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Non-family Managers and Innovation in Family Firms: A Meta-Analysis

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Qiuyue Lyu[1], Junsheng Dou[1], Hanqing "Chevy" Fang[2], and Alfredo De Massis[1,3,4,5]

Abstract

Non-family managers play a crucial role in fostering innovation within family firms, yet their impact remains debated due to inconsistent research findings and a lack of comprehensive synthesis. This study integrates this effect through a meta-analysis of 213 effect sizes from 101 studies. The results demonstrate a positive influence of non-family managers on firm innovation, with a stronger effect on inputs than on outputs. Furthermore, this study identifies key governance and managerial contingencies at the firm level. First-generation control weakens this relationship, while non-family TMTs strengthen it. The implications for theory and practice are discussed, with suggestions for future research.

Keywords

family firms, non-family managers, innovation, meta-analysis, professionalization

Introduction

Innovation is widely recognized as a critical strategic driver for ensuring a firm's survival and long-term success, and it has attracted significant scholarly attention (Classen et al., 2012; Tsao et al., 2015; Vandekerkhof et al., 2015). Family firms, which account for a substantial portion of global economies (De Massis et al., 2018), face unique challenges in sustaining innovation due to the influence of family management and ownership and their pursuit of transgenerational continuity (Calabrò et al., 2019; Röd, 2016). Research has found that family firms tend to exhibit a lower willingness to invest in innovation but a superior ability to achieve higher innovation outputs, resulting in greater innovation efficiency than non-family firms (De Massis et al., 2014; Duran et al., 2016). However, recent meta-analytic evidence from Block et al. (2023) challenges this view by suggesting that family firms do not consistently exhibit higher innovation efficiency, underscoring the need to better understand the factors that drive heterogeneity in innovation among family firms.

A key source of this heterogeneity lies in the involvement of non-family managers (Bornhausen & Wulf, 2024). As family firms expand, the limited pool of qualified family talent often necessitates the inclusion of non-family managers in leadership roles (Chittoor & Das, 2007; Stewart & Hitt, 2012). The impact of non-family managers on firm innovation, however, remains a topic of considerable debate. From a resource-based perspective, non-family managers are seen as valuable sources of professional expertise, industry experience, and external networks, which are critical for fostering innovation in family firms (Chang & Shim, 2015; Fang et al., 2017; Sanchez-Famoso et al., 2015). In contrast, studies from an agency perspective emphasize potential agency

[1]Zhejiang University, Hangzhou, China
[2]Missouri University of Science and Technology, Rolla, MO, USA
[3]Department of Management & Business Administration (DEA), Università degli Studi "G. D'Annunzio" Chieti—Pescara, Chieti, Italy
[4]IMD, Lausanne, Switzerland
[5]Lancaster University Management School, Lancaster, UK

Corresponding Author:
Junsheng Dou, Professor, Department of Innovation, Entrepreneurship and Strategy, School of Management, Zhejiang University, Hangzhou 310058, China.
Email: jsdou@zju.edu.cn

costs, arguing that non-family managers may lack familial ties and have divergent interests from those of the owning family (Chua et al., 2009; Pinelli et al., 2024); this could hinder firm innovation. These contrasting perspectives have led to inconclusive empirical findings on the role of non-family managers in firm innovation.

Two important gaps are evident in the literature. First, much of the existing research focuses on either the resource-based or agency perspectives (e.g., Chang & Shim, 2015; Pinelli et al., 2024), resulting in conflicting conclusions regarding the influence of non-family managers on innovation. This approach fails to capture the dual roles that non-family managers play as both professional contributors and agents, leading to an incomplete understanding of their impact. Second, although innovation inputs and outputs are both crucial dimensions of innovation processes (Adams et al., 2006), existing studies often focus on only one aspect (e.g., Feng, 2018; Jiang et al., 2020), thereby limiting our understanding of how non-family managers influence both dimensions and the overall efficiency of the innovation process in family firms.

To address these gaps, this study adopts the upper echelons theory (Hambrick & Mason, 1984) as an integrative framework that combines insights from both the resource-based and agency perspectives. Specifically, we investigate how the dual roles of non-family managers, as both professional contributors and agents, jointly exert a positive effect on firm innovation. We also examine how these managers significantly contribute to enhancing innovation inputs by improving the firm's resource mobilization and allocation capacity and mitigating the owning family's risk aversion, while potentially introducing inefficiencies in innovation outputs through increased bureaucracy in decision-making, such as the adoption of formal policies and professional procedures. Furthermore, we examine how governance and managerial contingencies at the firm level—specifically, the generational stage and the configuration of non-family leadership—moderate the benefits and costs associated with involving non-family managers in fostering innovation within family firms.

Empirically, we conduct a meta-analysis of 101 studies that include 213 effect sizes from 2003 to 2023. Our analysis reveals an overall significantly positive effect of non-family managers on firm innovation, with a stronger impact on innovation inputs than outputs. A large amount of heterogeneity in effect sizes is observed, driven by contingencies of governance and managerial levels. Specifically, our three-level meta-regression analysis shows that the positive effect of non-family managers on innovation is weakened in family firms under active first-generation control, but strengthened when non-family leadership is distributed across a non-family top management team (TMT) rather than held by a non-family CEO.

This study makes several key contributions. First, it advances our understanding of non-family management in family firms by integrating the resource-based and agency perspectives within the upper echelons framework. By simultaneously considering non-family managers' dual roles as professional contributors who bring critical resources and capabilities and as agents whose motivations may diverge from those of the owning family, this study reconciles previously conflicting views on their impact on innovation. Second, it enriches research on family firm innovation by highlighting the differential effects of non-family managers on innovation inputs and outputs. Our findings underscore that while non-family managers enhance resource mobilization and capability building during the input stage, their agent identity may lead to inefficiencies in converting these inputs into outputs. This nuanced perspective challenges prior research that posited an inherent innovation efficiency advantage for family firms (Duran et al., 2016) and responds to recent calls to explore the heterogeneity of innovation within family firms (Block et al., 2023). Third, this study contributes to the debate on the ability-willingness paradox in family firm innovation (Chrisman et al., 2015; De Massis et al., 2014) by demonstrating that non-family managers can enhance the firm's willingness to innovate. Specifically, they optimize resource allocation and mitigate the owning family's risk aversion on the input side, thereby enhancing overall innovation potential, even if the conversion to outputs remains less efficient. Finally, this study extends upper echelons theory by examining the contingent effects of generational stage at the governance level and the configuration of non-family leadership at the managerial level. In particular, it emphasizes the role of TMT diversity (i.e., family versus non-family managers) and further

distinguishes the impact of non-family TMTs from that of non-family CEOs on firm innovation (Halder et al., 2023).

Theoretical Background and Hypotheses

The importance of non-family managers in shaping family firms' strategic decisions, particularly innovation, has received significant attention in family business research (e.g., Bornhausen & Wulf, 2024; Chung et al., 2023; Hillebrand et al., 2020). Non-family managers, defined as individuals without blood or marital ties to the owning family, including non-family CEOs and all other types of managers in the TMTs, bring both benefits and costs to family firms (Bennedsen et al., 2007; Hiebl & Li, 2020; Tabor et al., 2018). Despite extensive research examining their impact on firm innovation, no consensus has been reached (Classen et al., 2012; Diéguez-Soto et al., 2016; Lin & Wang, 2021); however, the literature reveals two dominant theoretical streams that investigate the dual impacts of non-family managers on family firm innovation: the resource-based perspective and the agency perspective.

Studies grounded in the *resource-based perspective* argue that non-family managers provide family firms with distinctive advantages through their professional expertise, managerial skills, industry experience (Bennedsen et al., 2007; Fang et al., 2016; Mondal & Lahiri, 2024; Sun et al., 2023), and external networks (Sanchez-Famoso et al., 2017). Family firms benefit from non-family managers' abilities to enhance innovation by introducing access to new and diverse resources and leveraging their superior managerial capabilities, which contributes to the identification and implementation of innovation in family firms (Diéguez-Soto et al., 2016; Eklund et al., 2013; Fang et al., 2022). Their experiential resources, such as professional experience and industry awareness, also help enhance the firm's innovation capacity (Huybrechts et al., 2012; Zybura et al., 2021). Moreover, their connections with extensive external networks are invaluable for accessing critical external information and knowledge, which further facilitates innovation (Alayo et al., 2019; Sanchez-Famoso et al., 2015; Sciascia & Mazzola, 2008). Nevertheless, the value of these resources depends on the family firm's need to absorb and utilize them. As family firms grow in scale or across generations, they tend to have a stronger demand for external resources due to their limited internal labor pool, making the role of non-family managers more pronounced (Chua et al., 2003; Garcés-Galdeano et al., 2017; Klein & Bell, 2007). The diversity brought by a non-family TMT also matters, compared to relying on a single non-family CEO, which further enhances the firm's innovation potential (Binacci et al., 2016; Patel & Cooper, 2014; Röd, 2019).

