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Lennart David Osses, Jannis von Nitzsch, Andreas Engelen

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Do external founder CEOs place strategic emphasis on innovation? An upper echelons perspective

Lennart David Osses | **Jannis von Nitzsch** | **Andreas Engelen**

Heinrich-Heine-University Düsseldorf, Düsseldorf, Germany

Correspondence
Andreas Engelen, Heinrich-Heine-University Düsseldorf, Universitätsstraße 1, 40225 Düsseldorf, Germany.
Email: andreas.engelen@hhu.de

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Abstract

Research compares the influence of two types of chief executive officers (CEOs) on a firm's innovation strategy: founder CEOs, who founded the firms they lead, and professional CEOs, who worked in corporations at different levels before being selected as CEOs. We introduce a third type of CEO, external founders, who founded other ventures before being appointed as CEOs. Drawing on upper echelons theory, we propose that the unique combination of external founder CEOs' values and knowledge predisposes them to place less strategic emphasis on innovation than founder CEOs do but more than professional CEOs do. Heterogeneity among external founder CEOs may be due to nuances related to their exposure to professional investors in and successful exits from the ventures they founded. We assess our hypotheses empirically using the innovation-related speech in investor communications and patent applications of 1637 CEOs of 789 S&P 500 firms from 2000 to 2019. We find that external founder CEOs emphasize innovation less than founder CEOs do, but contrary to our hypotheses, also less than professional CEOs do. However, certain nuances in external founder CEOs' founding experience bring their strategic emphasis on innovation close to that of founder CEOs. We extend upper echelons research by providing a fine-grained view of the role of (founding) experience and its qualitative nuances in shaping CEOs' strategic decision-making.

KEYWORDS

cognition, external founder CEO, innovation, upper echelons theory

1 | INTRODUCTION

Consistent with upper echelons theory (Hambrick & Mason, 1984), the innovation management literature highlights that a firm's strategic emphasis on innovation is substantially influenced by the CEO's *values* and *knowledge* gained from experiences during their careers (You et al., 2020). In particular, scholars discuss the firm-level implications of two types of CEOs of public firms, reflecting two common career paths. The career path of founder CEOs (that is, the founders of firms who are still at the helm) is dominated by their founding experience, which is characterized by a long-term orientation and substantial knowledge of how to create a business, including the pursuit of innovation (Kannan-Narasimhan et al., 2023). In contrast, the career path of professional CEOs (that is, those who are promoted to CEO positions, usually after working in corporations at various

hierarchical levels) is dominated by corporate experience, which is characterized by a short-term orientation and knowledge about how to manage operations within existing structures (Abebe et al., 2020; Nelson, 2003; Schuster et al., 2020; Zaandam et al., 2021). Empirical studies find that founder CEOs invest more in research and development (Block et al., 2013; Paik & Woo, 2017), release more patents (Block et al., 2013), and achieve higher-quality innovations (Lee et al., 2020) than professional CEOs do.

However, a third type of CEOs, who we call "external founder CEOs," have founded a venture and then transitioned to a corporate career at *another* firm. For example, former Twitter CEO Dick Costolo founded three ventures—Burning Doors Networked Media, SpyOnIt, and FeedBurner—before joining Twitter as CEO long after its foundation. Explaining how external founder CEOs influence a firm's strategic emphasis on innovation has value from both the scholarly and practitioner perspectives. From a scholarly perspective, having both founding and corporate experience, external founder CEOs offer a promising area in which to address calls in the upper echelons literature to study executives' experience in a more fine-grained and holistic manner (Bromiley & Rau, 2016; Campbell et al., 2023; Geletkanycz & Black, 2001; Wang et al., 2016). From a practitioner perspective, external founder CEOs could be effective successors to founder CEOs to ensure that the ventures maintain the strategic emphasis on innovation that will have a positive influence on firm performance (Rubera & Kirca, 2012).

While the values and knowledge of founder CEOs and professional CEOs are predominantly shaped by their founding and corporate experience, respectively, external founder CEOs have "switched career paths" (see, e.g., Crossland et al., 2014; Geletkanycz & Black, 2001) and are likely to have assembled partly conflicting values and knowledge from their founding and corporate experiences. Therefore, anticipating external founder CEOs' influence on a firm's strategic emphasis on innovation is difficult: Will they act more like founder CEOs or like professional CEOs? Predicting this type of CEOs' strategic emphasis on innovation requires not only considering how both types of experiences interact in shaping the CEOs' values and knowledge but also necessitates factoring in *qualitative nuances* in their founding experience. For example, they may have or not have been exposed to professional investors or successful exits in the ventures they founded, both of which are likely to have changed their perception of and knowledge about innovation. Therefore, we ask: *How do external founder CEOs' effects on firms' strategic emphasis on innovation compare to the effects of founder CEOs and professional CEOs? Do the nature and success of external founder CEOs' founding experiences affect how they influence their firms' strategic emphasis on innovation?*

Practitioner Points

- When boards consider who should succeed a founder CEO, external founders might not be a straightforward choice, as—on average—they tend to prioritize innovation less than founder and professional CEOs do.
- However, external founders with intensive founding experience or who have had exposure to professional investors at their ventures may indeed be a good choice. They are likely to spur innovation in a similar way to founder CEOs.
- Before any CEO nomination, boards and shareholders should conduct a thorough evaluation of potential CEO candidates' curricula vitae, paying particular attention to founding experience, and consider nuances within this founding experience like exposure to professional investors and successful exits. These factors can significantly shape CEOs' values and knowledge influencing their innovation-related decisions.

We employ arguments from upper echelons theory (Hambrick, 2007; Hambrick & Mason, 1984) to address these questions and specify firms' strategic emphasis on innovation as a function of CEOs' values and knowledge, shaped by experiences in their respective career paths. In line with the literature (e.g., Kannan-Narasimhan et al., 2023), we expect that firms led by founder CEOs place a stronger strategic emphasis on innovation than professional CEOs do. Because of the conjunction of founding and corporate experiences in their career paths, we theorize that external founder CEOs are more likely than professional CEOs are, but less likely than founder CEOs are, to strengthen their firms' strategic emphasis on innovation. We also contend that qualitative nuances in external founder CEOs' founding experience in terms of exposure to professional investors and successful exits manifest in varying degrees of their firms' strategic emphasis on innovation.

We validate our hypotheses empirically using a comprehensive dataset that contains 789 S&P 500 firms and 1637 CEOs from 2000 to 2019. In our dataset 98 individuals are classified as external founder CEOs and 129 as founder CEOs. We also collected qualitative data from

interviews with external founder CEOs to enrich our theorizing.[1]

Through this study, we contribute to the literature in three ways. First, we contribute to the innovation management literature by introducing the *external founder CEO* as a third type of CEO, alongside the frequently discussed founder CEO and professional CEO (e.g., Block et al., 2013; Kannan-Narasimhan et al., 2023; Wang et al., 2016), and by discussing how nuances in external founder CEOs' founding experience (e.g., exposure to professional investors or a highly intensive founding experience) can bring these CEOs' strategic emphasis on innovation close to that of founder CEOs.

Second, while upper echelons research in both innovation management and the broader management literature focuses on the presence and duration of certain experiences in isolation (e.g., Bromiley & Rau, 2016; Wang et al., 2016), it is silent on how combinations of potentially conflicting experiences and the qualitative nuances of an experience affect firm-level outcomes. We address this gap in the literature and associated scholarly calls (e.g., Bromiley & Rau, 2016; Campbell et al., 2023) by theorizing and providing evidence on how the combination of corporate and founding experiences, contingent on qualitative nuances in this founding experience, affects external founder CEOs' decisions. In doing so, we establish that more fine-grained and holistic investigations of experiences in a CEO's career path can help to explain CEOs' subsequent decisions and firm-level outcomes.

Third, we contribute to the only emerging stream of research that investigates how individuals' founding experience shapes their future corporate careers (Feng et al., 2022; Mahieu et al., 2022; Rieger et al., 2023) by investigating how fine-grained nuances in CEOs' founding experience continue to affect their firms' subsequent strategic emphasis on innovation.

2 | THEORETICAL BACKGROUND

2.1 | Upper echelons theory, CEO experience, and firm-level innovation

Upper echelons theory has its roots in Hambrick and Mason's (1984) seminal article, which uses the concept of "bounded rationality" (March, 1978) to theorize that organizational outcomes can be explained as a function of executives' backgrounds. The article states that, in complex decision-making processes, strategic choices are influenced by executives' selective perception and interpretation of their environments through idiosyncratic filters that are shaped by the experiences they have gathered over their careers (Hambrick, 2007). Their experience as well as the environments and stakeholders to which their experience has exposed them to determine executives' (work-related) *values*, which broadly reflect their preferences for some alternatives in certain situations. Experience also determines executives' *knowledge* (or *cognitive base*; cf., Hambrick & Mason, 1984) in that it expands the range of alternatives they consider in making decisions, their understanding of the decisions' potential interdependence with future events, and their judgment of how to implement them successfully and efficiently (Gigerenzer & Gaissmaier, 2011). Executives' values and knowledge collectively influence their *field of vision* (i.e., what they pay attention to), how they interpret information, and how they make strategic choices. Their values and knowledge have particularly strong effects on decisions that have uncertain outcomes, such as those that are associated with innovation efforts (Ahuja et al., 2008).

Given their position at the top of a firm, CEOs are naturally a key focus of the literature that applies an upper-echelons perspective to study innovation outcomes (Ahuja et al., 2008; Wang et al., 2016). The innovation management literature examines primarily the observable characteristics of CEOs, such as their gender, age, education, and functional experience, as indicators of their values and knowledge (Hambrick & Mason, 1984) and typically measures them in terms of their presence (e.g., an MBA degree) or their duration (e.g., years of industry experience). These studies find that male CEOs invest in more technological breadth than female CEOs do (Strohmeyer et al., 2017), while the latter, in turn, tend to promote more green innovation (Javed et al., 2023). In addition, older CEOs tend to invest less in research and development than younger CEOs do (Zhang, 2016), and CEOs' education level positively affects their firms' innovation performance and introductions of new products (Camelo et al., 2010). CEOs' general managerial experience also appears to spur firms' innovativeness (Custódio et al., 2019).

