Essays on Strategic Management:

Exploring the Effects of Cooperative and Competitive Firm Strategies on Firm Performance

Doctoral Thesis

submitted to
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Date of submission:
October 28th, 2024.

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INTRODUCTION

Strategic management research is fundamentally concerned with understanding the determinants of firm performance, exploring factors that enhance or impede organizational success. While the field has a clear focus, it has undergone considerable evolution throughout the 20th century (Durand, Grant, & Madsen, 2017; Hoskisson, Hitt, Wan, & Yiu, 1999). In their seminal review, Hoskisson et al. (1999) highlight several distinct trends within the literature and liken the evolution of the field to a pendulum swinging between an emphasis on internal and external determinants of success. They categorize this evolution into four phases:

In the initial phase, strategic management research concentrated on internal firm structures and processes as key drivers of firm performance. Penrose (1959), for instance, argued that effective internal operations are critical for firm growth. Similarly, Chandler's (1962) structure-follows-strategy paradigm, Ansoff's (1965) product-market strategies, and Learned, Christensen, Andrews, and Guth's (1965/1969) strategy formulation all underscored the importance of having suitable internal structures to achieve organizational goals. In the 1970s, the focus then shifted to the analysis of external influences, particularly industry structures and competitive environments. For instance, Hunt (1972) and Porter (1973) highlighted the significance of competitive forces in shaping firm performance. Porter's (1980, 1985) structure-conduct-performance model emphasized how market conditions and strategic behaviors interact to affect performance. Then again, subsequent years saw a return to internal success factors, leading to more integrative perspectives. Theories such as transaction cost economics (Williamson, 1975; 1985) and principal-agent theory (Jensen & Meckling, 1976) conceptualized firms as bundles of contracts, focusing on the economic exchange relationships between firms and their environment. These perspectives significantly influenced research in the areas of corporate governance (e.g., Eisenhardt, 1989; Hoskisson & Turk, 1990) and mergers and acquisitions (M&A; e.g., Hitt, Hoskisson, & Ireland, 1990). With the growing popularity of the resource-based view (RBV; Barney, 1991) in the 1990s, the focus shifted completely back to internal resources as the basis for sustainable competitive advantage (Wernerfelt, 1984). Although later work also considered external factors such as the institutional environment (Oliver, 1997), the RBV remained predominantly internally focused, with later extensions such as strategic leadership theory emphasizing the role of leaders and their personal characteristics in shaping firm success (March & Simon, 1958; Pfeffer & Davis-Blake, 1986) and the knowledge-based view (Cohen & Levinthal, 1990; Foss, 1996) emphasizing the role of a firm's "absorptive capacity" in maintaining competitiveness.

At the end of their article, Hoskisson et al. (1999) predicted a renewed shift toward the analysis of external success factors in the early 21st century. They identified three key drivers for this expected shift. First, the increasing importance of global networks would fundamentally change international competition, with strategies aimed at acquiring knowledge or technology through acquisitions or alliances becoming central (e.g., Hitt, Ireland, & Hoskisson, 1997; Osborn & Hagedoorn, 1997; Singh, 1995). Second, advancements in technology would change the dynamics and pace of competition by enabling firms to communicate over longer distances and at higher speeds, thereby increasing interconnectedness (e.g., Brown & Eisenhardt, 1995; Hitt, Keats, & DeMarie, 1998; Stimpert & Duhaime, 1997). Third, as globalization progresses, understanding the institutional context would become more critical, necessitating research on institutional influences, as findings from individual countries might not generalize globally.

They also emphasized that the ever increasing complexity of the business environment requires more sophisticated research approaches. For example, the use of multilevel research that examines interactions between different organizational levels (Dess, Gupta, Hennart, & Hill, 1995), the use of large-scale quantitative methods to study intangible influences on firm behavior, and the integration of multiple theoretical frameworks would be essential to adequately address strategic complexity.