As framed by the *agency perspective* (Jensen & Meckling, 1976), the contribution of non-family managers to innovation depends on the alignment of their interests with those of the owning family. Non-family managers, as agents without family identity, are often motivated by economic goals that align with their own interests but may conflict with the family's dual economic and socioemotional wealth (SEW) objectives (Block, 2011; Chua et al., 2003). The owning family's excessive pursuit of SEW may prevent non-family managers from allocating resources critical for innovation (Zona, 2016). In addition, the absent or limited equity ownership of non-family managers also motivates them to prioritize short-term financial goals that benefit them directly (Kang et al., 2017; Miller & Le Breton-Miller, 2006; Pongelli et al., 2016), and to resist innovations that only yield long-term benefits (Block, 2011; Michiels et al., 2013; Tsao et al., 2015). But non-family managers are more inclined to engage in innovation when this misalignment is mitigated through stock options or other compensation mechanisms that address the increased uncertainty that is inherent in innovation (Gómez-Mejía et al., 2003; Wu & Mazur, 2018).

To address inconsistencies in the existing research on the dual impacts of non-family managers on firm innovation, we adopt the upper echelons theory (Hambrick & Mason, 1984) as an overarching framework that integrates insights from both the resource-based and agency perspectives. Upper echelons theory is particularly useful in explaining this impact, as it emphasizes the pivotal role of top managers' individual characteristics and motives in shaping strategic decisions (Halder et al., 2023; Hambrick & Mason, 1984; Kraiczy et al., 2015), thus capturing the dual nature of non-family managers as both professional contributors and agents. By integrating these perspectives under the framework of upper echelons theory, we aim to explain how non-family managers contribute to firm innovation and why their influence is stronger on innovation inputs while being

constrained during the output stage. Furthermore, we explore the governance and managerial contingencies at the firm level that influence the benefits or costs that non-family managers bring to firm innovation, providing a nuanced understanding of the factors shaping their impact.

Non-family Managers and Firm Innovation

Upper echelons theory emphasizes the significant role of top managers' individual characteristics in shaping strategic decisions, including innovation (Hambrick & Mason, 1984). By integrating the resource-based and agency perspectives within this theoretical framework, we expect that non-family managers positively influence family firm innovation. They act as professional contributors, bringing professional expertise, external networks, and effective resource allocation that help overcome inherent resource constraints. In their roles as agents without familial ties, they help reduce family-induced biases and promote more objective and effective innovation decisions.

As professional contributors, non-family managers bring unique resources previously lacking in family firms, such as professional expertise and skills, industry experience, and external networks, which significantly enhance a family firm's ability to innovate (Eklund et al., 2013; Fang et al., 2022; Sanchez-Famoso et al., 2015). They provide access to new and diverse resources through their professional training and external social networks, which helps family firms overcome innovation inertia and seize new opportunities (Sirmon & Hitt, 2003). Moreover, given that family firms typically face resource constraints (Zahra et al., 2004), the efficient allocation of limited resources to innovation activities becomes particularly important. Drawing on their managerial experience and skills, non-family managers help reconfigure internal resources more effectively, supporting innovation activities and fostering a more structured approach to developing innovation capabilities (Classen et al., 2014; De Massis et al., 2018).

From an agency perspective, the absence of familial ties creates a misalignment of interests between the owning family and non-family managers, particularly regarding SEW preservation (Block, 2011; Chua et al., 2009). While family members' emphasis on maintaining legacy and control may constrain non-family managers' discretion to some extent (Gómez-Mejía et al., 2007), these constraints are generally outweighed by the substantial resource advantages non-family managers bring. In addition, because they are less bound by SEW considerations, non-family managers can enhance the objectivity of decision-making in innovation by reducing cognitive biases such as risk aversion or resistance to change (Chrisman et al., 2004). Their detachment from SEW also disrupts entrenched groupthink among family members and mitigates strategic myopia (Miller et al., 2008; Patel & Cooper, 2014), fostering an innovative environment aligned with organizational growth. Furthermore, their greater propensity for risk-taking facilitates the pursuit and implementation of innovation (Classen et al., 2014). Taken together, these ideas lead us to propose the following hypothesis:

> **Hypothesis 1.** The involvement of non-family managers is positively associated with innovation in family firms.

Dimensions of Innovation: Innovation Inputs Versus Innovation Outputs

Innovation in family firms involves two key stages: innovation input, which focuses on mobilizing resources such as R&D investments and talent, and innovation output, which refers to tangible outcomes such as new products or processes (Adams et al., 2006; Röd, 2016). These stages differ not only in their resource and managerial demands but also in the ways that family firm dynamics influence their execution. We argue that non-family managers have a stronger influence on innovation inputs than on outputs due to the following differences.

The input stage is primarily resource-driven, emphasizing the acquisition and allocation of resources (Chung et al., 2023; Lumpkin et al., 2011); these are areas in which non-family managers are highly proficient. With their managerial expertise, industry experience, and external networks, non-family managers can identify opportunities, secure resources, and implement systematic processes that enhance the firm's innovation capacity (Bornhausen & Wulf, 2024; Diéguez-Soto et al., 2016; Hillebrand et al., 2020). Furthermore, resource-focused activities, such as acquiring financial resources or talent, often align with family firms' economic objectives such as profitability and long-term growth, without directly challenging existing control structures or organizational norms (Chrisman et al., 2005). Meanwhile, these activities help mitigate the owning family's

perceived risk and uncertainty (Chrisman et al., 2004), thereby granting non-family managers greater discretion to leverage their expertise and capabilities during the input stage.

In contrast, the output stage involves converting innovation inputs into tangible results, such as new products or processes (Crossan & Apaydin, 2010), which presents challenges more closely tied to the internal dynamics of family firms. First, innovation outputs demand substantial effort in execution and represent a prolonged transformation phase (Foss et al., 2013), which typically involves heightened uncertainty due to information asymmetry (Chua et al., 2009; Pinelli et al., 2024). To address this, family firms tend to increase bureaucratic controls for decision-making, such as formal policies and professional procedures (Miller et al., 2013), to constrain non-family managers' discretion, potentially leading to slower and less efficient processes. Second, the successful achievement of innovation outputs requires strong internal alignment, which is often shaped by family-centric power dynamics (Rondi et al., 2021). These dynamics create interpersonal and cultural barriers that non-family managers, who lack familial ties, often struggle to navigate (Chrisman et al., 2004; Gómez-Mejía et al., 2010). These barriers further constrain non-family managers' abilities to allocate resources optimally, and sometimes lead to an overuse of resources to achieve a given outcome. Based on this reasoning, we hypothesize:

> **Hypothesis 2.** The positive effect of non-family managers on innovation inputs is stronger than that on innovation outputs.

Moderators of the Relationship Between Non-family Managers and Firm Innovation

In this section, we examine key contingencies that shape the relationship between non-family managers and firm innovation, acknowledging the substantial heterogeneity across family firms (Daspit et al., 2021). One particularly salient source of heterogeneity is the generational stage. Prior research highlights that family firms under first-generation control often exhibit stronger SEW preservation motives, centralized authority structures, and a heightened resistance to strategic change (Gómez-Mejía et al., 2007; Sharma, 2004). These features can impose tighter constraints on non-family managers, reducing their discretion and limiting their ability to initiate or champion innovation. In such firms, family founders may dominate strategic decision-making and impose path dependencies that prioritize continuity over novelty (Sirmon & Hitt, 2003).