Research implicitly classifies CEOs' business careers into founding and corporate experiences. Founding experience refers to experience during and after founding a venture (Nelson, 2003; Terbeck et al., 2022), which likely includes successful innovation (Block et al., 2013). Corporate experience captures experience as appointed manager of one or more firms with no substantial ownership (Lee et al., 2020). Studies on founder CEOs (with

[1]We screened more than 300 interviews for evidence of how the knowledge and values external founder CEOs acquired in their prior ventures influence their decisions in the corporate context. While it is not our intention to offer a full-fledged qualitative study, we use quotations from these interviews to inform our arguments that lead to the hypotheses.

pronounced founding experience) and professional CEOs (with pronounced corporate experience) find that firms led by founder CEOs perform better on several innovation outcomes than firms led by professional CEOs do (Abebe et al., 2020; Duran et al., 2016). (See Table 1 for an overview of recent findings).

Next, we turn to a deeper discussion of these two types of CEOs and introduce a third, previously

TABLE 1 Relevant studies comparing the impact of founder CEOs and professional CEOs on innovation (alphabetical order).

Authors	Theory	Sample	Innovation measure(s)	Key finding(s)	Mechanism(s)
Abebe et al. (2020)	• Meta-analysis: Founder CEO impact on firm metrics	• 221 articles (1990–2020)	• Input variables (e.g., R&D intensity) • Output variables (e.g., patent count)	• Mixed results: some articles report positive effect of founder CEOs on innovation; others a negative effect	• Positive: maintain entrepreneurial vision, lower agency costs, higher risk-tolerance, stronger growth desire • Negative: less efficient org. routines, higher chance to pick poor projects
Block et al. (2013)	• Socioemotional wealth perspective • Entrepreneurial orientation	• 248 firms (S&P 5001994–2003) • 1659 firm-years	• Patent citations	• Founder-managed (but not owned) firms have on average 22% more patent citations	• Founder CEO maintains entrepreneurial vision • Lower agency costs of founder CEOs
Duran et al. (2016)	• Meta-analysis: Innovation in family firms	• 108 primary family firm studies (1981–2012)	• Input variables (e.g., R&D intensity) • Output variables (e.g., patent count, patent citations, sales from new products)	• Founder CEO in family firms positively impacts innovation input • Founder CEO in family firms negatively impacts innovation output	• Higher innovation input due to higher risk tolerance and stronger desire for growth • Lower innovation output due to less efficient org. routines (knowledge/network access) compared to later-generation family firms and less resistance to investing in poor projects
Kannan-Narasimhan et al. (2023)	• CEO power • Agency theory	• 501 firms (S&P 1500 1996–2010) • 3055 firm-years • 777 CEOs (138 founder CEOs)	• Patent count • Patent quality (stock market return weighted patents & citation-weighted patents)	• Powerful founder CEOs increase innovativeness (release 22% more patents; and achieve 6%–8% increase in quality) • Effect is mediated by CEO power (explains 21%–29% of variation in innovation measures)	• Founder CEOs leverage higher power • Founder CEOs act more long-term oriented
Kim and Koo (2018)	• Entrepreneurship theory • Life cycle theory	• 2106 firms (S&P 1500 1994–2008) • 12,146 firm-years • 3783 founder CEOs	• Patent citations • Patent count • Economic value of patents	• Founder CEOs leads to approximately 14% (10%) more citations (applications) • Economic value of patents created in founder CEO firms is larger by 22.7%	• Founder CEOs spur innovation and firm value by making more risk-taking efforts

TABLE 1 (Continued)

Authors	Theory	Sample	Innovation measure(s)	Key finding(s)	Mechanism(s)
Lee et al. (2020)	• Upper echelons theory	• 65 firms (US public firms 1979–2002) • 585 firm-years • 65 CEOs (23 founder CEOs)	Patent count • Patent citations • Patent claims • R&D intensity	• Change from founder CEO to professional CEO is associated with a 43.8% drop in citation-weighted patent count • Raw patent count (claims) drop by 18.3% (49.1%)	• Founder CEOs pursue riskier innovation projects • Founder CEOs are better at retaining innovative minds
Miller et al. (2011)	• Agency theory • Social context / cognitive frames	• 898 firms (Fort. 1000 1996–2000) • 3061 firm-years • 141 founder CEOs	• Continuum of growth versus conversation firm strategy based on six variables (e.g., R&D intensity)	• Founder CEO led firms generally engage more in growth strategies, but do not invest more in R&D	• Founder CEOs act more entrepreneurial
Paik and Woo (2017)	• Agency theory	• 259 firms (US firms 1986–2009) • 193 firms ley by founder CEOs	• R&D intensity	• A founder CEO may increase the R&D intensity of the focal venture by 8.4%	• Founders expect to stay with the firm longer than agent CEOs (e.g., to further develop 'their' technology)
Schuster et al. (2020)	• Upper echelons theory • Stewardship theory • Agency theory	• 840 firms (S&P 1500 1992–2013) • 4380 firm-years • 1055 CEOs (221 founder CEOs)	• Dummy for drop in R&D expenditure compared to prior year	• The likelihood of a myopic R&D cut is 0.56 times less likely when the firm is led by a founder CEO	• Founder CEOs are more willing to pursue long-term goals due to connectedness to the firm (being better stewards)
Souder et al. (2012)	• Upper echelons theory • Attention-based view	• 173 firms (cable television operators 1972–1996) • 2021 firm-years • 53% of firms led by founder CEOs	• Market expansion aggressiveness: number of systems added in a given year	• Founder CEOs market expansion aggressiveness is initially higher than agent CEOs' but declines with progressing tenure	• Founder CEOs have a head-start due to higher knowledge and are willing to grow fast in the first years

unstudied, type, the external founder CEO, as the focus of this paper.

2.2 | Founder CEOs, professional CEOs, and external founder CEOs

We define founder CEOs as CEOs who founded a firm and still act as its CEO (Nelson, 2003). An example is Michael Dell, who founded Dell Computer in 1984 at age 26 and still acts as CEO in 2024. Founder CEOs' strategic choices are dominated by their often decades-long founding experience, which is a central element of their professional identity (Kannan-Narasimhan et al., 2023; Wasserman, 2003). As founder CEOs, they gain experience on how to guide the firm's actions predominantly without interference from superiors. Since they started their businesses and continued their firms' entrepreneurial path successfully, these CEOs' values are likely characterized by a preference for a long-term vision, future-oriented outcomes, risk taking, growth, and business-building without being restricted by narrow job descriptions (Lee et al., 2020). The frequent decisions they have made related to new product developments, market commercialization, and other innovation-related strategies make these CEOs highly knowledgeable about the pursuit of innovation (Kruse et al., 2023).

We define professional CEOs as those whose career paths have featured a variety of lower-, mid-, and high-level positions in corporations. Jeff Immelt, a prominent example of a professional CEO, joined General Electric in 1982 at age 27 and worked in a variety of positions at General Electric before being appointed CEO in 2001. Professional CEOs' strategic choices are typically shaped by their decades-long corporate experience in managing existing operations within existing structures and narrow

and clear job descriptions (Abebe et al., 2020; Nelson, 2003; Zaandam et al., 2021). These CEOs' values are typically characterized by a preference for stability and avoiding risk (Lee et al., 2020) as well as a focus on short-term outcomes that benefit their own career advancement and financial well-being (He, 2008; Schuster et al., 2020), a focus that often gets in the way of innovation. Throughout their careers, these CEOs gained knowledge of how to manage and ensure departmental and firm stability and how to establish and maintain relationships with important stakeholders, including superiors, leaving a reduced focus on pursuing innovation (Kannan-Narasimhan et al., 2023).

While founder CEOs' and professional CEOs' values and knowledge are predominately shaped by founding and corporate experience, respectively, external founder CEOs' values and knowledge are likely shaped by both types of experience (Feng et al., 2022; Mahieu et al., 2022; Terbeck et al., 2022). However, the extent to which these individual experiences shape their values, knowledge, and strategic choices related to their firms' strategic emphasis on innovation is an open question. We address this question in more detail when we introduce our research model.

3 | HYPOTHESIS DEVELOPMENT

In this section, we compare the influence of the three CEO types on their firms' strategic emphasis on innovation. Consistent with upper echelons theory, we propose that the CEOs' idiosyncratic career paths result in establishing different filters (mostly shaped by founding experience, corporate experience, or a mix of both[2]) through which they interpret their environments and make strategic choices for their firms. Against this background, we argue that a firm's strategic emphasis on innovation competes with other emphases (e.g., efficiency orientation) for CEOs' allocation of their own and their firms' limited resources (Jaworski & Kohli, 1993; Keupp et al., 2012; Mizik, 2010). CEOs' allocation of the firm's resources to innovation typically manifests in a strong attention to innovation, for example, communicating one's innovativeness to stakeholders, and innovation activities like patent applications.[3]

[2]CEOs' corporate and founding roles comprise about 96% of their total work experience in our sample.

[3]For simplicity, our hypotheses derivations focus on firms' overall strategic emphasis on innovation, which we divide into innovation attention and innovation activity in our analyses to derive more fine-grained implications.

3.1 | Founder CEOs versus professional CEOs

We apply an upper echelons lens to compare how the respective values and knowledge of founder CEOs and professional CEOs influence their firms' strategic emphasis on innovation. Consistent with most of the literature (see Table 1), we propose two reasons for expecting that firms led by founder CEOs place more strategic emphasis on innovation than firms led by professional CEOs do. First, a firm's strategic emphasis on innovation aligns more with founder CEOs' values than those of professional CEOs. Founder CEOs' focus on their firms' long-term success and their own preference for being in charge and taking risks (Kannan-Narasimhan et al., 2023; Kim & Koo, 2018) makes them likely to direct their attention to the pursuit of firm-level innovation (Yadav et al., 2007). In contrast, professional CEOs' values, which are formed by their corporate experience, are likely to center on delivering short-term financial results using existing operations (Schuster et al., 2020). Innovation is not usually central in their field of vision (Sampson & Shi, 2020).

Second, founder CEOs are likely to be knowledgeable about how to assess market opportunities and innovation projects (Lee et al., 2020; Souder et al., 2012) which enables them to pursue innovation efficiently. In contrast, professional CEOs' knowledge about how to ensure stable operations of the business (including management of stakeholders), makes them, ceteris paribus, less likely to pursue innovation successfully (or at least less rapidly). Therefore, we state:

> **Hypothesis 1.** Firms led by founder CEOs place more strategic emphasis on innovation than firms led by professional CEOs do.