Since the publication of Hoskisson et al. (1999), many of their predictions have come true. Indeed, the research landscape has shifted back to the study of external success factors, with the network paradigm emerging as a defining concept in strategic management research (Barczak, Kafel, & Magliocca, 2021). This paradigm views organizations as complex, adaptive systems embedded in diverse networks (e.g., Kilduff, Crossland, Tsai, & Krackhardt, 2008; Shipilov, 2012; Shipilov, Gulati, Kilduff, Li, & Tsai, 2014). Some authors even consider networks to be the "defining paradigm of the modern era" (Kilduff & Tsai, 2003: 13) or the "dominant metaphor of our time" (Clegg, Josserand, Mehra, & Pitsis, 2016: 278). This shift is primarily driven by the increasing interconnectedness and importance of intangible resources in a knowledge-based global economy (Barczak et al., 2021). Traditional markets and hierarchical structures are gradually giving way to new network structures (e.g., Achrol & Kotler, 1999; Gulati, Nohria, & Zaheer, 2000; Håkansson & Ford, 2002; Möller & Halinen, 1999; Ring & van de Ven, 1992; Wang, Xu, Qin, & Skare, 2021), resulting in profound changes to the nature of competition. As a result, to compete in the modern era, firms must develop relational strategies to actively engage with their environment and achieve sustainable competitive advantage (e.g., Hernandez & Menon, 2021; Kumar & Zaheer, 2019).

This fundamental shift calls for research that explores how networks and interorganizational social processes shape firm behavior. Key research questions emerge: *How do organizational networks affect firm performance? What internal and external contingencies moderate this relationship? Can organizational networks influence the interplay between cooperation and competition among firms? Moreover, how do variations in organizational culture - resulting from shared norms and values transmitted through internal firm networks - affect firm strategy and performance?*

This doctoral thesis aims to address these questions by advancing our understanding of how network relationships among firms as well as cultural effects shape firm strategy and success. It presents three articles that contribute to the ongoing debates on the impact of organizational networks and culture, thereby extending the field of strategic management using state-of-the-art statistical methods (see Table 1 for an overview of the studies included):

INTRODUCTION

In the first study, we examine board interlocks as a form of interorganizational networks in which directors simultaneously serve on multiple boards (Fich & White, 2005). These interlocks create information channels between firms that facilitate the exchange of intangible resources such as knowledge and expertise (Mizruchi, 1996). Consequently, some scholars view board interlocks as cooperative mechanisms that enhance firm coordination and access to resources, potentially improving firm performance (Martin, Gözübüyük, & Becerra, 2015; Zona, Gomez-Mejia, & Withers, 2018). Others, however, view board interlocks as instruments of power and influence that pose risks such as conflicts of interest and director overcommitment (Fich & Shivdasani, 2006).

Despite their prevalence, empirical findings on the relationship between board interlocks and firm performance remain inconsistent. To address this ambiguity, we conducted a meta-analysis and meta-analytic structural equation modeling (MASEM) based on over one million network connections from more than 100 primary studies. By integrating perspectives from resource dependence theory (Pfeffer & Salancik, 1978) and agency theory (Jensen & Meckling, 1976), we provide a comprehensive understanding of board interlocks and their dual effects on firm performance. Resource dependence theory suggests that board interlocks offer firms access to essential resources, facilitating effective strategy implementation. In contrast, agency theory cautions that multiple board appointments may lead to conflicts of interest or overcommitment, potentially resulting in adverse outcomes. We further examine the influence of contextual factors, such as board power dynamics and institutional environment, that may moderate the influence of board interlocks on firm performance.

Our analysis provides valuable insights into how board interlocks affect firm performance, with significant theoretical implications for corporate governance and practical relevance for firms optimizing board composition. The findings underscore the need to balance resource access benefits against potential agency costs.

Building on the findings of the first study, the second study examines how board interlocks affect competitive behavior within strategic alliances. Firms involved in alliances often participate in several overlapping networks, creating so-called multiplex networks (Shipilov et al., 2014). The interplay between these network ties can significantly shape the dynamics between partner firms. For example, Knoben and Bakker (2019) show that a less powerful alliance partner can use board interlocks to access critical resources from a more powerful partner, thereby transforming a cooperative relationship into a more competitive one. Thus, in this study, we examine whether board interlocks promote cooperation and joint value creation or, conversely, allow one partner to dominate and extract private benefits.

Our research builds on existing evidence that unequal access to resources and different learning rates among alliance partners can destabilize alliances (Hamel, 1991; Kale & Singh, 2009; Kumar, 2010). To examine the effects of board interlocks on alliance outcomes, we conduct a dyadic analysis of a large sample of strategic alliances across industries, analyzing how board-level ties affect both performance and value distribution within each alliance. Our findings provide new insights into the role of multiplex networks in moderating cooperative and competitive forces within strategic alliances. In addition to contributing to the theoretical understanding of the balance between competition and cooperation in alliances, this study offers practical recommendations for firms engaging in alliances and extends the literature on relational pluralism-the concept that firms are embedded in multiple, interlocking networks that can either strengthen or challenge their inter-firm relationships.