However, the influence of non-family managers on innovation is also shaped by how leadership roles are distributed within the TMT. While prior research often treats non-family involvement as a homogeneous phenomenon (e.g., Vandekerkhof et al., 2015), we argue that the locus of non-family leadership—whether centered in the CEO role or dispersed across the broader TMT—has critical implications for innovation outcomes. Drawing on upper echelons theory (Hambrick & Mason, 1984), we contend that executives' impact on firm strategy depends not only on their personal attributes but also on their positional authority and the organizational context in which they operate.

In family firms, where governance is often relational and infused with non-economic goals (Chrisman et al., 2004; Gómez-Mejía et al., 2007), the distinction between non-family CEOs and non-family TMT members is theoretically meaningful. A non-family CEO possesses formal authority and greater latitude to set strategic direction, potentially promoting innovation by actively overcoming SEW-driven inertia within the firm. In contrast, non-family managers embedded within a broader TMT—typically involving multiple non-family members contributing diverse expertise—tend to exercise influence through more collaborative and relational dynamics (Ling et al., 2015; Patel & Cooper, 2014), especially in family-dominated settings. Their capacity to drive innovation depends more heavily on team processes, diversity of thought, and alignment with family interests (Ling et al., 2015; Simons et al., 1999).

Taken together, these two contingencies—first-generation control and the locus of non-family leadership—highlight the complex interplay between governance structure and managerial composition in shaping the strategic role of non-family managers. By examining these moderators, we seek to better understand when and how non-family executives can leverage their expertise and autonomy to drive innovation in family firms, despite the presence of agency constraints and SEW-preserving logics.

First-Generation Control. Since different generations vary in their ability to shape the firm's strategic decisions and

behaviors (Cruz & Nordqvist, 2012; Röd, 2016; Sonfield & Lussier, 2004), the generational stage is a crucial factor that influences non-family managers' roles in firm innovation. The distinction is particularly pronounced between first-generation firms and those controlled by subsequent generations (Chirico & Kellermanns, 2022; Gómez-Mejía et al., 2007). First-generation family firms, defined as those owned and managed by the founding generation (Sánchez-Marín et al., 2019), are characterized by centralized authority (Sharma, 2004) and a strong emphasis on SEW preservation, such as maintaining legacy and control (Gómez-Mejía et al., 2007). Based on these characteristics, we propose that first-generation control weakens the positive effects of non-family managers on firm innovation.

From a resource-based perspective, first-generation family firms often exhibit a higher reliance on internal resources and networks (Kelly et al., 2000; Pittino et al., 2013), which drives their preference for familiarity and established practices. This reliance limits the extent to which non-family managers can leverage their external expertise, experience, and networks, thereby constraining their ability to expand the firm's resource base and implement innovation effectively. From an agency perspective, the stronger SEW priorities in first-generation family firms intensify the divergence of interests between family owners and non-family managers regarding risk-taking and innovation initiatives (Baixauli-Soler et al., 2021; Gómez-Mejía et al., 2014). While non-family managers are typically less constrained by SEW considerations and more inclined to pursue innovation (Ng et al., 2022), the heightened focus on preserving legacy and control in first-generation family firms significantly limits their discretion (Ashwin et al., 2015; Sirmon & Hitt, 2003), particularly for innovation that is perceived as risky or misaligned with SEW preservation goals. Moreover, the authority and prestige of first-generation members often lead non-family managers to comply rather than challenge (Sundaramurthy & Kreiner, 2008), which undermines the potential benefits of diverse perspectives and constructive dissent. As a result, non-family managers' effectiveness in fostering innovation is weakened in first-generation family firms. Thus, we hypothesize:

Hypothesis 3a. The positive relationship between non-family managers and firm innovation is weaker in family firms that are controlled by the first generation.

Non-family Leadership Locus. According to the upper echelons theory, firm innovation is influenced not only by the individual characteristics of top managers but also by their positional authority, team composition, and the interactional dynamics within the TMT (Hambrick, 2007). In family firms—where decision-making is often guided by SEW priorities and concentrated control—the configuration of non-family leadership takes on heightened significance. Non-family involvement may be centralized in the CEO role or diffused across multiple TMT members (Cruz et al., 2010; Ling et al., 2015; Van Doorn et al., 2022), and these differing leadership structures reflect distinct mechanisms of strategic influence. A non-family CEO primarily drives innovation through individual decision-making authority and expertise, potentially mitigating family resistance to change (Sun et al., 2023). In contrast, a non-family TMT with multiple members fosters collective engagement, enhances diversity of perspectives, and introduces a broader base of external knowledge and experience, thereby diluting family dominance and enhancing the team's innovation capacity (Kraiczy et al., 2015; Patel & Cooper, 2014).

These differences in leadership configuration suggest that non-family TMTs may provide a more robust platform for entrepreneurial thinking and innovative action in family firms than a single non-family CEO. Accordingly, and consistent with upper echelons theory, we propose that the positive influence of non-family managers on firm innovation will be stronger when non-family involvement is distributed across the TMT than when it is concentrated in a single CEO.

From a resource-based perspective, non-family TMTs provide greater resource diversity, which is critical for identifying opportunities, mobilizing resources, and implementing innovation strategies (Classen et al., 2012; Kraiczy et al., 2015; Sanchez-Famoso et al., 2017). The collaborative interactions among non-family TMT members facilitate resource integration and coordination, fostering a more comprehensive and resource-efficient approach to innovation (Arzubiaga et al., 2019; Patel & Cooper, 2014). From an agency perspective, the involvement of multiple non-family managers in a TMT mitigates family-centric biases by fostering cognitive diversity and collective decision-making (Classen et al., 2012). Moreover, a broader distribution of decision-making authority among non-family managers reduces the dominance of family priorities and grants them greater discretion to pursue and implement innovation initiatives (Becerra et al., 2020). Therefore, we propose:

Hypothesis 3b. The positive relationship between non-family managers and firm innovation is stronger in family firms with non-family TMTs than in family firms with non-family CEOs.

Data and Method

Sample and Coding

We used a comprehensive literature sampling procedure that involves four stages. First, we searched the Web of Science, ABI/INFORM, EBSCO Business Source Premier, and ScienceDirect databases for studies published between 1990 and 2023 using the following terms: "families," "family business," "family control," "family firm," "family ownership," "family management," "family CEO," "founder," and "founding family," in combination with the following key terms related to innovation variables: "R&D," "innovat*,"[1] "patent," and "new product." Second, to ensure that key studies were not omitted, we manually searched for articles published in high-quality scholarly journals in the fields of management (e.g., *Academy of Management Journal*), innovation (e.g., *Research Policy*), strategy (e.g., *Strategic Management Journal*), entrepreneurship (e.g., *Entrepreneurship, Theory and Practice*), and organization (e.g., *Organization Science*). We also conducted a manual search of journals with a family business focus (e.g., *Family Business Review*).[2] Third, we searched the ProQuest Dissertations database and conference proceedings such as the Academy of Management Proceedings for unpublished work to reduce the threat of publication bias (Rosenthal, 1979). We further contacted authors by email to request studies that we could not retrieve and other unpublished studies that might be relevant to our research. Fourth, the reference lists of our collected studies were scrutinized to identify any additional relevant studies that could supplement the search results.

The studies obtained through this sampling process were selected for the meta-analysis based on three inclusion criteria. First, studies are needed to empirically examine the relationship between non-family management (i.e., CEO or managers in the TMT) and firm innovation. Second, studies had to report sample sizes and Pearson correlation coefficients or other appropriate statistics (e.g., *t*-test values) that could be converted into correlation coefficients (Lipsey & Wilson, 2001; Stanley et al., 2024). Third, we identified cases where the same samples were used in two or more primary studies and included the correlation between two identical variables only once to avoid potential biases (Geyskens et al., 2009). This process resulted in a sample of 218 effect sizes derived from 105 studies. We then conducted a combination of the studentized residuals and Cook's distance analyses to identify outliers (Viechtbauer & Cheung, 2010). To mitigate potential biased results caused by influential outlier observations, we excluded five effect sizes from four studies. After this step, the final sample consisted of 213 effect sizes derived from 101 studies. A list of all primary studies included in the analysis is provided in Supplemental Appendix 1.

Following this search process, two authors read all primary studies and independently coded the studies according to a coding protocol outlining all information to be extracted from the studies. To guarantee the accuracy and consistency of coding, as suggested by Hunter and Schmidt (2004), all discrepancies were discussed until agreement was reached.