3.2 | External founder CEOs versus professional CEOs

Next, we compare how firms led by external founder CEOs differ in their strategic emphasis on innovation from firms led by professional CEOs, based on whether the external founder CEOs' founding experience before their corporate experience continues to shape their decision-making. If external founder CEOs' values and knowledge from their founding experience were to be "overwritten" by those from their subsequent corporate experience, their firms' strategic emphasis on innovation may be similar to that of firms led by professional CEOs.

While upper echelons theory is silent on how consecutively collected combinations of experiences jointly form CEOs' idiosyncratic filters and translate to firm-level outcomes, it is reasonable to suggest that the values and knowledge that are characteristic of external founder CEOs' founding experience continue to affect their strategic choices (at least to some extent). For instance, the literature on ambidextrous decision-making states that executives can combine "exploitation" (which reflects leading an existing business) and "exploration" (which reflects building a new business) (Andriopoulos & Lewis, 2009). This view harmonizes well with a CEO filter that is shaped by both corporate and founding experience. As Robert J. Coury, founder of an asset management business before being appointed CEO of the pharmaceutical company Mylan, shared in an interview, "*I brought entrepreneurialism to a public, global institution, and to this day we drive our organization entrepreneurially*" (University of Southern California, 2015). His statement supports the continued relevance of founding experience in external founder CEOs' career paths.

We have two reasons for expecting that firms led by external founder CEOs place more strategic emphasis on innovation than firms led by professional CEOs do. First, we argue that external founder CEOs' values that are tied to their founding experience, such as a long-term orientation (Kannan-Narasimhan et al., 2023; Paik & Woo, 2017; Schuster et al., 2020), a preference for taking risks (Duran et al., 2016; Kim & Koo, 2018), and a business-building mindset (Duran et al., 2016; Lee et al., 2020; Miller et al., 2011), continue to affect their strategic choices, despite their subsequent corporate experience. This notion is also reflected in reports from Shantanu Narayen, former founder of Pictra (a digital photo-sharing company) and then CEO of Adobe, who shared in an interview that his entrepreneurial values continue to influence his decision-making in his CEO role: "*In my company, I followed 'never take no for an answer,' and I am still applying this today in larger contexts*" (Stanford Graduate School of Business, 2023). Similarly, Raul Marcelo Claure, former CEO of Sprint, who had also founded a venture, noted: "*It was fascinating to see how you can inject your entrepreneurial spirit into a super-established company; once you turn the ship, it creates great impact*" (MDC-TV, 2022). Professional CEOs, on the other hand, are likely to take the interests of stakeholders into account instead of focusing on bringing (innovative) ideas to life.

Second, while both types of CEOs have accumulated knowledge about how to manage a corporation by ensuring the stability of operations and managing relationships with important stakeholders, external founder CEOs' founding experience makes them more knowledgeable than professional CEOs are about how to manage the pursuit of innovation. Ken Xie, the former CEO of Fortinet, embraced the accumulation of innovation-related knowledge as a key element of his founding experience: "*Being an entrepreneur [...], you have to learn things quickly on the technology side [and] the business side*" (Forbes, 2017). While the intensity of founding experiences, that is, the share of venture over corporate experience before joining a firm, likely differs across external founder CEOs, we argue that, to some extent, this experience should manifest in elevated levels of their firms' strategic emphasis on innovation vis-à-vis firms led by professional CEO with corporate experience only. Therefore, we expect:

> **Hypothesis 2.** Firms led by external founder CEOs place more strategic emphasis on innovation than firms led by professional CEOs do.

3.3 | Founder CEOs versus external founder CEOs

Finally, we compare how firms led by external founder CEOs differ in their strategic emphasis on innovation from firms led by founder CEOs. As outlined above, we expect both founding and corporate experiences from external founder CEOs' careers to shape their values and knowledge and, ultimately, their strategic choices. Therefore, we have two reasons for expecting that firms led by external founder CEOs place less strategic emphasis on innovation than firms led by founder CEOs do. First, while external founder CEOs' founding experience leads them to prefer taking risks and innovating, their corporate experience leads them to develop values that (also) center on delivering short-term financial outcomes using existing operations (Schuster et al., 2020). As such, these CEOs are likely to balance the pursuit of innovation at the firm level (driven by their founding experience) with short-term outcomes for their own career advancement (Schuster et al., 2020). In contrast, we expect that founder CEOs are "founders through and through," as their firms' innovativeness, fueled by their hubris connected to building their firms from scratch, is their highest priority (Abebe et al., 2020; Lee et al., 2020).

Second, external founder CEOs have also collected substantial low- and mid-level corporate experience, which shapes their knowledge about how to run a business while considering the needs of internal and external stakeholders (Souder et al., 2012). Because of their (low-

and mid-level) corporate experience,[4] external founder CEOs are, compared to founder CEOs, likely less knowledgeable about how to pursue innovation efficiently. Overall, then, we state:

> **Hypothesis 3.** Firms led by external founder CEOs place less strategic emphasis on innovation than firms led by founder CEOs do.

Taken together, Hypotheses 1–3 suggest that the strategic emphasis on innovation of firms led by external founder CEOs lies between that of firms led by either founder CEOs or professional CEOs. More broadly, our theorizing suggests that the values and knowledge tied to combinations of experience gained in a CEO's career (such as the mix of founding and corporate experiences in the case of external founder CEOs) lead to compromises in behavior that lies between extremes.

3.4 | Differences in external founder CEOs' founding experience

Our theorizing so far has assumed that founding experience affects all external founder CEOs' values and knowledge uniformly. However, the entrepreneurship literature emphasizes that new ventures' development, nature, and potential are shaped significantly by their achievement of key milestones, particularly their acquisition of funding from professional investors (DeSantola et al., 2023; Hellmann & Puri, 2000; Linder et al., 2020) and the founder's exit from the venture (Bhawe et al., 2017; Kim & Kim, 2024; Wasserman, 2003). Upon reaching these milestones, the environment in which a founder works changes, as do the perspectives of additional stakeholders (DeTienne, 2010; Pahnke et al., 2015; Souitaris et al., 2020). Consistent with this view, upper echelons theory (Hambrick & Mason, 1984) proposes that executives' exposure to various environments and stakeholders in their previous careers affects the values and knowledge that then influence their strategic decisions. Therefore, understanding how the presence of an external founder CEO influences a firm's strategic focus on innovation requires a detailed theoretical understanding of the types of founding experience, especially whether either of these two milestones has been achieved. We now turn to how the exposure to professional investors and successful exits in external founder CEOs' founding experience influence these CEOs' values and knowledge and to the implications for their firms' strategic emphasis on innovation.

3.4.1 | Exposure to professional investors in external founder CEOs' founding experience

Acquiring funding from professional investors exposes a founder to a new environment and introduces new stakeholders, changing the values and knowledge they develop. Professional investors require regular reporting of key performance indicators and can be seen as an early form of governance body, deeply impacting how founders steer their business (Cox Pahnke et al., 2015; DeSantola et al., 2023; Hellmann & Puri, 2000). In return, founders acquire financial resources that can be—and are expected to be—allocated to technology- or market-based innovations that allow scaling and tapping into new markets (Cumming et al., 2023; Lerner et al., 2011; Linder et al., 2020). Given the considerable impact of founders' exposure to professional investors on their ventures' strategy (Cox Pahnke et al., 2015; Hellmann & Puri, 2000), we have two reasons for expecting the values and knowledge of external founder CEOs to differ based on whether they dealt with professional investors during their founding experience.

First, external founder CEOs who dealt with professional investors not only procured capital but also sought business growth by pursuing innovation to meet their investors' needs (Guo & Jiang, 2022). Therefore, exposure to professional investors during their founding experience likely affects external founder CEOs' values by strengthening their preferences for taking risks and undertaking innovation efforts (Galasso & Simcoe, 2011). These values likely persist when they transition to a corporate career. Without exposure to professional investors during their founding experience, external founder CEOs might still pursue innovation, but less aggressively, because their founding experience lacked that pronounced focus on allocating resources to innovation.

Second, we expect external founder CEOs' exposure to professional investors during their founding experience to be accompanied by knowledge needed later to pursue innovation. As Gregory S. Clark stated when he was CEO of Symantec, "*If you ever start a company without venture funding, you quickly learn a great deal about finance. Because of this, I tell many people that I got my MBA on the street*" (Forbes, 2019). Therefore, external founder CEOs who did not acquire funding appear to have been particularly focused on financing their operations (keeping the business afloat) and less inclined to build innovation-related knowledge. On the other hand, external founder CEOs who acquired funding are likely

[4]Table 3 shows that external founder CEOs held an average of 5.652 prior corporate positions, whereas founder CEOs held an average of 2.625 positions.

to have learned how to write business plans and pitch an innovative idea (the venture's novel product) to professional investors (Lerner et al., 2011). Accordingly, acquisition of funding and thus exposure to professional investors likely is associated with more innovation-related activity in the subsequent development of the venture, which sharpens external founder CEOs' knowledge about how to pursue innovation efficiently (Cox Pahnke et al., 2015). Therefore, we expect:

> **Hypothesis 4.** Firms led by external founder CEOs who were exposed to professional investors at their ventures place more strategic emphasis on innovation than firms led by external founder CEOs without such exposure do.

3.4.2 | Exposure to successful exits in external founder CEOs' founding experience

A successful exit, such as an initial public offering (IPO) or a merger or acquisition (M&A) (DeTienne, 2010), also exposes a founder to a new environment and set of stakeholders, which affect their values and knowledge. Leading up to and immediately following an exit, especially an IPO, a venture and its founder(s) are under significant scrutiny from potential investors and the public (Bhawe et al., 2017; Kim & Kim, 2024; Saboo et al., 2016). In addition, when new investors become shareholders and the founders sell some of their equity, they often lose full control (Gao & Jain, 2012). Given the severity of these changes (Wasserman, 2003), we have two reasons for expecting that the founders' values and knowledge are affected such that the strategic emphasis on innovation of external founder CEOs who have led their ventures to a successful exit differ from those who have not.