The third study, published in the *Review of Managerial Science*, examines how differences in organizational culture affect the success of M&A transactions. Organizational cultures, which are shaped by intra-firm social structures and interpersonal relationships, vary significantly across firms (Klüppel, Pierce, & Snyder, 2018). In this study, we examine whether organizational cultural distance, i.e. the degree of difference in cultural values between acquiring and target firms, impacts post-transaction performance and innovation capabilities.

In addition, we examine the relationship between cultural distance and acquisition premiums, hypothesizing that greater cultural differences may lead to overvaluation due to overestimated synergy potential and underestimated integration challenges.

Despite considerable research, the impact of cultural differences on M&A outcomes remains inconclusive (Stahl & Voigt, 2008), as previous studies are often constrained by methodological limitations such as small samples, reliance on executive-level surveys, or subjective cultural assessments (Rottig, 2017). To address these limitations, we conduct a comprehensive, large-scale analysis based on the Competing Values Framework (CVF; Quinn & Rohrbaugh, 1981), which categorizes organizational cultures into four types-clan, adhocracy, market, and hierarchy-each with distinct characteristics that influence organizational behavior. Our analysis of more than 300,000 employee reviews on Glassdoor.com, using state-of-the-art machine learning and natural language processing techniques, provides a detailed and representative assessment of organizational cultures. This approach captures insights from employees at all levels of the hierarchy, overcoming previous methodological limitations.

Using these innovative methods and large-scale data, this study contributes new insights to the M&A literature, particularly on how cultural alignment-or misalignment-affects merger outcomes. Our findings highlight the critical importance of incorporating employee perspectives when assessing organizational culture, and underscore the need for thorough cultural due diligence and integration planning to improve post-merger performance.

The final chapter of this doctoral thesis provides a comprehensive summary of the key findings and conclusions of the studies conducted, while also addressing the inherent limitations of the research. It provides recommendations for future research and identifies specific areas where subsequent investigations can expand upon the current work.

Overall, this doctoral thesis significantly advances the field of strategic management, particularly in the areas of corporate governance, organizational networks, strategic alliances, and mergers and acquisitions.

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TABLE 1

Summary of the articles presented in this doctoral thesis

	Study 1	Study 2	Study 3
Title	Board Interlocks and Firm Performance: A Meta-Analysis	Resource Appropriation in Strategic Alliances: The Influence of Board Interlocks on Differential Benefits	Mind the Gap: The Effect of Cultural Distance on Mergers and Acquisitions – Evidence from Glassdoor Reviews
Research Purpose	Examine how board interlocks affect firm performance and determine the moderating role of key internal and external contingencies	Analyze if board interlocks serve competitive or cooperative roles in alliances and analyze important determinants of interorganizational resource transfer	Investigate the impact of organizational cultural distance on M&A performance, premiums, and post-deal innovation
Theory	Resource-Dependence Theory, Agency Theory	Resource-Dependence Theory, Organizational Learning Theory	Competing Values Framework (CVF)
Method	Meta-analysis, MARA, OSMASEM	Network analysis, Fixed effects (FE) OLS	NLP, FE-OLS, FE-Negative Binomial Regression, Matching
Data	119 studies, 191 effect sizes representing 1+ million board interlocks	2,102 alliances from 2001 to 2021	243 M&A-deals; 347,279 acquirer reviews, 68,069 target reviews from Glassdoor.com
Key Concepts	Board interlocks measured via degree centrality; performance via accounting and market-based metrics	Board interlocks as direct and indirect ties between alliance partners. Differential benefits with a market-based measure	Organizational cultural distance via CVF dimensions
Main Findings	Board interlocks positively affect firm performance by enhancing resource access and increasing agency costs. Effects are shaped by power dynamics and the institutional environment.	Direct and indirect board interlocks facilitate resource appropriation, leading to differential benefits in strategic alliances	Organizational cultural distance negatively impacts post-acquisition performance and innovation, in part due to overestimated synergy potential.
Conferences and Publications	SMS 41st Annual Conference, Journal of Management Studies (JMS)	Strategic Management Journal (SMJ)	Review of Managerial Science (RMS)
VHB-Ranking	A	A	B
Status	Under Review	Under Review	Published

I. BOARD INTERLOCKS AND FIRM PERFORMANCE: A META-ANALYSIS

Co-authors: Priscilla S. Kraft, Andreas Bausch
Own share: 70%

This paper was presented on the following refereed conference:

Strategic Management Society 41st Annual Conference, Toronto (2021)

Awaiting Reviewer Feedback from:

