader range of firms.

It is important to acknowledge that the firm strategy may emerge with the team itself. I control for variables that might plausibly drive both founding team selection and firm strategy (i.e., industry and team size). Additionally, supplementary analyses suggest firm strategy does not predict later top management team affiliation. This suggests the causality more often works in the direction hypothesized: founding teams shape firm strategy and/or the strategy and team evolve together. By examining other behaviors that indicate explorative and exploitative behavior that clearly happen after team formation (product shipment, changing the idea pursued by the firm), the analysis demonstrates a broad pattern consistent with the hypothesized causality. Yet future research on firm and team formation could further illuminate these causal processes.

The concept of a common affiliation with an organization, even though the actors may have had no direct contact, is an important contribution of this work. Future research should examine the influence of these types of "connections" or affiliations that are neither actual relationships nor between structurally equivalent actors. Network theory needs to expand the study of networks beyond strong ties (see Lawrence, forthcoming) and to revisit affiliation networks as institutional affiliations rather than precursors to dyadic relationships. Take, for example, two individuals who went to the same college several decades apart. Although the two individuals did not meet at school, they share a language about people, places and things, as well as often a feeling about the cultural experience, that gives them a common bond. Thus, the shared understandings that develop through common past affiliations are similar but distinct from bonds that develop through direct relationships. These types of connections may be formed

through common schooling or company affiliation, or through intense professional training (e.g., advanced educational degrees). The relevance of these common past affiliations may vary depending on the other relationships and attributes salient on the team.

This research also informs research on spin-offs. Although not all founders with common prior company affiliations are creating a spin-off from a parent firm, it is the case that all spin-offs have founders with common prior company affiliations. Although research has often suggested that spin-offs are the source of new innovations (e.g., Christensen, 1993), there is more evidence consistent with spin-offs as exploiters of existing technology (Klepper, 2001). The results of this study are consistent with those of Klepper (2001) and raise the question of whether, in spin-offs, exploitation comes from the team's shared understandings or the technology available to exploit from the parent. This paper finds that teams with common prior company affiliations are more likely to have an exploitation strategy, and these teams are also likely to have been formed before the idea was settled on. Future research could help better understand the mechanisms that lead spin-offs to exploit and examine details about the parent firm. For example, does the innovativeness of the parent moderate the effects found here?

In conclusion, by examining the antecedents of explorative and exploitative behavior in organizations, this paper develops links between the team and firm level of analysis. Team-level prior company affiliations, and experiences more generally, influence firm-level choices and behaviors. I find that common founding team affiliations are related to faster product shipment and an exploitation strategy; whereas diverse team affiliations predict an exploration strategy and change in the founding ideas. Those firms that have founding teams with both diverse and common affiliations are more likely to grow over time, which suggests team composition is an important component of firm ambidexterity. By examining new ventures, this link can be

demonstrated without the confounding influence of prior firm actions and expectations. The study both points to the importance of people and the constraints faced by people in the creation and growth of organizations.

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Table 1. Descriptives and Correlations

	Mean	S.D.	Min	Max	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1. FT Diverse Aff.	3.333	1.992	0	11	1.000										
2. FT Common Aff.	1.021	1.355	0	7	0.149	1.000									
3. Exploration Strategy	0.482	0.501	0	1	0.069	-0.072	1.000								
4. Exploitation Strat.	0.248	0.434	0	1	-0.105	0.067	-0.520	1.000							
5. Medical Industry	0.156	0.364	0	1	-0.098	-0.184	0.350	-0.250	1.000						
6. Telecom Ind.	0.206	0.406	0	1	0.167	-0.076	-0.155	0.076	-0.236	1.000					
7. Manufacturing Ind.	0.057	0.232	0	1	-0.194	-0.104	-0.207	0.141	-0.100	-0.121	1.000				
8. FT Size	3.326	1.610	2	12	0.021	0.460	0.105	-0.078	0.071	-0.054	-0.077	1.000			
9. Firm Size	2.473	14.798	0	380	0.048	0.049	0.029	-0.016	-0.040	0.106	-0.033	-0.030	1.000		
10.Idea Change	0.129	0.337	0	1	0.224	0.342	-0.099	0.165	-0.097	0.256	-0.066	0.331	0.062	1.000	
11.VC Financing	2.618	2.623	0	11	0.003	-0.052	0.189	-0.056	0.122	0.023	-0.216	0.012	0.044	-0.089	1.000
12. Executive Exits	3.278	5.471	0	43	0.031	0.163	0.046	0.022	-0.007	0.064	-0.129	0.091	0.425	0.000	0.297
13. Exec. Entrances	6.743	6.250	0	44	0.046	0.199	0.089	0.021	-0.022	0.082	-0.172	0.081	0.442	-0.020	0.344
14. TMT Size	4.290	3.378	0	29	0.103	0.171	0.053	-0.006	-0.011	0.102	-0.161	0.065	0.192	-0.024	0.251
15. Firm Age	6.998	4.284	1	21	-0.032	0.042	-0.087	0.010	-0.012	0.074	-0.051	-0.007	0.214	0.129	0.352
16. Firm Growth	0.244	0.447	-4.025	3	0.062	0.023	0.022	-0.043	-0.011	0.030	-0.010	-0.027	-0.042	-0.054	-0.094
17. % Founders in Firm	0.688	0.376	0	1	-0.042	-0.004	-0.036	0.034	-0.110	0.024	0.119	-0.050	-0.182	-0.140	-0.315