First, while founders generally have a long-term orientation and a business-building mindset (DeTienne & Cardon, 2012), the exit process integrates a degree of short-termism into their values because of the need to present the venture as a legitimate corporation (Jain & Tabak, 2008; Mizik, 2010; Saboo et al., 2016). The founders now operate in the greatly altered context of shareholder control and public scrutiny, having given up much of the freedom that the founding experience initially offered them (Hendricks et al., 2019). Typically, near the exit event, founders cut the discretionary budget, including innovation budgets (Saboo et al., 2016), and focus more on incremental (vis-à-vis breakthrough) innovations (Wies et al., 2023). These changes reflect the shift in priorities that the exit event brings (Jain et al., 2008), resulting in a weakened preference for risk and innovation.

Second, founders who go through an exit process acquire knowledge that founders who do not go through such a process do not acquire (DeTienne & Cardon, 2012; Wennberg & DeTienne, 2014). As an exit approaches, founders become more involved in accommodating the interests of external shareholders, such as preparing plans on how to optimize short-term outcomes like profitability (Hohen & Schweizer, 2021), resulting in gaining knowledge in typical corporate tasks but not innovation-related tasks. During his time as CEO of Yahoo, Timothy Koogle reflected on the time when he founded the venture Phase 2 and also described an increase in these corporate tasks in the process of going public: "*We discovered [...], how, additionally, you had to spend management cycles and leadership cycles on keeping people clear about what really mattered, enough so that you could minimize, the hubris that can set in*" (Computer History Museum, 2013). All in all, then, we argue:

> **Hypothesis 5.** Firms led by external founder CEOs who successfully exited a venture place less strategic emphasis on innovation than firms led by external founder CEOs who did not successfully exit a venture.

4 | METHOD

4.1 | Sample and data sources

The study uses a secondary panel data research design to validate the research model empirically. The sampling frame comprises US companies that were listed in the S&P 500 index between 2000 and 2019. To create our dataset, we combined data from five sources: Compustat (and its adjacent compensation database, Execucomp), the US Patent and Trademark Office (USPTO), the US Securities and Exchange Commission (SEC), BoardEx, and venture databases like Crunchbase.

As a starting point, we extracted from Compustat all firms that were listed in the S&P 500 for at least one year between 2000 and 2019. Following precedent, we took 2019 as the last full year to ensure that our results were not biased by the innovation-diminishing effects of the COVID-19 pandemic (Guderian et al., 2021). We identified 995 firms in this step. Next, we extracted patent data from the USPTO (Kogan et al., 2017) and successfully matched it to firm-year observations of 900 firms in our dataset. We also extracted the Management Discussion and Analysis (MD&A) sections of 10k statements filed with the SEC (Durnev & Mangen, 2020) for each firm-year observation, which served as a critical input for one of our innovation measures. In the next step, we extended the information on

CEOs that was available in Compustat with compensation data from Execucomp. We also included data from BoardEx by manually matching the CEOs in our sample to information about directors' names, ages, and gender. BoardEx provides comprehensive and reliable information on CEOs' career paths, including detailed descriptions of positions held (Andrus et al., 2019; Intintoli et al., 2018; Terbeck et al., 2022). We filtered all CEOs' BoardEx position descriptions for terms that identify them as founders of ventures (e.g., "founder," "co-founder") at least once during their careers. We cross-validated all entries with Bloomberg People Search to ensure their accuracy. Since BoardEx does not provide extensive descriptions of the ventures founded by the CEOs in our sample, we manually collected information on these ventures (e.g., name changes, M&As) from Crunchbase, PitchBook, and VentureIQ.

Our final dataset of firms that had data on all control variables and on at least one dependent variable comprised 789 firms and 9622 firm-year observations between 2000 and 2019. These firms were led by 1637 CEOs, 1410 of whom were professional CEOs with no founding experience, 129 of whom were founder CEOs who had founded the same S&P 500 firms of which they were CEOs, and 98 of whom were external founder CEOs who had founded another venture before becoming CEO of the S&P 500 firm.

4.2 | Measures

4.2.1 | Independent variables

We used dummy variables to indicate whether a firm was led by an external founder CEO, a founder CEO, or a professional CEO in a given year. *External founder CEO* takes the value of 1 if the firm was led by an individual who had founded *another* venture before being appointed CEO of the focal S&P 500 firm and 0 otherwise. *Founder CEO* takes the value of 1 if the firm was led by an individual who either founded or co-founded[5] the focal S&P 500 firm and served as CEO for at least one year and 0 otherwise. *Professional CEO* equals 1 if the firm was led by a CEO with no founding experience and 0 otherwise. Thus, the *Professional CEO* dummy variable is exclusive of the *External founder CEO* and *Founder CEO* dummies.

We further split the variable *External founder CEO* into subgroups based on nuances in their founding experiences. *External founder CEO with investor exposure* takes the value of 1 for CEOs who had founding experience before their CEO position and were exposed to professional investors (i.e., venture capital or private equity) in at least one venture and 0 otherwise. *External founder CEO without investor exposure* is coded inversely. *External founder CEO with exit exposure* is coded 1 when the CEO had founding experience before their CEO position and successfully exited at least one venture through a sale, merger, or IPO and 0 otherwise. *External founder CEO without exit exposure* is coded inversely.

4.2.2 | Dependent variables

In line with upper echelons theory's positing that firm-level outcomes are a consequence of CEOs' values and knowledge, combined in their idiosyncratic filters (Hambrick & Mason, 1984), we measured a firm's strategic emphasis on innovation along two dimensions associated with these CEOs' idiosyncratic filters. In particular, we argued that CEOs with founding experience are prone to paying *attention to innovation*—that is, innovation is likely to be part of their field of vision—and, ceteris paribus, are more likely to implement *innovation activities* successfully—that is, they are more likely to take actions related to the pursuit of innovation than actions that benefit other firm functions.

In a first step, we leveraged the MD&A sections of firms' 10k reports to derive a yearly-varying measure of *Innovation attention*. Following Durnev and Mangen (2020), we used computer-aided text analysis to capture the firms' view of the importance of innovation by counting the frequency with which innovation terminology was used in the MD&A sections. This approach is common in innovation and CEO research (Chen et al., 2022; Davis & Tama-Sweet, 2012; Durnev & Mangen, 2020; Liu et al., 2022) because the MD&A section provides the CEO with an opportunity to share insights into the firm's long-term goals, market positioning, and growth strategies (Davis & Tama-Sweet, 2012). To derive our measure, we relied on Eklund and Mannor's (2021) dictionary for "Product Innovation Strategies," which covers 25 innovation-related terms, including "innovate*," "R&D," and "invent*." Specifically, we measured the frequency with which these terms appeared in the MD&A section of our sample firms' 10k reports and then divided that number by the total number of words in the MD&A section to normalize the measure.

In a second step, we assessed the level of *Innovation activity* by following Sunder et al. (2017) and Chirico et al. (2020) in counting patents filed with and granted by the USPTO for each firm year. The number of patent applications can approximate a CEO's strategic choice to

[5]We ran extensive manual checks to account for name changes for the ventures in the CEOs' career paths to ensure that we captured all founder CEOs accurately.

protect the firm's intellectual property.[6] We considered the application instead of the granting date to assess the innovation more closely to its date of relevance (Griliches et al., 1987; Sunder et al., 2017).

Our two innovation measures are only somewhat positively correlated ($r = 0.067$), which supports the idea that they relate to two separate constructs: in upper echelons terms, a CEO's field of vision and preference for innovation among a set of alternatives. Therefore, we report results for both dependent variables separately instead of combining them in an index (e.g., Lee et al., 2020).

4.2.3 | Control variables

We controlled for a broad set of industry, firm, and CEO characteristics. Table 2 provides an overview of the control variables, including the rationale for their inclusion, key references, and operationalization details.

At the industry level, we controlled for *Industry performance* and *Competitive intensity* to account for industry-specific patterns of innovation. At the firm level, we controlled for *Firm performance*, *Firm size*, *Firm age*, *Firm board size*, *Firm board female share*, and *Firm R&D expenses*, since these factors are known to affect innovation activities. At the CEO level, we controlled for *CEO age*, *CEO tenure*, *CEO education*, *CEO technical degree*, *CEO ownership*, and *CEO power*, as these factors relate to the CEO's strategic choices. We also controlled for *CEO work experience*, *CEO pre-role experience*, and *CEO career stations* to account for the heterogeneity of early career experiences and tease out the effect of dominant founding and corporate experiences, per our theorizing. We further added year and industry dummies to account for industry-specific effects and for the panel structure of our dataset.

4.3 | Estimation approach

To test our hypotheses, we relied on fractional logistic regression for models related to *Innovation attention* and fixed-effects Poisson regression for models related to *Innovation activity*. In all analyses, we clustered robust standard errors at the firm level to address concerns about heteroscedasticity (Papke & Wooldridge, 1996, 2008; Villadsen & Wulff, 2021). Since our measure of innovation attention—the number of attention-related words divided by the total number of words in CEOs' messages in MD&A sections—is a fraction between 0 and 1, we used fractional logistic regression for our analyses (Papke & Wooldridge, 2008; Villadsen & Wulff, 2021) and validated the analyses with fixed effects Poisson regressions (Wooldridge, 1999). Patents are count data and are best estimated with non-linear models (Hilbe, 2014; Hsiao, 2014). We employed fixed effects Poisson regressions because of their universal applicability, their consistency in results, and their model fit (Rönkkö et al., 2022; Wooldridge, 1999). Our choice of fixed effects over random effects was supported by the Hausman test (Prob > $\chi^2 = 0.000$).

5 | FINDINGS

5.1 | Descriptive findings

Table 3 shows the descriptive characteristics of the three types of CEOs. Table 4 shows descriptive statistics and the correlations between our variables.

The three types of CEOs differ only slightly in terms of demographics and (non-experience-related) human capital. The CEOs in our sample are all about the same age, have similar levels and types of education. However, the founder CEOs in our sample are characterized by an exceptionally high tenure in their CEO roles (about 16 years) and a high total tenure in the firms they founded (about 20 years). Compared to this, external founder CEOs and professional CEOs have shorter tenures as CEOs (both about six years, respectively) and spent less time in the focal firm before becoming CEO (about five and seven years, respectively). Founder CEOs in our sample on average had fewer career stations before founding their firms (about three stations) compared to external founder CEOs (about six stations) and professional CEOs (about four stations). Both the founder and external founder CEOs founded on average about one venture before founding (joining) their firms. The external founder CEOs spent an average of about seven years in their own ventures before leaving them.