Journal of Management Studies, submitted September 2024

BOARD INTERLOCKS AND FIRM PERFORMANCE: A META-ANALYSIS

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ABSTRACT

Despite extensive research on board interlocks, conflicting theoretical predictions and mixed empirical results have hindered a clear understanding of their impact on firm performance. This study extends the literature by conducting a meta-analysis and meta-analytic structural equation modeling (MASEM) to examine how the relationship between board interlocks and performance is mediated by two mechanisms. Drawing on resource dependence and agency theory, we propose that board interlocks can enhance access to valuable resources, which benefits performance, or weaken managerial oversight, which increases agency costs and negatively affects performance. We further argue that the balance of these effects is moderated by board-level factors, such as power dynamics, and firm-level factors, including the institutional environment, which influence how resources from interlocks are integrated into strategic decision making. Our meta-analysis of 119 primary studies and 1,133,014 board interlocks supports these hypotheses and provides valuable insights for both future research and corporate governance practice by clarifying the conditions under which board interlocks affect firm performance.

Keywords: Board Interlocks, Board of Directors, CEO Power, Firm Performance, Institutional Environment

JEL-Codes: M10, L25, L14

INTRODUCTION

The influence of boards of directors on firm performance has been a subject of extensive research across various disciplines, including management, economics, finance, and sociology, for over 40 years (e.g., Mizruchi, 1996; Pfeffer, 1972, 1973; Useem, 1984). A central issue in this literature is how boards can enhance corporate governance by optimizing their composition, organization, and decision-making processes (e.g., Dalton, Daily, Ellstrand, & Johnson, 1998; Johnson, Daily, & Ellstrand, 1996; Solarino & Boyd, 2023; Zahra & Pearce, 1989). Within this context, a significant area of inquiry is the network relationships that form when directors serve on the boards of multiple firms, commonly referred to as board interlocks (Fich & White, 2005), and how these network relationships influence firm performance (e.g., Filatotchev, Chahine, & Bruton, 2018; Martin, Gözübüyük, & Becerra, 2015; Zona, Gomez-Mejia, & Withers, 2018).

However, despite a substantial body of research, prior work has yielded conflicting theoretical predictions and mixed empirical findings regarding the effect of board interlocks on firm performance (Lamb & Roundy, 2016; Mizruchi, 1996). On one hand, resource dependence theory (RDT; Pfeffer & Salancik, 1978) posits that board interlocks can positively influence firm performance by reducing the firm's dependence on the external environment, securing critical resources, and signaling quality and legitimacy to other market participants (Davis & Cobb, 2010; Hillman, Withers, & Collins, 2009; Pfeffer, 1983). In addition, they help firms monitor the competitive landscape, identify emerging trends, and respond quickly to market changes, thereby facilitating the diffusion of resources and promoting organizational learning (Beckman & Haunschild, 2002; Davis, 1991; Useem, 1984). Moreover, board interlocks act as mechanisms of power and control, strengthening firms' strategic interests (Knoben & Bakker, 2019; Stearns & Mizruchi, 1993), thus improving firm performance (Zona et al., 2018).

Conversely, studies grounded in agency theory (Fama, 1980; Jensen & Meckling, 1976) point out the negative effects of board interlocks, suggesting that the increased workload of holding multiple board positions may lead to busy boards that are less effective in monitoring management. This results in increased agency costs (Shivdasani & Yermack, 1999) and weakened corporate governance (Jiraporn, Singh, & Lee, 2009), which ultimately negatively affects firm performance (Fich & Shivdasani, 2006; Jiraporn, Kim, & Davidson, 2008).

Empirical findings on the performance implications of board interlocks reflect this theoretical ambiguity, with some studies reporting positive effects (e.g., Filatotchev et al., 2018; Martin et al., 2015; Zona et al., 2018), while others find no (e.g., Kiel & Nicholson, 2006) or even negative effects (e.g., Devos, Prevost, & Puthenpurackal, 2009; Haniffa & Hudaib, 2006).

Another critical gap in the literature is the limited understanding of the mechanisms through which board interlocks affect firm performance (Lamb & Roundy, 2016) as well as the question of when firms rely on network information in their decision-making processes (Shipilov, Greve, & Rowley, 2010). To extend this stream of research our study aims to explore two key research questions: *Are board interlocks beneficial for firm performance? Through which mechanisms do board interlocks affect firm performance?*

Drawing on RDT (Pfeffer & Salancik, 1978) and agency theory (Jensen & Meckling, 1976), we propose two distinct mechanisms. We theorize that board interlocks can enhance firm performance by improving access to resources, while also recognizing that they can increase agency costs due to reduced monitoring effectiveness. We further theorize that the influence of board interlocks depends on internal and external contingencies, such as board power dynamics, in particular the power of the CEO and institutional factors.