HOMA Procedure

The first meta-analytic technique employed was the Hedges and Olkin-type meta-analysis (HOMA; Hedges & Olkin, 1985), which allows us to identify the overall relationship between non-family managers and firm innovation for the whole sample and for different subgroups. Following Lipsey and Wilson (2001), effect sizes were transformed into Fisher's z measure to satisfy their assumptions of normal distributions and known sampling variance to estimate the model. A random-effects model was selected to account for variation in true effect sizes across studies (Borenstein et al., 2010). In this model, effect sizes are weighted by inverse variance weights from two sources of variance: within-study error variance and between-study variance (Borenstein et al., 2010; Hedges & Olkin, 1985). The restricted maximum likelihood (REML) regression estimator was used due to its efficiency and unbiasedness (Viechtbauer, 2005). To address the potential dependency of effect sizes resulting from multiple measures of non-family involvement or innovation variables in a single study, a three-level structure was implemented by introducing additional study-level random-effects, which provides the advantage of retaining all available measurement information while addressing the non-independence among effect sizes (Cheung, 2019; Hansen & Block, 2021).

MARA Procedure

We employ meta-analytic regression analysis (MARA; Lipsey & Wilson, 2001) to explore the potential moderators that influence the relationship between non-family managers and firm innovation. This meta-analytic technique allows for testing moderating hypotheses in a multivariate weighted least squares regression (Lipsey & Wilson, 2001). In this regression, the z-transformed correlations were used as the dependent variable, with all effect sizes weighted by inverse variance weights (Borenstein et al., 2010; Lipsey & Wilson, 2001). Similarly, we applied a three-level model for the analysis of moderating effects, resulting in a three-level meta-regression. A mixed-effects model, combined with the REML estimator, was then used to capture and estimate population heterogeneity (Viechtbauer, 2005). All analyses were conducted using the metafor package in *R* (Viechtbauer, 2010).

Variables

Non-family Variables. Consistent with the two common operationalizations used in primary studies, we divided non-family managers (our independent variable) into two subgroups and created two dummy variables that indicate whether non-family involvement was measured by *non-family CEOs* or *non-family TMTs*. For the latter, we further distinguished between the non-family TMT percentage (the proportion of non-family managers in the TMT) and the non-family TMT dummy (the presence of non-family managers in the TMT).[3]

Innovation Variables. Following the operationalizations of prior research (e.g., Duran et al., 2016), we distinguished between innovation input, innovation output, and other innovation dimensions, including innovation strategy and innovativeness.

Innovation Input. We coded variables related to expenditures reported in the primary studies, such as positive R&D expenditures (e.g., Zybura et al., 2021), the ratio of R&D expenditures to total sales (e.g., Kathuria et al., 2023) or to total assets (e.g., Lawrence et al., 2021), R&D expenditures per employee (e.g., Röd, 2019), the proportion of R&D employees to total employees (e.g., D'Angelo et al., 2013), or external innovation expenditures (e.g., Classen et al., 2012). We coded both archival and survey-based measures of innovation input, and further differentiated between the ratio of R&D expenditures to total sales, total assets, and the R&D dummy (whether R&D activities occurred).

Innovation Output. We included measures such as the number of patents granted (e.g., Liang et al., 2013), the number of patent applications filed (e.g., Sun et al., 2023), and the introduction of product, process, or organizational innovations (e.g., Diéguez-Soto et al., 2016; Istipliler et al., 2023). Dummy variables were created to distinguish innovation output measured by archival proxies or surveys, and between measures using patent counts, or product or process innovation.

Other Innovation Dimensions. We categorized a variable as *innovation strategy* if it measured exploration and exploitation (e.g., Arzubiaga et al., 2019), ambidexterity (e.g., Alayo et al., 2022), TMT innovation orientation (e.g., Kraiczy et al., 2014), or innovation intentions (e.g., Mismetti et al., 2025). For *innovativeness*, we considered variables coded in the primary studies that reflect a firm's openness and capability to innovate, often represented as a dimension of entrepreneurial orientation (e.g., Becerra et al., 2020) or corporate entrepreneurship (e.g., Bauweraerts et al., 2020).

Moderating Variables

Family Generation. Following prior research (e.g., Jaskiewicz et al., 2021), we created dummy variables to capture generational influence. The variable for first-generation control was coded as one if the primary study controlled for an active founder or first generation, and zero otherwise. Later generation was coded as one if the family influence was mainly realized by a later generation. If both variables were zero, the primary study did not control for the generational stage. *Non-family leadership locus.* Given that managers in different positions may exert distinct influences on a firm's strategic decisions and behaviors (Ling et al., 2015), we used a dummy variable to capture the leadership locus of non-family involvement. This variable was coded as 1 when non-family involvement was situated at the TMT level, and 0 when it was concentrated in the CEO position.

Control Variables

Firm-Level Control Variables. Industry. Because firm innovation is affected by the relative innovativeness of industries, we created a dummy variable to capture

the influence of industry innovativeness. This variable was coded as one for samples from high-tech industries (Heckler, 2005) and zero for those in low-tech or mixed industries. *Listed on stock market*. We categorized samples into three subgroups and created dummy variables to indicate whether the firms in a study's sample were publicly listed, private, or a mix of both. *Firm size*. Recognizing firm size as a critical determinant of strategic behavior (Fang et al., 2016), we coded firm size based on the number of employees, annual sales, or total assets (Duran et al., 2016). Following Zou et al. (2018), we coded firm size as one if the average number of employees in a sample was more than 50, or if the average annual sales or total assets of firms in the sample were greater than US$50 million, and zero otherwise. *Firm age*. We measured firm age as the average number of years since the establishment of the firms in the sample of the primary study. We used 10 years as a cut-off to distinguish between young and mature firms (Kiss & Barr, 2017), with this dummy variable coded as one for mature firms and zero for young firms. Considering that family firms tend to have longer lifespans than non-family firms (Wilson et al., 2013), we also used a 20-year cut-off as an alternative.

Country-Level Control Variables. *Gross domestic product (GDP) per capita*. We measured a country's economic development using the natural logarithm of GDP per capita (measured in USD) at the median year of the sample period, which we obtained from the World Bank. *Power distance*. We used Hofstede's cultural dimension scores for power distance (Hofstede et al., 2010). This variable was coded as one if a primary study's sample originated from a country with a power distance score higher than the mean value of all primary studies, and zero otherwise. *Patent protection*. Stronger protection of intellectual property rights can spur innovation (Maskus et al., 2019). To measure the level of patent protection in a country, we used an index of intellectual property rights protection developed by the U.S. Chamber of Commerce (2023).

Study-Level Control Variables. *Partial correlation*. This variable identifies the type of effect size reported in the primary study, which was coded as one if the effect size was derived from partial correlations, and zero if it was based on Pearson correlation coefficients. *Journal impact factor*. To capture the academic influence of the journals in which the primary studies were published, we extracted the journal impact factor from Clarivate Analytics (2021), which provides citation rankings for over 12,000 journals. *Median year of sample*. We coded the median year of the sample period in a primary study to examine whether the focal relationship weakened or strengthened over time.

The variables and descriptions are listed in Supplemental Appendix 2.

Results

HOMA Results

Table 1 summarizes the meta-analytic correlations between non-family managers and firm innovation. Based on 213 effect sizes from 101 primary studies covering 382,420 firms, the results reveal that non-family managers have an overall strongly positive impact on firm innovation (r_c = 0.0260, p = .0004), which supports Hypothesis 1 and confirms a consistent positive relationship that aligns with our theoretical expectations. While the effect size is modest, it underscores the value of involving non-family managers in leadership to enhance diversity and foster innovation—a strategy especially vital for balancing family governance with competitive pressures. The economic significance of this relationship becomes evident when aggregated across firms, especially in innovation-driven industries. The large amount of heterogeneity in effect sizes (Q = 1,360.49, $p < .0001$) implies the likely presence of moderating factors, which requires further exploration into these contingencies.