These descriptives show that the CEOs in our sample are consistent with our theoretical understanding that founder CEOs are characterized by dominant founding experience with their own ventures; professional CEOs spend considerable time (about 27 years) in corporations at various levels, including as CEO; and external founder CEOs change positions often, particularly by transitioning to a corporate setting after founding their own ventures.

[6] At its essence, a patent denotes a firm's right to intellectual property while preventing other parties from using it, thus allowing the firm to appropriate the property's value (Levin et al., 1987). However, the patenting process entails significant direct and indirect costs (Cohen et al., 2000), as well as risks associated with knowledge and information spillovers to competitors (Arundel, 2001).

TABLE 2 Description of variables.

Variable	Description and operationalization	Justification	Data source	Key citation(s)
Independent variables				
External founder CEO	Dummy variable taking on 1 if the CEO founded a venture before becoming CEO of a corporate. BoardEx historic employment data scanned for relevant positions (e.g., "founder," "co-founder"). Extensive manual validation and cross-checks through, for example, Bloomberg Executive Search	External founder CEOs are the core subject of assessment in the study	BoardEx, manual research	Terbeck et al. (2022)
Founder CEO	Dummy variable taking on 1 if the CEO founded a venture that became part of the S&P 500. BoardEx historic employment data scanned for relevant positions (e.g., "Founder", "Co-founder"). Extensive manual validation and cross-checks through, for example, Bloomberg Executive Search	Founder CEOs have a distinctive impact on innovation and outputs and form a key group of comparison in the study	BoardEx, Compustat, manual research	See Table 1
Professional CEO	Dummy variable taking on 1 if the CEO never founded a venture. Extensive manual validation and cross-checks through, for example, Bloomberg Executive Search	Professional CEOs have a distinctive impact on innovation and form a key group of comparison in the study	BoardEx, Compustat, manual research	See Table 1
Dependent variables				
Innovation attention	Share of innovation related words in management, discussion analysis (MD&A) section of SEC 10k reports. Count of Eklund and Mannor's (2021) innovation terms (dictionary "Product Innovation Strategies", e.g., innov*, R&D, invent*) divided by total word count of MD&A section. Variable taken at $t + 1$	CEOs can provide insights into the firm's strategic direction, including discussions on long-term goals, market positioning, and growth strategies in the MD&A section	SEC	Liu et al. (2022); Eklund and Mannor (2021)
Innovation activity	Number of granted patents filed at the USPTO. Application date considered instead of granting date and variable taken at $t + 1$	Patents approximate the strategic propensity of a firm to protect its intellectual property, which is an important strategic choice	USPTO	Sunder et al. (2017); Chirico et al. (2020)
Control variables				
Industry performance	Median return on assets (ROA as operating income over total assets) for firms in the same two-digit standard industry classification code	Industry performance affects firm performance, among other also innovation performance	Compustat	Ridge and Ingram (2017)
Industry competitiveness	Herfindahl Index of revenue market share (i.e., the sum of squared market shares) for firms in the same two-digit standard industry classification code	Competition affects innovation; the effect follows an inverted U-shape discouraging laggards (encouraging close competitors) to innovate	Compustat	Aghion et al. (2005)
Firm performance	Tobin's Q computed total assets plus market value minus shareholder's equity divided by total assets	Firms with more resources available are likely to invest more in innovation	Compustat	Artz et al. (2010)
Firm size	Natural logarithm of total assets (plus 1)	Innovation performance (e.g., R&D expenditure) increases with size	Compustat	Knott and Vieregger (2020)

TABLE 2 (Continued)

Variable	Description and operationalization	Justification	Data source	Key citation(s)
Firm age	Natural logarithm of firm age (plus 1) computed as difference between date of incorporation and present year	Younger firms engage in more and riskier innovation projects	IPO database (Ritter, 1991)	Coad et al. (2016)
Firm R&D expenses	Natural logarithm of research and development expenses (plus 1). Missing values replaced with median ratio of R&D expenses over sales from the same two-digit SIC firms applied to the focal firm's sales	Firms that invest more in R&D produce more and higher-quality patents	Compustat	Hausman et al. (1984); Koh and Reeb (2015)
Firm board size	Natural logarithm of number of all board members in focal firm	Board size is an important governance mechanism and generally positively associated with innovation outputs	BoardEx	Robeson and O'Connor (2013)
Firm board female share	Natural logarithm of share of female executive board members in focal firm	Gender diversity is an important governance mechanism, gender-diverse boards yield in more innovation	BoardEx	Nadeem et al. (2020)
CEO age	Age of the CEO in years	Younger CEOs spend more on R&D and are willing to take more risks	Compustat	Hambrick and Mason (1984)
CEO tenure	Time in the position of CEO in years	CEOs with shorter tenure are more risk-taking and engage in more innovation	Compustat	Finkelstein et al. (2009)
CEO education	Highest level of education achieved. Divided into four categories (High school or less, Bachelor, Master, or Doctorate)	CEOs with higher formal education are more receptive to innovation and change	BoardEx	Kimberly and Evanisko (1981)
CEO technical degree	Dummy variable taking on "1" if the CEO has obtained either a technical degree (e.g., Master of Science) or a degree from a technical school (e.g., Massachusetts Institute of Technology)	CEOs with technical degrees might be closer dispositioned towards (technical) innovation	BoardEx	Heyden et al. (2017)
CEO ownership	Number of shares owned by CEO divided by shares outstanding	Stock incentivization is an important governance mechanism, higher ownership leads to more innovation	Execucomp	Gao et al. (2023); Kim and Lu (2011)
CEO power	Share of the CEO's total compensation compared to total compensation of executives in a firm as captured in Execucomp	CEO power is positively related to firm innovation	Execucomp	Kannan-Narasimhan et al. (2023)
CEO work experience	Years of total work experience computed as difference between year of data entry and first recorded year of employment	CEOs with more cumulative work experience engage more in product innovation	BoardEx	Hambrick and Mason (1984); Wang et al. (2016)
CEO pre-role experience	Years of work experience at the focal firm before becoming CEO	CEOs with more experience in the focal firm engage in more innovation	BoardEx	Simsek (2007); Wang et al. (2016)
CEO career stations	Number of individual organizations worked for before joining the focal firm,	CEOs with a wider variety in career experiences are associated with firm-	BoardEx	Crossland et al. (2014);

(Continues)

TABLE 2 (Continued)

Variable	Description and operationalization	Justification	Data source	Key citation(s)
	includes employment at all types of organizations post education	level strategic novelty and distinctiveness		Wang et al. (2016)
Industry dummy	Dummy variable that represents the industry division based on a 2-digit SIC code	Different industries have different innovation patterns	Compustat	Forsman (2011)
Year dummy	Dummy variable that represents the year	Macro-economic conditions in a given year affect innovation behavior of firms	Compustat	Archibugi et al. (2013)

TABLE 3 Overview of CEO types in sample.

	Internal founder CEO ($n = 129$)	External founder CEO ($n = 98$)	Professional CEO ($n = 1410$)
Demographics			
Age (average years)	57.816	55.764	55.835
Education (average level)	1.717	1.755	1.814
Technical degree (share)	0.046	0.037	0.069
Experience			
Work experience (average years)[a]	26.867	29.709	27.262
Role tenure (average years)	15.488	6.091	5.847
Pre-CEO-role experience in focal firm (average years)[b]	4.924	4.695	7.114
Career stations before entry in focal firm (average number)[c]	2.625	5.652	4.265
Ventures founded before entry in focal firm (average number)[d]	1.160	1.120	0.000

[a]Based on BoardEx data availability, for some records start or end dates are missing.
[b]Founder CEOs' time in own firm is Role Tenure + Pre-CEO-role experience (20.412 years on average).
[c]Includes all types of organizations, that is, corporations, ventures, government, etc.; External Founder CEOs' experience other than in corporations and ventures makes is <4%.
[d]Includes S&P 500 firm founded by founder CEOs; external founder CEOs spent on average 6.821 years in ventures before joining focal firm.

The characteristics of the firms in our sample are comparable to those in similar studies (e.g., Block et al., 2013). The average firm in our sample is 60.443 years old (SD = 45.268) and has close to USD 35.278 billion (SD = 116.237 billion) in total assets, while their average Tobin's *Q* is 2.033 (SD = 1.590). Their CEOs used approximately 0.046% (SD = 0.040%) of innovation-related terminology in the MD&A sections, and the firms released an average of 66.053 patents (SD = 300.728) per year during the period under investigation.

5.2 | Regression results

Table 5 reports the regression analyses that compare the strategic emphasis on innovation of firms led by founder CEOs, external founder CEOs, and professional CEOs. Model 1 shows a significant negative effect of *External founder CEO* ($\beta = -0.206$; $p = 0.013$) and *Professional CEO* ($\beta = -0.262$; $p < 0.001$) on *Innovation attention* when the baseline is *Founder CEO*. The results show that external founder CEOs (professional CEOs) paid on average approximately 19% (23%) less attention to innovation, as reflected in their speech, than founder CEOs do.[7] Model 2 indicates that *External founder CEO* ($\beta = -0.715$; $p < 0.001$) and *Professional CEO* ($\beta = -0.334$; $p = 0.038$) have a negative effect on *Innovation activity* when *Founder CEO* is the baseline. External founder CEOs released approximately 51% fewer patents and professional CEOs release approximately 28%

[7]Since we estimate non-linear models, all estimates are computed as ($e^{\beta} - 1 \times 100\%$).

TABLE 4 Descriptives and correlation among regression variables.