	(12)	(13)	(14)	(15)	(16)	(17)
12. Executive Exits	1.000					
13. Exec. Entrances	0.876	1.000				
14. TMT Size	0.285	0.677	1.000			
15. Firm Age	0.603	0.509	0.195	1.000		
16. Firm Growth	-0.203	-0.121	-0.014	-0.274	1.000	
17. % Founders in Firm	-0.593	-0.470	-0.066	-0.557	0.172	1.000

Correlations greater than .17 are significant at $p<.05$

Table 2. Results of Logistic Regression Analysis Predicting Firm Strategy and Idea Change [ab]

	Exploration Strategy			**Exploitation Strategy**			**Idea Change**		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Medical Industry	7.797***	8.657***	7.425***				0.666	0.412	0.541
	(5.126)	(5.775)	(5.038)				(0.835)	(0.608)	(0.804)
Telecom Industry	0.564	0.505	0.443*	1.667	1.774	1.951	3.491	2.734	2.619
	(0.256)	(0.235)	(0.213)	(0.780)	(0.845)	(0.952)	(3.135)	(2.580)	(2.538)
Manufacturing Industry				3.622*	4.338*	3.611*			
				(2.718)	(3.314)	(2.816)			
Founding Team Size	1.083	1.079	1.217	0.953	0.84	0.826	1.601**	1.646**	1.448
	(0.126)	(0.126)	(0.168)	(0.126)	(0.133)	(0.130)	(0.344)	(0.346)	(0.374)
FT Diverse Affiliations		**1.167***	**1.220****			0.874		**1.376****	**1.411****
		(0.113)	**(0.125)**			(0.104)		**(0.264)**	**(0.285)**
FT Common Affiliations			0.754*		**1.352****	**1.414****			1.389
			(0.121)		**(0.224)**	**(0.245)**			0.452
Exploration Strategy							0.640	0.539	0.66
							(0.571)	(0.510)	(0.653)
Observations	141	141	141	141	141	141	68	68	68
Log likelihood	-88.31	-87	-85.39	-77.1	-75.43	-74.75	-21.74	-20.29	-19.76
Pseudo R^2	0.096	0.109	0.126	0.024	0.045	0.054	0.182	0.236	0.256

[a]Odds-Ratios reported; Standard errors in parentheses.

[b]One-tailed test for hypothesized variables.

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3. Results of Event History Analysis
Predicting Speed of Product to Market [ab]

	(1)	(2)	(3)
Exploitation Strategy	1.113	1.124	1.11
	-0.194	-0.188	-0.178
Medical Industry	0.389***	0.414***	0.413***
	-0.096	-0.104	-0.103
Telecommunications Industry	1.146	1.191	1.202
	-0.149	-0.154	-0.157
Venture Capital Financing	1.100*	1.092*	1.094*
	-0.057	-0.057	-0.056
Firm Size	1.233***	1.253***	1.251***
	-0.081	-0.08	-0.081
Founding team size	0.925*	0.894**	0.894**
	-0.039	-0.042	-0.041
Proportion of founders in firm	1.518	1.43	1.438
	-0.706	-0.715	-0.719
Common FT Affiliations		**1.093***	**1.099***
		-0.058	**-0.059**
Unique FT Affiliations			0.987
			-0.036
Observations	417	417	417
Log likelihood	-547.66	-546.94	-546.9

[a]Hazard ratios; Robust standard errors in parentheses; n=138; 129 failures
[b]One-tailed test for hypothesized variables

Table 4. Panel Regression Analysis Predicting Firm Growth [ab]

	(1)	(2)	(3)
Medical Industry	0	0.015	0.015
	-0.035	-0.034	-0.033
Manufacturing Ind.	-0.041	-0.018	-0.021
	-0.031	-0.032	-0.033
Telecom Industry	0.050*	0.056**	0.053**
	-0.026	-0.025	-0.026
Exploration Strategy	-0.007	-0.008	-0.013
	-0.026	-0.026	-0.025
Executive Exits	-0.027**	-0.028**	-0.028**
	-0.012	-0.012	-0.012
Executive Entrances	0.016	0.017	0.018
	-0.013	-0.012	-0.013
TMT Size	0.003	0	0
	-0.011	-0.01	-0.01
VC Financing	-0.003	-0.002	-0.002
	-0.006	-0.006	-0.006
FT Size	-0.006	-0.007	-0.007
	-0.006	-0.006	-0.005
Proportion of founders in firm	-0.004	-0.001	-0.004
	-0.058	-0.057	-0.057
Firm Age	-0.030***	-0.029***	-0.030***
	-0.003	-0.003	-0.003
Firm Size	0	0	0
	-0.001	-0.001	-0.001
Founding Team: High		0.050**	0.075**
Common/High Diverse		-0.024	-0.032
Founding Team: High			0.045
Common/Low Diverse			-0.034
Founding Team: Low			0.032
Common/High Diverse			-0.035
Constant	0.398***	0.375***	0.357***
	-0.071	-0.069	-0.072
Observations	1368	1368	1368
Wald $?^2$	165.72	169.6	166.87
R^2	0.100	0.102	0.103

[a]Robust standard errors in parentheses; random effects; clustered by firm; n=141

[b]One-tailed test for hypothesized variables

* significant at 10%; ** significant at 5%; *** significant at 1%