When distinguishing between different forms of non-family involvement, both *non-family CEOs* (r_c = 0.0231, p = .0045) and *non-family TMTs* (r_c = 0.0326, p = .0109) positively and significantly influence firm innovation, with non-family TMTs demonstrating a stronger effect. This suggests that the diverse resources and collaborative dynamics within non-family TMTs create a more conducive environment for innovation compared to the influence of a single non-family CEO. Furthermore, within non-family TMTs, the percentage of non-family managers (r_c = 0.0412, p = .0073) is significantly positively associated with firm innovation, whereas the mere presence of non-family managers (r_c = 0.0100, p = .6911) shows no significant effect. These findings suggest that innovation benefits arise

Table 1. HOMA Results for the Non-family Managers–Innovation Relationship.

Subgroups	*k*	*N*	r_c	*SE*	*z*-value	*p*-Value	−95% CI	+95% CI	*Q* test
All firms	213	382,420	0.0260***	0.0073	3.5666	0.0004	0.0117	0.0403	1,360.49(0.00)
Non-family variables									
Non-family CEOs	124	281,150	0.0231***	0.0082	2.8380	0.0045	0.0072	0.0391	907.82(0.00)
Non-family TMTs	89	101,270	0.0326**	0.0128	2.5474	0.0109	0.0075	0.0577	441.53(0.00)
Non-family TMT percentage	69	67,718	0.0412***	0.0153	2.6844	0.0073	0.0111	0.0712	246.13(0.00)
Non-family TMT dummy	19	33,235	0.0100	0.0250	0.3974	0.6911	–0.0391	0.0590	175.45(0.00)
Innovation variables									
Innovation input	91	282,140	0.0317***	0.0086	3.6753	0.0002	0.0148	0.0486	940.48(0.00)
Innovation input measured by archival proxies	76	274,354	0.0180**	0.0080	2.2556	0.0241	0.0024	0.0336	828.60(0.00)
Innovation input measured by survey	15	7,786	0.1242***	0.0218	5.7084	0.0000	0.0815	0.1668	38.18(0.00)
R&D expenditures/total sales	50	181,556	0.0103	0.0104	0.9915	0.3215	–0.0101	0.0307	620.38(0.00)
R&D expenditures/total assets	13	56,470	0.0236	0.0161	1.4704	0.1415	–0.0079	0.0551	110.04(0.00)
R&D dummy	11	9,158	0.0892***	0.0180	4.9690	0.0000	0.0540	0.1244	25.42(0.00)
Innovation output	61	82,426	0.0184	0.0146	1.2590	0.2080	–0.0102	0.0470	263.63(0.00)
Innovation output measured by archival proxies	25	65,165	0.0200*	0.0107	1.8727	0.0611	–0.0009	0.0409	118.99(0.00)
Innovation output measured by survey	36	17,261	0.0159	0.0245	0.6500	0.5157	–0.0320	0.0639	136.38(0.00)
Patent count	22	57,333	0.0140	0.0102	1.3723	0.1700	–0.0060	0.0340	97.38(0.00)
Product or process innovation	23	9,545	0.0334	0.0284	1.1753	0.2399	–0.0223	0.0890	76.31(0.00)
Other innovation types	61	17,854	0.0235	0.0163	1.4482	0.1476	–0.0083	0.0554	142.68(0.00)
Innovation strategy	34	9,573	–0.0000	0.0244	–0.0013	0.9990	–0.0479	0.0479	65.28(0.00)
Innovativeness	27	8,281	0.0460**	0.0208	2.2055	0.0274	0.0051	0.0868	57.98(0.00)
Contextual variables									
Family generation									
First generation	42	51,523	0.0140	0.0141	0.9884	0.3230	–0.0137	0.0417	92.19(0.00)
Later generation	27	20,417	0.0337	0.0321	1.0498	0.2938	–0.0292	0.0966	164.50(0.00)
No generation control	144	310,480	0.0283***	0.0081	3.4813	0.0005	0.0124	0.0442	1094.30(0.00)
Industry									
High-tech industry	30	53,620	0.0367**	0.0146	2.5181	0.0118	0.0081	0.0653	155.94(0.00)
Low-tech or mixed industry	183	328,800	0.0235***	0.0079	2.9631	0.0030	0.0080	0.0391	1185.04(0.00)
Listed on stock market									
Public firms	90	314,654	0.0154**	0.0078	1.9680	0.0491	0.0001	0.0306	889.10(0.00)
Private firms	79	48,806	0.0337***	0.0128	2.6392	0.0083	0.0087	0.0587	226.26(0.00)
Mixed firms	44	18,960	0.0346	0.0256	1.3491	0.1773	–0.0157	0.0848	149.07(0.00)
Firm size									
Large firms	119	252,170	0.0185**	0.0087	2.1135	0.0346	0.0013	0.0356	898.29(0.00)
Small firms	71	86,875	0.0508***	0.0123	4.1226	0.0000	0.0266	0.0749	284.34(0.00)
Firm age (cut-off=10)									
Mature firms	152	260,913	0.0276***	0.0086	3.2274	0.0012	0.0108	0.0444	1028.18(0.00)
Young firms	23	68,175	0.0017	0.0117	0.1481	0.8823	–0.0212	0.0246	150.97(0.00)
Firm age (cut-off=20)									
Mature firms	120	134,387	0.0399***	0.0107	3.7313	0.0002	0.0189	0.0609	477.21(0.00)
Young firms	55	194,701	–0.0027	0.0078	–0.3467	0.7288	–0.0179	0.0125	583.05(0.00)
Power distance									
High	94	297,984	0.0134*	0.0080	1.6783	0.0933	–0.0022	0.0290	856.57(0.00)
Low	111	74,128	0.0316***	0.0118	2.6756	0.0075	0.0085	0.0548	367.02(0.00)

Note. k = number of effect sizes; N = total sample size; r_c = mean effect size; *SE* = standard error of the mean effect size; 95% CI = 95% confidence interval; Q test = chi-square test for heterogeneity and its significance (*p*-value in parentheses).
*$p < .10$; **$p < .05$; ***$p < .01$.

from meaningful representation within the TMT rather than isolated involvement.

The analysis of innovation dimensions reveals significant heterogeneity, with results showing a stronger correlation for *innovation input* ($r_c = 0.0317, p = .0002$) than for *innovation output* ($r_c = 0.0184$, $p = .2080$), which provides support for Hypothesis 2. This discrepancy suggests that while non-family managers effectively drive innovation inputs through enhanced resource allocation and capability building, they also introduce inefficiencies in converting those inputs into outputs—a process that often involves longer timeframes and greater uncertainty. For measures of *innovation input*, positive and significant effects are observed for both archival-based ($r_c = 0.0180$, $p = .0241$) and survey-based indicators ($r_c = 0.1242, p < .0001$). Specific input metrics, such as R&D dummy ($r_c = 0.0892, p < .0001$), show a significantly positive correlation, whereas the ratio of R&D expenditures to total sales ($r_c = 0.0103$, $p = .3215$) and total assets ($r_c = 0.0236$, $p = .1415$) are not significant. For *innovation output*, archival-based measures are marginally significant ($r_c = 0.0200$, $p = .0611$), while survey-based measures are insignificant ($r_c = 0.0159$, $p = .5157$). Further analysis of specific output measures reveals no significant effects for either patent count ($r_c = 0.0140, p = .1700$) or product or process innovation ($r_c = 0.0334$, $p = .2399$). By contrast, for broader innovation categories, *innovativeness* shows a significantly positive relationship ($r_c = 0.0460$, $p = .0274$), whereas *innovation strategy* ($r_c = -0.0000$, $p = .9990$) does not reflect a similar significance. This suggests that non-family managers enhance a firm's overall capacity for innovation. Beyond tangible economic outcomes, they play a pivotal role in cultivating an innovation-oriented culture, which is essential for long-term competitiveness.