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Innovation attention[a]	0.460	0.397	1.000												
(2) Innovation activity	66.053	300.728	0.067***	1.000											
(3) External founder CEO (EfC)	0.051	0.220	−0.002	−0.037***	1.000										
(4) Founder CEO	0.093	0.291	0.158***	0.035**	−0.074 ***	1.000									
(5) Professional CEO	0.856	0.352	−0.128***	−0.005	−0.564 ***	−0.781***	1.000								
(6) EfC w/ investor exposure	0.003	0.058	0.033**	−0.009	0.253***	−0.019+	−0.143***	1.000							
(7) EfC w/o investor exposure	0.048	0.213	−0.011	−0.036***	0.964 ***	−0.072***	−0.544 ***	−0.013	1.000						
(8) EfC w/ exit exposure	0.020	0.139	0.008	−0.019+	0.610***	−0.045***	−0.344 ***	0.363***	0.531***	1.000					
(9) EfC w/o exit exposure	0.031	0.174	−0.009	−0.032**	0.776***	−0.058***	−0.438***	0.030**	0.794 ***	−0.025**	1.000				
(10) Industry performance	0.052	0.034	0.162***	0.030**	−0.028**	0.025*	−0.004	0.001	−0.029**	−0.005	−0.031**	1.000			
(11) Competitive intensity	0.157	0.143	−0.140***	−0.032**	−0.016	−0.016	0.023*	0.027**	−0.024 *	−0.023*	−0.003	0.086***	1.000		
(12) Firm performance	2.033	1.590	0.289***	0.067***	0.026*	0.122***	−0.118***	0.052***	0.013	0.056***	−0.011	0.322***	−0.028**	1.000	
(13) Firm size	9.193	1.464	−0.314 ***	0.206***	−0.047***	−0.112***	0.122***	−0.049***	−0.035**	−0.033**	−0.033**	−0.246***	0.007	−0.351***	1.000
(14) Firm age	3.793	0.888	−0.209***	0.012	−0.034 **	−0.232***	0.214 ***	−0.044 ***	−0.023*	−0.034 **	−0.016	−0.028**	0.067***	−0.158***	0.261***
(15) Firm board size	2.421	0.203	−0.278***	0.080***	−0.007	−0.155***	0.133***	−0.015	−0.003	−0.003	−0.006	−0.065***	0.069***	−0.211***	0.504 ***
(16) Firm board female share	0.089	0.059	−0.101***	0.070***	0.035**	−0.060***	0.027**	0.005	0.035**	0.014	0.033**	0.022*	0.048***	−0.006	0.232***
(17) Firm R&D expenses	4.743	1.677	0.108***	0.343***	−0.006	−0.034 **	0.032**	0.034 **	−0.016	0.041***	−0.040***	0.096***	−0.072***	0.111***	0.440***
(18) CEO age	56.017	6.628	−0.111***	−0.058***	−0.009	0.087***	−0.067***	−0.030**	−0.001	−0.037***	0.018+	−0.039***	0.009	−0.063***	0.165***
(19) CEO tenure	6.760	6.557	0.072***	0.013	−0.024 *	0.427***	−0.339***	−0.004	−0.023*	−0.008	−0.023*	0.024 *	0.036***	0.061***	−0.016
(20) CEO education	1.802	0.587	0.047***	0.001	−0.018+	−0.046***	0.050***	0.041***	−0.030**	−0.022*	−0.005	−0.030**	−0.089***	−0.001	0.023*
(21) CEO technical degree	0.066	0.248	0.024 *	0.077***	−0.027**	−0.026*	0.038***	0.013	−0.032**	−0.007	−0.028**	−0.017+	−0.034 ***	−0.009	−0.009

(Continues)

TABLE 4 (Continued)

Variables	Mean	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(22) CEO ownership	0.012	0.044	0.020+	0.018+	−0.019+	0.441***	−0.354 ***	−0.009	−0.017	−0.014	−0.013	0.018+	0.081***	0.065***	−0.082***
(23) CEO power	0.299	0.094	−0.018+	−0.072***	−0.045***	−0.118***	0.126***	0.000	−0.047***	−0.021*	−0.040***	0.037***	−0.040***	−0.025**	−0.147***
(24) CEO work experience	27.350	9.645	−0.068***	0.013	0.057***	−0.016	−0.022*	−0.008	0.061***	0.017	0.058***	−0.048***	0.062***	−0.052***	0.203***
(25) CEO pre-role experience	6.786	6.544	−0.045***	0.071***	−0.074 ***	−0.091***	0.122***	−0.039***	−0.066***	−0.034 **	−0.067***	−0.010	0.060***	−0.014	0.085***
(26) CEO career stations	4.183	2.588	−0.088***	−0.058***	0.132***	−0.193***	0.078***	0.053***	0.122***	0.074***	0.107***	−0.073***	−0.042***	−0.074***	0.137***

Variables	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(1) Innovation attention[a]													
(2) Innovation activity													
(3) External founder CEO (EfC)													
(4) Founder CEO													
(5) Professional CEO													
(6) EfC w/ investor exposure													
(7) EfC w/o investor exposure													
(8) EfC w/ exit exposure													
(9) EfC w/o exit exposure													
(10) Industry performance													
(11) Competitive intensity													
(12) Firm performance													
(13) Firm size													
(14) Firm age	1.000												
(15) Firm board size	0.262***	1.000											

TABLE 4 (Continued)

Variables	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)
(16) Firm board female share	0.166***	0.222***	1.000										
(17) Firm R&D expenses	0.062***	0.195***	0.131***	1.000									
(18) CEO age	0.152***	0.117***	0.051***	0.041***	1.000								
(19) CEO tenure	−0.022*	−0.089***	−0.013	0.031**	0.424 ***	1.000							
(20) CEO education	0.008	0.009	−0.039***	0.046***	−0.003	−0.009	1.000						
(21) CEO technical degree	−0.002	−0.022*	−0.024 *	0.008	−0.015	−0.047***	0.031**	1.000					
(22) CEO ownership	−0.110***	−0.127***	−0.045***	0.011	0.147***	0.332***	−0.117***	−0.04 6***	1.000				
(23) CEO power	0.062***	−0.055***	−0.096***	−0.149***	0.044 ***	0.016	0.055***	0.005	−0.158***	1.000			
(24) CEO work experience	0.107***	0.115***	0.086***	0.137***	0.578***	0.252***	−0.051***	−0.040***	0.084 ***	0.003	1.000		
(25) CEO pre-role experience	0.103***	0.090***	0.032**	0.061***	0.111***	−0.092***	−0.032**	0.008	−0.008	−0.046***	0.133***	1.000	
(26) CEO career stations	0.023*	0.092***	0.099***	0.012	0.053***	−0.228***	0.012	0.008	−0.107***	−0.014	0.242***	−0.302***	1.000

Note: $N = 9622$ firm-year observations from 789 firms.

[a]Multiplied by 1000 in this table only.

***$p < 0.001$.**$p < 0.01$.*$p < 0.05$.$^{+}p < 0.10$.

TABLE 5 Coefficient estimates for base models.

	Innovation attention fractional logistic Model 1	Innovation activity Poisson fixed effects Model 2	Innovation attention fractional logistic Model 3	Innovation activity Poisson fixed effects Model 4
External founder CEO	−0.206* (0.083)	−0.715*** (0.191)	0.056 (0.072)	−0.381*** (0.123)
Founder CEO	*Baseline*	*Baseline*	0.262*** (0.066)	0.334* (0.161)
Professional CEO	−0.262*** (0.061)	−0.334* (0.161)	*Baseline*	*Baseline*
Industry performance	−0.417 (0.328)	2.662** (1.012)	−0.417 (0.328)	2.662** (1.012)
Competitive intensity	0.515^{+} (0.284)	−0.713 (0.897)	0.515^{+} (0.284)	−0.713 (0.897)
Firm performance	0.039*** (0.007)	0.019 (0.017)	0.039*** (0.007)	0.019 (0.017)
Firm size	−0.062*** (0.024)	0.174^{+} (0.099)	−0.062*** (0.024)	0.174^{+} (0.099)
Firm age	−0.080*** (0.025)	−0.198 (0.152)	−0.080*** (0.025)	−0.198 (0.152)
Firm board size	−0.233* (0.104)	−0.326* (0.148)	−0.233* (0.104)	−0.326* (0.148)
Firm board female share	0.056 (0.290)	0.376 (0.567)	0.056 (0.290)	0.376 (0.567)
Firm R&D expenses		0.349*** (0.076)		0.349*** (0.076)
CEO age	−0.009** (0.003)	−0.004 (0.007)	−0.009** (0.003)	−0.004 (0.007)
CEO tenure	0.002 (0.003)	0.000 (0.008)	0.002 (0.003)	0.000 (0.008)
CEO education	0.064* (0.031)	−0.079^{+} (0.042)	0.064* (0.031)	−0.079^{+} (0.042)
CEO technical degree	0.021 (0.061)	0.061 (0.075)	0.021 (0.061)	0.061 (0.075)
CEO ownership	−0.815* (0.371)	−2.930^{+} (1.589)	−0.815* (0.371)	−2.930^{+} (1.589)
CEO power	−0.359* (0.153)	0.464* (0.228)	−0.359* (0.153)	0.464* (0.228)
CEO work experience	0.004 (0.002)	0.007 (0.006)	0.004 (0.002)	0.007 (0.006)
CEO pre-role experience	−0.002 (0.003)	0.005 (0.005)	−0.002 (0.003)	0.005 (0.005)
CEO career stations	−0.004 (0.007)	−0.035* (0.016)	−0.004 (0.007)	−0.035* (0.016)
Constant	−6.101*** (0.438)		−6.363*** (0.444)	
Year & industry fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes
Observations	8989	6520	8989	6520
(Pseudo) R^2	0.016		0.016	

Note: Robust standard errors clustered at firm-level are in parentheses.
***$p < 0.001$.**$p < 0.01$.*$p < 0.05$.$^{+}p < 0.10$.

fewer patents than founder CEOs do. Taken together, the results of models 1 and 2 support Hypotheses 1 and 3. Model 3 indicates that *External founder CEO* has no significant effect ($\beta = 0.056$; $p = 0.442$) on *Innovation attention*, when *Professional CEO* is the baseline, whereas model 4 shows that *External founder CEO* has a negative effect ($\beta = -0.381$; $p < 0.001$) on *Innovation activity*, again comparing to the baseline of *Professional CEO*. External founder CEOs released approximately 32% fewer patents than professional CEOs do. Therefore, we find no support for Hypothesis 2.

Table 6 reports the regression analyses that test for the effect of nuances in external founder CEOs' founding experience. Model 5 does not show significant results for the effect of *External founder CEO with investor exposure* ($\beta = -0.082$;

TABLE 6 Coefficient estimates for extended models.