Further subgroup analyses highlight variations across a range of contextual factors. We first examine *family generation*, and find that neither first-generation ($r_c = 0.0140$, $p = .3230$) nor later-generation ($r_c = 0.0337$, $p = .2938$) firms show significant effects. However, the generational stage may still influence how managerial power is distributed and leveraged for innovation. In terms of industry context, samples from *high-tech industries* exhibit a larger effect size ($r_c = 0.0367$, $p = .0118$) compared to those in *low-tech or mixed industries* ($r_c = 0.0235$, $p = .0030$), indicating that professional expertise is particularly valuable in knowledge-intensive sectors. Similarly, *private firms* ($r_c = 0.0337, p = .0083$) outperform *public firms* ($r_c = 0.0154$, $p = .0491$), possibly due to closer alignment between managers and owners in private firms. *Firm size* also plays a role, with smaller firms ($r_c = 0.0508$, $p < .0001$) showing greater dependence on non-family managers than larger firms ($r_c = 0.0185$, $p = .0346$); this finding emphasizes their critical economic contributions in resource-constrained settings. In terms of *firm age*, mature firms ($r_c = 0.0276, p = .0012$) benefit more from non-family managers than young firms ($r_c = 0.0017$, $p = .8823$), likely due to more established structures and processes that allow managerial expertise to translate into innovation. The results remain consistent when using a 20-year cut-off as an alternative threshold. In addition, the results show that countries with low *power distance* ($r_c = 0.0316, p = .0075$) exhibit stronger effects than those with high power distance ($r_c = 0.0134$, $p = .0933$). This suggests that the participatory and collaborative decision-making characteristics of lower power distance cultures foster an environment where non-family managers can more effectively drive innovation.

Meta-Regression Results

The results of the MARA for our moderation hypotheses are presented in Table 2. The dependent variable in each model is the z-transformed correlations between non-family managers and firm innovation. To test moderating effects, we built the models stepwise. Model 1 provides the results of the baseline model. In Model 2, *first generation* was added to examine potential generational effects. Model 3 incorporates *non-family leadership locus* into the baseline model. Finally, Model 4 presents the results of the full model, including all variables.

Model 2 shows that *first generation* has a significantly negative moderating effect ($b = -0.0723$, $p < .01$), which indicates that the relationship between non-family managers and innovation weakens when the founder or first generation is active in family firms. Thus, Hypothesis 3a is supported. This finding highlights the constraints on the strategic contributions of non-family managers in first-generation controlled family firms, which are characterized by a stronger reliance

Table 2. MARA Results for the Non-family Managers–Innovation Relationship.

	Model 1		Model 2		Model 3		Model 4	
Variables	B	*SE*	B	*SE*	B	*SE*	B	*SE*
First generation			–0.0723***	0.0245			–0.0623**	0.0260
Non-family leadership locus					0.0368**	0.0167	0.0276*	0.0160
Innovation input	–0.0217	0.0304	–0.0271	0.0294	–0.0281	0.0301	–0.0320	0.0296
Innovation output	–0.0247	0.0288	–0.0288	0.0278	–0.0287	0.0285	–0.0317	0.0279
Innovation strategy	–0.0446	0.0332	–0.0419	0.0317	–0.0514	0.0331	–0.0480	0.0321
Industry	0.0526	0.0350	0.0517*	0.0297	0.0461	0.0358	0.0466	0.0316
Public firms	0.0309	0.0345	0.0013	0.0318	0.0463	0.0355	0.0167	0.0343
Mixed firms	0.0408	0.0290	0.0462*	0.0251	0.0504*	0.0298	0.0522*	0.0268
Firm size	–0.0258	0.0219	–0.0123	0.0197	–0.0303	0.0223	–0.0178	0.0208
Firm age	–0.0154	0.0267	–0.0137	0.0228	–0.0135	0.0272	–0.0127	0.0242
Later generation	0.0364	0.0329	0.0158	0.0300	0.0222	0.0338	0.0080	0.0316
GDP per capita	0.0165	0.0149	0.0152	0.0126	0.0199	0.0152	0.0176	0.0135
Power distance	–0.0370	0.0571	–0.039	0.0491	–0.0266	0.0581	–0.0318	0.0519
Patent protection	–0.0003	0.0008	–0.0002	0.0007	–0.0001	0.0008	–0.0001	0.0007
Partial correlation	–0.0023	0.0132	–0.0074	0.0127	–0.0040	0.0130	–0.0076	0.0127
Journal impact factor	–0.0002	0.0040	–0.0016	0.0035	–0.0000	0.0041	–0.0013	0.0036
Median year of sample	–0.0008	0.0028	–0.0013	0.0025	–0.0011	0.0028	–0.0016	0.0026
Constant	1.4663	5.5852	2.4917	4.9838	2.1985	5.6426	3.0742	5.1883
AIC	–240.31		–242.06		–239.70		–239.39	
BIC	–192.20		–191.46		–189.09		–186.31	
Q_{Model} (*p*)	15.24 (0.43)		30.44 (0.02)		29.58 (0.02)		29.11(0.03)	
$Q_{Residual}$ (*p*)	653.24 (0.00)		619.48 (0.00)		647.85 (0.00)		618.41(0.00)	
k	123		123		123		123	

Note. Dependent variable is the correlation between non-family managers and firm innovation; *SE* = standard error of the estimate (*B*); AIC = Akaike information criterion; BIC = Bayesian information criterion; *Q* is the homogeneity statistic with its probability in parentheses; *k* = number of effect sizes.
*$p < .10$; **$p < .05$; ***$p < .01$.

on internal resources and networks and heightened SEW preservation. Such governance structures create inefficiencies in leveraging professional managerial resources. The substantial magnitude of this negative effect suggests a notable innovation gap, reflecting the economic cost of governance structures that restrict managerial discretion. In Model 3, the relationship between non-family managers and innovation is significantly stronger when family firms are managed by *non-family TMTs* compared to *non-family CEOs* ($b = 0.0368$, $p < .05$), which supports Hypothesis 3b. This result highlights the advantages of TMT-based leadership, where resource diversity and collaborative decision-making enhance non-family managers' contributions to innovation. The moderately strong economic effect suggests that increasing non-family representation in TMTs can meaningfully improve firm innovation. The results remain significant in the full model when we incorporate all variables in Model 4 simultaneously.

Robustness Tests

One main concern in meta-analytic studies is publication bias, which refers to the extent to which the studies included in the meta-analysis may not represent the broader pool of all existing studies (Geyskens et al., 2009). We used multiple testing procedures to detect potential publication bias that are recommended by Kepes et al. (2012), and none of the tests indicated any sign of publication bias. First, we created a funnel plot with standard errors on the y-axis and Fisher's z-transformed correlations on the x-axis (see Figure 3.1 in Supplemental Appendix 3), which shows a symmetric distribution of sample studies. We also used the trim-and-fill method to assess publication bias (Duval & Tweedie, 2000). This method calculates the number of missing effect sizes and re-estimates effect sizes after imputing the missing data. The results showed that the corrected estimate ($r_c = 0.0215$, $p = .0002$) remained

significant and closely aligned with the original mean effect size for the whole sample, suggesting that publication bias was unlikely to exist. Second, we employed correlation and regression-based methods to test for funnel plot asymmetry. Both the results of the regression test ($z = 1.4141$, $p = .1573$) by Egger et al. (1997) and the rank correlation test (Kendall's tau = 0.40066, $p = .8868$) by Begg and Mazumdar (1994) indicate the absence of publication bias in our meta-analysis. Third, we ran a cumulative meta-analysis where the effect sizes were sorted by their precision (Kepes et al., 2012). A forest plot was then generated as the cumulative estimate was iteratively recalculated (see Figure 3.2 in Supplemental Appendix 3); it showed no significant positive drift that is typically associated with publication bias and confirmed the robustness of the meta-analytically derived mean effect sizes. Fourth, we applied the selection model technique (Kepes et al., 2012; Maier et al., 2022). Unlike the conventional meta-analytic model, which assumes that all effect sizes are equally likely to be included, the selection model addresses publication bias by weighting effect sizes according to their statistical significance (Hedges, 1992; Vevea & Hedges, 1995). We used the selection model based on one-tailed hypothesis tests since it accounts for significance in both directions while addressing potential bias that favors the hypothesized direction. The results provided no evidence for publication bias, $\chi^2(2) = 0.7589$, $p > .1$, and the adjusted mean effect size estimate ($r_c = 0.0275$, $p = .0066$) remains consistent, which indicates that our findings are robust to the influence of publication bias. Fifth, we categorized the studies based on whether they were published in a peer-reviewed journal or presented as working papers and regressed the effect sizes on this binary publication status variable in a univariate three-level model to assess potential subgroup differences. The results indicated no significant differences between published and unpublished studies ($z = 1.4052$, $p > .1$). Similarly, the analysis of the journal impact factor also yielded insignificant findings ($z = .1{,}802$, $p > .1$), confirming that publication bias was not a concern in this study.

We also conducted sensitivity analyses to examine whether effect size estimates may be influenced by the use of partial correlations, which were derived from 49 studies. This was first addressed by including a partial correlation dummy variable in the meta-analytic regression analysis (Combs et al., 2019). The results ($b = -0.0013$, $p > .1$) indicate that the status of effect sizes (bivariate vs. partial) did not significantly impact the findings of our study. Furthermore, we performed an additional meta-analytic regression analysis using only partial correlations as the dependent variable, given that they reflect the focal relationship while controlling for the influence of other modeled independent variables (Karna et al., 2016). The results from Models 1 to 4 confirm that the direction and significance of our moderating effects remain robust (see Supplemental Appendix 4). To ensure robustness, we applied the same procedures as presented earlier to detect potential publication bias in the sub-sample of partial correlations prior to conducting the analysis. The results reject the existence of publication bias, as detailed in Supplemental Appendix 5.

It is important to note that while our overall findings remain robust, the inclusion of partial correlations reveals differential effects on innovation inputs versus outputs. When using only bivariate correlations, non-family managers exert a significantly positive effect on both innovation inputs ($r_c = 0.0298$, $p = .0001$) and outputs ($r_c = 0.0404$, $p = .0269$), with a greater effect on outputs. However, when partial correlations are incorporated, the positive effect on innovation inputs remains significant, whereas the effect on outputs becomes insignificant despite a positive effect size. We argue that the latter result more accurately reflects the differential impact of non-family managers on innovation inputs and outputs, since partial correlations capture their net effect after controlling for other variables (Cohen et al., 2003). Two possible reasons may explain this difference. First, control variables such as firm performance and firm size may capture a firm's ability to attract high-quality non-family managers, thereby making the influence of lower-quality non-family managers more pronounced, especially on innovation outputs, where issues such as resource overuse and increased bureaucratic constraints (e.g., formal policies and professional procedures) hinder efficient innovation processes. Second, non-family managers might indirectly affect innovation outputs by shaping firm capabilities, which are directly captured by control variables such as firm size and firm age, thereby diluting their direct effect. Hence, the effect of non-family managers on innovation outputs is positive but statistically insignificant. As testing these explanations is beyond the scope of this paper, we propose avenues for future research from both theoretical and methodological perspectives to further advance understanding in this area.

In addition, we conducted a meta-analytic regression using the 20-year cut-off as an alternative threshold of firm age. The results were consistent with those presented in Table 1 (see Model 5 in Supplemental Appendix 5).

Discussion

To advance our understanding of the dynamics between non-family managers and firm innovation, we conducted a meta-analytic review to address theoretical and empirical inconsistencies in the literature. Drawing on upper echelons theory and integrating the resource-based and agency perspectives, we elucidate how non-family managers influence firm innovation by emphasizing their dual roles as professional contributors and agents with potentially conflicting interests. Analyzing 213 effect sizes from 101 primary studies, our findings show that non-family managers positively impact firm innovation, but their effect is more pronounced on innovation inputs than on innovation outputs. We further explore two contingencies at the governance and managerial levels that may affect the innovation-related benefits or costs that non-family managers bring to family firm innovation. Our results show that the positive impact of non-family managers on innovation is weakened in family firms under first-generation control. In contrast, this relationship is stronger in family firms where non-family leadership is distributed across the TMT, compared to those led solely by a non-family CEO.

Theoretical Implications

Our findings make several contributions to the literature. First, our study advances the literature on non-family management by providing a comprehensive understanding of how non-family managers impact firm innovation. Prior research has yielded inconclusive findings on this role due to conflicting explanations from resource-based and agency perspectives (e.g., Diéguez-Soto et al., 2016; Pinelli et al., 2024). Using upper echelons theory as an overarching framework (Hambrick & Mason, 1984), we combine insights from both perspectives (Chrisman et al., 2016) to address this controversy by simultaneously considering non-family managers' dual roles as professional contributors who provide innovation-related resources and capabilities (e.g., Chang & Shim, 2015), and as agents whose motivations may diverge from the owning family (e.g., Block, 2011). We also explore how these effects vary across generational stages and configurations of non-family leadership. Taken together, this integration not only provides a more nuanced understanding of how non-family managers influence innovation dynamics within family firms but also yields valuable insights into their broader impact on other strategic decision-making and behavior, both in family firms and across diverse business contexts.

Second, this study contributes to the literature on family firm innovation by disentangling the differential impact of non-family managers on innovation inputs and outputs. Prior research suggested that family firms exhibit greater efficiency and produce more outputs with fewer inputs than their non-family counterparts (Duran et al., 2016). We challenge this view by demonstrating that the involvement of non-family managers introduces heterogeneity in innovation among family firms. Specifically, we found that while non-family managers' resource mobilization and allocation capabilities are particularly beneficial during the input stage, their agent identity results in higher costs during the innovation process that transforms inputs into outputs as a result of increased bureaucracy during decision-making, such as formal policies and professional procedures. In doing so, our study also responds to recent calls by Block et al. (2023) to explore the heterogeneous sources of innovation within family firms. By identifying the dual roles of non-family managers—enhancing input stage efficiency but also contributing to higher costs during the output stage—we provide a more nuanced view of non-family managers' impact on firm innovation. This dual perspective challenges traditional notions of efficiency and calls for a reconsideration of the factors influencing innovation in family firms, particularly as they adopt more professionalized management structures.

Third, this study provides new insights into addressing the ability-willingness paradox in family firm innovation (Chrisman et al., 2015; De Massis et al., 2014) by emphasizing the significant role of non-family managers in enhancing innovation inputs. While the importance of a firm's willingness to innovate is well acknowledged, family firms are often hampered by high risk aversion, which limits their investments in innovation (Migliori et al., 2020). The existing literature has called for a deeper understanding of how such willingness can be enhanced (Rondi et al., 2019). Our study addresses this gap by demonstrating that non-family managers can significantly boost a firm's willingness to

invest in innovation through enhanced resource acquisition and allocation capabilities and by mitigating the owning family's perceived risk or uncertainty. These findings underscore the potential for strengthening the overall innovation potential and competitiveness of family firms by focusing on improvements at the input stage. By integrating non-family managers into the different aspects of the innovation process, this study challenges traditional views of family firms' obstacles to innovation, fundamentally advancing our understanding of how managerial composition can reshape the ability-willingness paradox. It offers a more nuanced model that links managerial expertise and the dynamics of family control to innovation investments and outcomes, offering new directions for future research on family firms' innovation strategies.

Fourth, our study extends upper echelons theory and contributes to the strategic leadership literature (Hambrick & Mason, 1984; Nielsen, 2010) by examining how governance and managerial factors drive innovation heterogeneity in family firms. Upper echelons theory posits that top managers' strategic decisions are shaped by the interplay between their individual characteristics and the situational conditions faced by firms (Hambrick & Mason, 1984). Specifically, we consider the dynamic influence of generational stage at the governance level and demonstrate that first-generation family firms tend to restrict non-family managers' discretion in fostering innovation. At the managerial level, our study not only enriches the understanding of TMT diversity in terms of family versus non-family membership but also distinguishes between different configurations of non-family leadership (Halder et al., 2023). We found that non-family leadership embedded within multiple TMT members exerts a more pronounced positive impact on innovation than when it is held by a single non-family CEO. In doing so, our study advances the upper echelons framework by integrating new variables and dynamics that were previously underexplored, thereby providing fresh insights into the role of managerial diversity in organizational strategy. Taken together, our findings call for a deeper exploration of the interplay between family and non-family leadership in shaping strategic decisions, offering a more complex, multidimensional view of upper echelons theory. This expanded perspective also encourages future research to investigate how different forms of leadership composition—both at the generational governance and managerial levels—affect non-family managers' roles in not only innovation but also other strategic outcomes in family firms.