	Innovation attention fractional logistic Model 5	Innovation activity Poisson fixed effects Model 6	Innovation attention fractional logistic Model 7	Innovation activity Poisson fixed effects Model 8
External founder CEO w/ investor exp.	−0.082 (0.114)	0.547** (0.252)		
External founder CEO w/o investor exp.	*Baseline*	*Baseline*		
External founder CEO w/ exit exp.			−0.097 (0.121)	−0.530** (0.185)
External founder CEO w/o exit exp.			*Baseline*	*Baseline*
Founder CEO	0.198* (0.087)	0.734*** (0.195)	0.163 (0.104)	0.354* (0.184)
Professional CEO	−0.064 (0.078)	0.399** (0.127)	−0.099 (0.094)	0.018 (0.096)
Industry performance	−0.419 (0.328)	2.668** (1.013)	−0.422 (0.328)	2.645** (1.012)
Competitive intensity	0.517^{+} (0.284)	−0.720 (0.898)	0.514^{+} (0.284)	−0.687 (0.894)
Firm performance	0.039*** (0.007)	0.019 (0.017)	0.039*** (0.007)	0.021 (0.017)
Firm size	−0.063** (0.024)	0.177^{+} (0.099)	−0.062** (0.024)	0.176^{+} (0.098)
Firm age	−0.080** (0.025)	−0.199 (0.152)	−0.080** (0.025)	−0.209 (0.151)
Firm board size	−0.232* (0.104)	−0.325* (0.148)	−0.232* (0.104)	−0.325* (0.147)
Firm board female share	0.056 (0.289)	0.375 (0.569)	0.052 (0.290)	0.445 (0.584)
Firm R&D expenses		0.347*** (0.076)		0.347*** (0.076)
CEO age	−0.009*** (0.003)	−0.004 (0.007)	−0.009** (0.003)	−0.004 (0.006)
CEO tenure	0.002 (0.003)	0.000 (0.008)	0.002 (0.003)	0.000 (0.008)
CEO education	0.064* (0.031)	−0.081^{+} (0.042)	0.064* (0.031)	−0.082^{+} (0.042)
CEO technical degree	0.022 (0.061)	0.060 (0.075)	0.022 (0.061)	0.059 (0.075)
CEO ownership	−0.816* (0.372)	−2.913^{+} (1.587)	−0.817* (0.371)	−2.968^{+} (1.594)
CEO power	−0.358* (0.152)	0.469* (0.228)	−0.356* (0.151)	0.483* (0.227)
CEO work experience	0.004 (0.002)	0.007 (0.006)	0.004 (0.002)	0.007 (0.006)
CEO pre-role experience	−0.002 (0.003)	0.005 (0.005)	−0.001 (0.003)	0.005 (0.005)
CEO career stations	−0.004 (0.007)	−0.035* (0.016)	−0.004 (0.007)	−0.035* (0.016)
Constant	−6.300*** (0.449)		−6.265*** (0.452)	
Year and industry fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	No	Yes	No	Yes
Observations	8989	6520	8989	6520
(Pseudo) R^2	0.016		0.015	

Note: Robust standard errors clustered at firm-level are in parentheses.
***$p < 0.001$.**$p < 0.01$.*$p < 0.05$.$^{+}p < 0.10$.

$p = 0.469$) on *Innovation attention*, but Model 6 suggests a positive effect of that variable ($\beta = 0.547$; $p = 0.002$) on *Innovation activity*. Therefore, external founder CEOs who had exposure to professional investors released about 73% more patents than external founder CEOs with no exposure to professional investors did. Model 7 shows no significant effect of *External founder CEO with exit exposure* on *Innovation attention* ($\beta = -0.097$; $p = 0.421$), but Model 8 indicates a negative effect of that variable on *Innovation activity* ($\beta = -0.530$; $p = 0.004$). Therefore, external founder CEOs who had exit exposure released approximately 41% fewer patents than external founder CEOs who had no exit exposure did. Thus, we find support for both Hypotheses 4 and 5 in the *Innovation activity* dimension but not in the *Innovation attention* dimension.

5.3 | Additional analyses

5.3.1 | Addressing endogeneity concerns

Relying on archival datasets raises concerns about endogeneity. To address these concerns, we controlled for a broad set of control variables at the industry, firm, and individual CEO levels (Li, 2016), applied firm fixed effects to account for time-invariant heterogeneity (Antonakis et al., 2010), and lagged the dependent variable(s) to avoid simultaneity bias (Weng & Lin, 2014). Two additional tests assessed and addressed remaining concerns about endogeneity.

First, examining the robustness of inference to replacement (RIR) determines how closely another variable would have to be correlated to an endogenous variable to invalidate our results. Our analysis of the percentage of bias necessary to invalidate an inference (Busenbark et al., 2017; Frank et al., 2013) revealed that, for models that have significant effects (models 1, 2, 4, 6, and 8), the percentage of bias that would be required to invalidate our results ranges from 9.76% to 47.36%, so the number of firm-year observations that would have to be replaced with observations that have zero effect ranges from 636 to 2047 (see Table A in Appendix S1). For model 6, which has the lowest RIR, an omitted variable would have to affect our model as much as *CEO age* does, and for model 2, the strongest model, this impact would have to be roughly twice as strong as the most impactful confounder, *Firm R&D expenses*. Given that these models include 17 and 18 confounders, respectively, we consider it unlikely that such a variable has been omitted.

Second, we ran a two-stage Heckman model (Heckman, 1979) to address the selection bias introduced by the treatment assignment (i.e., a firm's selecting a CEO who has specific characteristics). In the first stage, we calculated a selection parameter to account for the probability that a firm hires an external founder as CEO using all our control variables.[8] When our main analysis used this selection parameter (*Inverse Mills Ratio*) as an additional control variable, all results remained qualitatively similar to those reported in the results section. (See Table B in Appendix S1.)

5.3.2 | Robustness checks

We ran several robustness checks. First, we excluded the control variables *Firm performance*, *Firm size*, *CEO age*, and *CEO ownership*, which are substantially correlated with other variables (because they exceed the value of $r = 0.300$) (Cohen, 1988). The results do not change in magnitude or significance.

Second, we used random effects models to re-estimate our models that compare external founder CEOs with founder CEOs (Hahn et al., 2011) to account for the possibility that the results are affected by the low within-firm variance of firms where a founder CEO has been in place over a long period. The results remain unchanged.

Third, since the MD&A section is part of official documents filed with the SEC and is likely to have been drafted by the corporate communications department or external agencies, it may bias our *Innovation attention* measure. To accommodate this bias, we extracted CEOs' spoken (and, therefore, less biased) words from the Q&A sections of more than 400,000 earnings calls (see, e.g., Eklund & Mannor, 2021; Pollock et al., 2023) to calculate the innovation attention measure for every firm-year observation (analogous to our previous calculation). Our new measure is substantially correlated with the measure derived from firms' MD&A sections ($r = 0.371$) and again only slightly correlated with our innovation activity measure ($r = 0.102$). The results remain unchanged for this alternative variable.

Fourth, we re-estimated our *Innovation activity* models using two- and three-year time lags to account for the typical time it takes for an innovation to go from R&D to patent (Hall et al., 1986; Hegde et al., 2023). We observed only slight decreases in terms of statistical significance in models 1, 6, and 8 when employing more extensive time lags.

Finally, we addressed concerns about spurious correlations, particularly that external founder CEOs may be predisposed to being more extraverted and more risk-taking than professional CEOs because of their self-selection into entrepreneurship, which could be an alternative explanation for our findings (Galasso & Simcoe, 2011; Hirshleifer et al., 2012; Lee et al., 2017). To construct a measure for CEO extraversion, we followed the literature in matching the words CEOs spoke during the Q&A sections of quarterly earnings calls (Malhotra et al., 2018) with the Linguistic Inquiry and Word Count (LIWC) dictionaries for affection, negative emotions, and anger, as these words are highly predictive of extraversion (Mairesse et al., 2007; Mehl et al., 2012). Again, we used the share of matched words to total words spoken by the CEO and then constructed a score for each CEO in each firm year using principal component analysis, replacing missing entries with the average score across all CEOs (Aluja et al., 2003). Accounting for CEO extraversion did not alter the core findings, indicating that our results can be explained as a function of CEOs' experience, rather than personality or disposition.

[8]Adhering to the recommendations by Li and Prabhala (2008) regarding selection models, we did not employ an exclusion criterion, as the model is identified through nonlinearity.

5.3.3 | Post hoc assessments

We conducted two post hoc tests. First, we compared external founder CEOs who had exposure to professional investors (or a successful exit) with founder CEOs in terms of their strategic emphasis on innovation. For *Innovation attention* we did not find any altering results. Regarding *Innovation activity*, external founder CEOs without investor exposure released fewer patents ($\beta = -0.735$; $p < 0.001$) compared to founder CEOs. However, the effect of *External founder CEO with investor exposure* ($\beta = -0.188$; $p = 0.413$) is statistically insignificant, indicating that CEOs with investor exposure likely pursue innovation at a comparable level to founder CEOs. In contrast, the coefficient of both *External founder CEO with exit exposure* ($\beta = -0.884$; $p < 0.001$) and *External founder CEO without exit exposure* ($\beta = -0.354$; $p = 0.048$) are significantly smaller than the one of *Founder CEO*, indicating that exit exposure does not make external founder CEOs more or less likely to founder CEOs in terms of innovation activities.

Second, we hypothesized and showed that having founding experience makes a difference in CEOs' strategic emphasis on innovation, but one might wonder whether the intensity of the founding experience (here defined as the number of ventures founded as a portion of the total number of career stations before joining the focal firm) also plays a role. For example, external founder CEOs who worked in their ventures and several other firms before joining the focal firm might place a different strategic emphasis on innovation compared to external founder CEOs who worked only in their own ventures before joining the focal firm. We compared three groups of external founder CEOs: those with a share of prior founding career stations to total prior career stations greater than or equal to +1 SD from the mean (high intensity), those with a share less than or equal to −1 SD from the mean (low intensity), and those with a share between −1 SD and +1 SD around the mean (average intensity). The analyses show no significant differences in *Innovation attention*. However, regarding *Innovation activity*, external founder CEOs with high founding intensity file significantly more patents ($\beta = 0.724$; $p < 0.001$), and external founder CEOs with low intensity file significantly fewer patents ($\beta = -0.611$; $p = 0.010$) than those with average founding intensity. The results are similar when external founder CEOs are compared to professional CEOs. Taken together with our hypothesized results, these findings suggest that, while one founding experience can make a difference in innovation activity and innovation attention, a more (less) intense founding experience increases (decreases) innovation activities but not innovation attention.