Practical Implications

Our findings also provide practical implications for family firms. First, our meta-analytic results confirm a positive effect of non-family managers on overall firm innovation, with a stronger influence on innovation inputs than on outputs. Although these effect sizes may appear modest, they reflect meaningful gains when accumulated over time and across innovation initiatives, ultimately enhancing firm competitiveness. This underscores the pivotal role of non-family managers in mobilizing resources and building innovation capabilities within family firms. Our subgroup analyses also show that these effects are stronger in contexts such as small firms and high-tech sectors, where external expertise is especially valuable. Accordingly, family firms should strategically recruit non-family managers who possess valuable professional expertise, industry experience, and external networks to help overcome the risk aversion and resource constraints that often characterize family firms. Moreover, to effectively convert these input improvements into tangible innovation outcomes and reduce possible bureaucratic constraints during this process, family firms should streamline decision-making processes and foster mutual trust and collaborative mechanisms to fully harness the innovation potential of non-family managers. Second, generational dynamics significantly shape the effectiveness of non-family managers. Our findings suggest that first-generation family firms tend to benefit less from non-family involvement. This highlights the need for these firms to gradually delegate authority to non-family managers and align incentives to support innovation. As family firms transition through generations, adopting more flexible governance practices that allow for greater managerial discretion can further enhance innovation outcomes. Third, the configuration of TMTs plays a crucial role. Our findings suggest that family firms that distribute non-family expertise across the TMT, rather than limiting it to the CEO role, tend to achieve superior innovation outcomes. Practically, this implies that family firms should foster inclusive and diverse TMT structures that incorporate multiple non-family managers. Such diverse teams can leverage varied perspectives and collaborative dynamics, ultimately driving stronger innovation capabilities. Collectively, these strategies enable family firms to

optimize the contributions of non-family managers, thereby enhancing innovation outcomes and sustaining long-term competitiveness.

Limitations and Future Research

Our study identifies several limitations that suggest avenues for future research. First, we focus on the two most commonly used measures of non-family managers in the literature, namely presence and percentage (Becerra et al., 2020; Scholes et al., 2021), and exclude studies that capture more specific attributes, such as non-family CEO tenure (Yeoh, 2014) and non-family social capital (Sanchez-Famoso et al., 2019). Future research could benefit from directly measuring their individual characteristics, such as professional experience and external networks (Sun et al., 2023), within the upper echelons framework. We also encourage scholars to integrate psychological perspectives to explore how personality traits, values, biases, heuristics, memories, or past experiences of non-family managers influence firm innovation (Humphrey et al., 2021; Picone et al., 2021), thereby enriching theoretical development.

Second, while our findings indicate that non-family managers positively affect firm innovation, particularly on the input side, the limited sample size constrains a more nuanced examination of how their effects on inputs and outputs vary under different contingencies. Future research could expand the sample and employ diverse statistical methods to provide more fine-grained insights as more studies emerge. In addition, organizational ambidexterity—capturing explorative and exploitative innovation—represents a critical yet underexplored dimension (Kammerlander et al., 2020). Since it falls beyond the central focus of our study and current empirical evidence remains limited, we encourage future research to disaggregate these innovation types to better understand the distinct roles that non-family managers may play as the literature develops. Moreover, exploring the performance implications of non-family managers' innovation behaviors remains a promising avenue for further study, deepening our understanding of how innovation efforts translate into firm performance.

Third, our robustness tests suggest that the statistically insignificant effect on innovation outputs when incorporating partial correlations may stem from two factors. One is heterogeneity in non-family managers' quality (ranging from high to low competence; Fang et al., 2022), which may moderate their impact on innovation outcomes. Future research could incorporate robust measures of managerial quality using meta-analytic techniques, primary data, or detailed case studies to examine how such variations influence innovation inputs and outputs. Another factor is the presence of mediating mechanisms, such as the indirect effects of non-family managers on firm capabilities, which may dilute their direct impact on innovation outputs. As our meta-analytic approach is limited in capturing such mediation effects, future studies could employ methodologies like structural equation modeling to explore these pathways. Moreover, we recommend that future research compare analytical results with and without partial correlations to yield a more nuanced understanding of the underlying mechanisms.

Fourth, to ensure comparability with prior studies (e.g., Classen et al., 2012; Sciascia et al., 2013), we theorize and empirically examine the distinct roles of non-family CEOs and non-family TMTs in firm innovation without addressing whether the non-family CEO is part of the TMT. We suggest that future research go beyond measuring the proportion of non-family managers and instead focus on the internal configurations of TMTs in family firms. For instance, studies could explore how the interplay between a CEO and other TMT members influences innovation, thereby providing a nuanced understanding of leadership dynamics in family firms. Moreover, examining board composition, such as the number or proportion of non-family directors (both executive and non-executive), and its interplay with TMT characteristics (Minichilli et al., 2009; Sciascia et al., 2014) may offer deeper insights into how governance and managerial dynamics jointly influence firm innovation.

Fifth, our meta-analytic approach inherently limits our ability to explore underlying mechanisms and potential non-linear relationships. Although our findings confirm the positive influence of non-family managers on firm innovation, the specific resources, capabilities, and processes driving these effects remain insufficiently examined. Future studies could employ longitudinal or qualitative designs to better understand how non-family managers influence different stages of the innovation process. In addition, innovation in family firms, particularly regarding non-family involvement in TMTs, may follow non-linear patterns (e.g., Kammerlander et al., 2020), which involve complex dynamics that meta-analytic methods cannot fully address. We therefore encourage future research to apply advanced analytical methods to explore these nuanced effects. These avenues offer opportunities to further enrich theoretical development.

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ORCID iDs

Qiuyue Lyu https://orcid.org/0000-0001-9930-8918

Junsheng Dou https://orcid.org/0000-0002-6934-4077

Hanqing "Chevy" Fang https://orcid.org/0000-0001-8202-8186

Alfredo De Massis https://orcid.org/0000-0001-5552-6497

Supplemental Material

Supplemental material for this article is available online.

Notes

1. The keyword "innovat*" covers various possible terms representing innovation, including "innovation," "innovate," "innovative," and "innovativeness."
2. The journals were (a) *Management: Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly*, *Journal of Management*, *Academy of Management Annals*, *British Journal of Management*, *Business Ethics Quarterly*, *Journal of Management Studies*; (b) *Innovation: Research Policy*, *Journal of Product Innovation Management*, *R&D Management*, *Technovation*; (c) *Strategy: Strategic Management Journal*, *Global Strategy Journal*, *Long Range Planning*, *Strategic Organization*; (d) *Entrepreneurship: Entrepreneurship, Theory and Practice*, *Journal of Business Venturing*, *Strategic Entrepreneurship Journal*; (e) *Organization: Organization Science, Human Relations, Leadership Quarterly, Organization Studies, Organizational Research Methods*; and (f) *Other: Family Business Review, Journal of Small Business Management, Journal of Family Business Strategy*.
3. In the coding process, we also included primary studies that measured family CEOs or family TMTs as binary or continuous variables (reported as a percentage ranging from 0 to 1), allowing us to code the opposite values of correlations or other convertible statistics. It is easily interpretable and demonstrable that these statistics for family-related variables are opposite to those for non-family counterparts. In addition, we excluded studies with mixed samples of family and non-family firms to ensure coding validity under this approach.

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Author Biographies

Qiuyue Lyu is a PhD candidate at the Department of Innovation, Entrepreneurship, and Strategy, School of Management, Zhejiang University. Her research interests include governance in family firms, innovation, and entrepreneurship.

Junsheng Dou is a professor of family business and entrepreneurship and the associate director of the Institute for Entrepreneurs at Zhejiang University Management School, China. His research interests include family business succession, transgenerational entrepreneurship, digital innovation, and ESG.

Hanqing "Chevy" Fang is an associate professor in the Department of Business and Information Technology at Missouri University of Science and Technology. His research examines entrepreneurship and innovation in the context of family business and business families. He currently serves as an editor at Entrepreneurship Theory and Practice and sits on the editorial review boards of Family Business Review and the Journal of Family Business Strategy.

Alfredo De Massis is a professor of entrepreneurship and family business who serves as an advisor to family enterprises and policymakers. He is an editor of Entrepreneurship Theory & Practice, associate editor of Family Business Review, serves on the boards of public and private organizations internationally, teaches at the D'Annunzio University of Chieti-Pescara, and provides intellectual contributions to the International Institute for Management Development by working on collaboration and scientific advisory activities at the Wild Group Chair in Family Business. His research has been published in the leading academic and practitioner journals.