6 | DISCUSSION

Building on upper echelons theory, we theorized that firms led by external founder CEOs place weaker strategic emphasis on innovation than firms led by founder CEOs, but stronger emphasis than those led by professional CEOs. Using two outcomes to operationalize a firm's strategic emphasis on innovation—innovation attention and innovation activity—our study reveals that the innovation attention of firms led by external founder CEOs does not differ from that of firms led by professional CEOs and that—contrary to expectations—external founder CEOs also display lower levels of innovation activity. However, our findings also reveal that qualitative nuances in the founding experience of external founder CEOs affect their firms' innovation activities. For instance, when external founder CEOs' founding experience included exposure to professional investors, they appear to be more likely to drive firm-level innovation activity than if they did not have such exposure. We interpret these findings (and non-findings) in more detail by discussing three theoretical implications.

6.1 | Implications for the literature and research

Our study's results have implications for the literature and academic research. First, we contribute to the innovation management literature (e.g., Kannan-Narasimhan et al., 2023; Lee et al., 2020) that focuses on differences in firms' strategic emphasis on innovation based exclusively on whether these firms are led by founder CEOs or professional CEOs, thereby not taking into account the possibility that professional CEOs gained founding experience *before* joining these firms (Terbeck et al., 2022). We add to this stream of literature by introducing the external founder CEO as a third type of CEOs. By accounting for nuances in their founding experiences, we highlight the importance of considering CEOs' career paths and stages (here: the founding experience) holistically to explain their impact on a firm's strategic emphasis on innovation.

In line with our expectations, we find that firms that are led by external founder CEOs place less strategic emphasis on innovation than firms that are led by founder CEOs do, likely because these external founder CEOs' corporate experience has taught them to prioritize short-term financial outcomes and efficient management of existing operations *in addition* to pursuing innovation. However, contrary to our expectations, we find that external founder CEOs tend to place less strategic

emphasis on innovation (in terms of innovation activities) than professional CEOs do. One explanation for this finding may be that external founder CEOs are still less familiar with how corporations operate than are professional CEOs, who have spent their careers in the corporate setting. Accordingly, they may be less effective in enforcing their preferences, such as for increasing innovation activity (Feng et al., 2022), or may be disproportionately focused on adapting to a corporate environment that includes new internal and external stakeholders (see, e.g., the literature on work role transitions; Nicholson, 1984). However, our study shows that, when firms are led by external founder CEOs who have certain qualitative nuances in their founding experience, such as exposure to professional investors, the firms' strategic emphasis on innovation is indistinguishable from that of firms that are led by founder CEOs (who place the highest strategic emphasis on innovation). We conclude that external founder CEOs' founding experience must be characterized by certain *qualitative elements* (such as the experience of dealing with professional investors), for the innovation-related values and knowledge that are usually associated with founding experience to influence subsequent strategic decisions in a meaningful way.

In addition, our nuanced analysis of innovation attention and innovation activity (two distinct features of a strategic emphasis on innovation) shows that external founder CEOs, regardless of the nuances in their founding experience, are similar to professional CEOs in their attention to innovation (and communication of innovation to external stakeholders, per our measurement). We show that these results are robust to an alternative measure of innovation attention, which suggests that variations in these CEOs' prior career paths (i.e., founding experience vs. only corporate experience) are reflected more in their behaviors (activity) than they are in their attention (i.e., more in "doing" than "talking"). We note that the literature that builds on impression management theory (e.g., Bass et al., 2023) may explain why communication to shareholders and stakeholders about activities at the firm level may differ from the firm's actual activities.

Second, we also contribute to the broader literature that builds on upper echelons theory, which focuses on examining individual experiences and their effects on CEOs' subsequent decision-making (Campbell et al., 2023; Crossland et al., 2014; Wang et al., 2016). Citing the (descriptive) observation that executives' careers involve different, sometimes even conflicting, experiences, scholars 20 years ago already called for "a tremendous need and opportunity for additional investigation into how executive-level variables interact and their combined, cumulative effects on individual and organizational outcomes" (Carpenter et al., 2004, p. 771), a call recently repeated by Bromiley and Rau (2016). Our arguments and empirical evidence respond to these calls by informing the upper echelons literature that executives' decision-making indeed reflects the combined effect of career-related experiences. Focusing on the founding or corporate career experiences of external founder CEOs in isolation would have led to misleading conclusions and ignored the complexity of such career paths.

Further, as Wang et al. (2016, p. 825) note in their review of experience-related research in the upper echelons literature, most of the measures of CEOs' career experience "focus on the time spent in various functional areas, jobs, industries, and so on," ignoring qualitative nuances between experiences that are similar in duration. Accordingly, the authors conjecture that "supplementing these measures with richer indicators might provide fresh insights," a notion that our arguments and empirical evidence support. We show that qualitative nuances in experiences like whether a founding experience included exposure to professional investors have substantial effects on CEOs' decisions. Therefore, not only the existence or duration of an experience but also the nature of such experiences plays a role in subsequent executive decision-making. In our case, external founder CEOs who were exposed to professional investors or had intensive founding experience come close to the level of founder CEOs' innovation activities, while the average external founder CEO does not.

Third, we contribute to research that investigates spillover effects between corporate experience and founding experience. So far, this line of research investigates how corporate experience affects subsequent performance in entrepreneurial endeavors (Delmar & Shane, 2006; Muñoz-Bullon et al., 2015), but research on the reverse case, that is, how founding experience is related to performance and behavior in the corporate setting, is scarce. The few studies that address this relationship tend to unveil negative consequences, such as reduced job opportunities (Feng et al., 2023; Rieger et al., 2023) and lower wages for those who have founding experience compared to those who have only corporate experience (Feng et al., 2022; Mahieu et al., 2022). Our account offers an additional perspective by showing that CEOs who founded ventures and then joined corporations tend to differ from founder CEOs and professional CEOs in terms of their influence on their firms' strategic emphasis on innovation (contingent on the nature of the founding experience).

6.2 | Limitations and avenues for future research

Our study comes with several limitations that provide avenues for future research. First, we focused on nuances in

external founder CEOs' founding experience (i.e., exposure to professional investors and successful exit) but we consider only "average" founder CEOs and professional CEOs because external founder CEOs' career paths are likely to be more heterogeneous than those of other CEOs. Still, founder CEOs, for example, might also have been exposed to professional investors, and this exposure might influence their decisions. A deeper study of the nuances in other types of CEOs' career paths could generate new insights into the nature of firms' strategic emphasis on innovation.

Second, our dependent variables may capture only some facets of a firm's strategic emphasis on innovation. We relied on the innovation literature's common practice of investigating measures of innovation collected through complementary data sources (Antons et al., 2020). However, considering additional measures, such as product announcements or releases (Jindal & Slotegraaf, 2023), could provide more comprehensive insights into a firm's strategic emphasis on innovation.

Third, our theorizing builds parsimoniously on arguments related to upper echelons theory. This focus is consistent with the sometimes decades-long experiences CEOs collect throughout their careers. An alternative theoretical perspective could come from imprinting theory, which suggests that brief, formative events in one's life can have long-lasting implications for subsequent behavior (Marquis & Tilcsik, 2013). For example, brief events in a CEO's professional life (e.g., a layoff) or private life (e.g., the loss of a family member) could influence subsequent behavior, including the propensity to pursue a strategic emphasis on innovation. Future studies could elaborate on such events and examine their interaction with the experiences we examined in our study.

6.3 | Implications for practice

Our findings have at least two important messages for practitioners. First, we inform firm decision-makers that only certain external founder CEOs can substitute for founder CEOs when it comes to encouraging innovation. While the average external founder CEO is not likely to foster the same level of innovation as a founder CEO, certain subtypes of external founder CEOs are similar to founder CEOs (and better suited than professional CEOs are) in terms of their innovation activities. In particular, founder CEOs might be replaceable by external founder CEOs who have experience with professional investors or highly intensive founding experience. Therefore, a firm that fears losing its "founding spirit" when a founder CEO departs may see these subtypes of external founder CEOs as a way to keep the innovation-promoting founding spirit at the top of the firm.

Second, decision-makers who are involved in CEO succession planning learn that nuances in a candidate's work history can affect the candidate's propensity to place more strategic emphasis on innovation. Our findings suggest that not only whether a candidate is a former founder but also the specific qualitative nuances that characterized their founding experience affect especially their level of innovation activity at the firm. In particular, a candidate's exposure to professional investors, successful exit from a venture, and the intensity of founding experience are nuances that should be considered. Therefore, decision-makers should engage deeply with candidates' prior career paths, not only their prior positions but also in terms of the highly specific qualitative differences in those experiences.

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ORCID

Lennart David Osses https://orcid.org/0009-0005-8971-3123
Jannis von Nitzsch https://orcid.org/0000-0003-4873-8285
Andreas Engelen https://orcid.org/0000-0002-5016-7613

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AUTHOR BIOGRAPHIES

Lennart David Osses is currently a Ph.D. student at the Chair of Management at Heinrich-Heine-University in Düsseldorf, Germany. Lennart obtained degrees from Maastricht University and NOVA University, Lisbon before working for a leading international management consultancy. His doctoral thesis focuses on studying how early career choices affect decision-making of firms' top management.

Jannis von Nitzsch is currently a postdoctoral researcher at the Chair of Management, Heinrich-Heine-University Düsseldorf, Germany. His research focuses broadly on explaining how the characteristics and cognitions of entrepreneurs and top managers influence outcomes at the firm level. His research has been published in the *Strategic Entrepreneurship Journal*.

Andreas Engelen is a full professor for management at the Heinrich-Heine-University in Düsseldorf, Germany. He worked as a management consultant for a leading international consulting firm. His areas of research include corporate entrepreneurship, start-up entrepreneurship, and market-oriented management. He has published his research in many academic journals, including *MIS Quarterly*, *Journal of Marketing Research*, *Journal of Management*, *Journal of Product Innovation Management*, and *Journal of Business Venturing*.

SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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