To empirically examine our predictions, we conduct a meta-analysis based on 119 primary studies with 191 effect sizes, representing a total of 1,133,014 board interlocks. To empirically test our theorized mediation model, we employ meta-analytic structural equation modeling (Combs, Crook, & Rauch, 2019; Viswesvaran & Ones, 1995).

Drawing on more than 40 years of empirical research, our study makes several contributions to the literature on board interlocks. First, it helps to advance the controversial discussion on the impact of board interlocks on firm performance by providing novel insights into two different mechanisms that help to explain how board interlocks can be beneficial or detrimental to firm performance. Building on RDT and agency theory, our results show that board interlocks can enhance the ability of directors to provide resources to management, thereby increasing firm performance. However, they can also increase agency costs due to reduced monitoring effectiveness, thereby negatively affecting firm performance. Moreover, our results show that the positive effects of resource provision dominate and that the overall influence of board interlocks is beneficial for firm performance.

Second, we examine the conditions under which the effects of board interlocks on resource provision and agency costs are particularly pronounced by analyzing key internal and external contingencies. Our results show that CEO power negatively affects the board's ability to provide resources to management. At the same time, it amplifies the negative effects of reduced monitoring, resulting in increased agency costs that cumulatively lead to lower firm performance. We also examine the role of the formal and informal institutional environment and find that a strong institutional environment that enforces rules and promotes social cohesion positively affects the ability of directors to provide resources to management, ultimately improving firm performance.

Overall, our research advances the understanding of the complex dynamics of board interlocks and their impact on firm performance, and empirically demonstrates the benefits of an integrated theoretical approach that combines arguments from RDT and agency theory.

THEORETICAL BACKGROUND ON BOARD INTERLOCKS AND FIRM PERFORMANCE

Resource Dependence Perspective on Board Interlocks

RDT posits that firms operate as open, interdependent systems in environments with limited access to critical resources (Granovetter, 1985; Pfeffer & Salancik, 1978). Consequently, firms rely on other market participants who have privileged access to these resources, creating interdependent relationships. This dependence allows resource-rich firms to exert influence over resource-dependent firms as they seek to mitigate uncertainties caused by external dependence, thereby formally linking the concepts of power and resources (Pfeffer & Salancik, 1978).

The board of directors plays a central role in this process by acting as a link between the firm and its environment, providing access to essential resources to the focal firm (Pfeffer, 1972, 1973) and thereby positively influencing firm performance (Zahra & Pearce, 1989). Board interlocks are one key mechanism through which directors can access and transmit these external resources (Mizruchi, 1996), affecting firm performance through three distinct mechanisms (Pfeffer & Salancik, 1978): First, board interlocks allow directors to gain insight into the strategic decisions and outcomes of other firms, enabling them to learn from these experiences and integrate successful strategies at the focal firm (Beckman & Haunschild, 2002; Tuschke, Sanders, & Hernandez, 2014). Second, board interlocks provide a channel for nonpublic information about market developments, helping firms stay informed about their business environment and identify new business opportunities (Haunschild & Beckman, 1998; Palmer, Jennings, & Zhou, 1993; Shipilov et al., 2010; Useem, 1982). Third, the presence of respected individuals on the board, facilitated by board interlocks, increases the firm's legitimacy. This can attract other reputable individuals and signal quality to stakeholders, positively affecting the firm's reputation (Certo, 2003; Zajac & Westphal, 1996a). Together, these effects positively influence performance (Kiel & Nicholson, 2006; Martin et al., 2015; Zona et al., 2018), leading to the following hypothesis:

Hypothesis 1a (H1a): Board interlocks are positively associated with firm performance.

Agency Theory Perspective on Board Interlocks

According to agency theory (Fama, 1980; Jensen & Meckling, 1976), boards of directors are essential for monitoring and supervising management to protect shareholders' interests (Berle & Means, 1932; Fama & Jensen, 1983). Directors ensure that management acts in the best interests of the owners by fulfilling their fiduciary duties and legally mandated oversight responsibilities (Johnson et al., 1996; Zahra & Pearce, 1989). From this perspective, board interlocks are viewed as opportunistic behavior in which directors seek reputational benefits by holding multiple board positions, possibly at the expense of shareholder value (Lamb & Roundy, 2016; Zajac, 1988).

The busyness hypothesis (Ferris, Jagannathan, & Pritchard, 2003) suggests that directors' limited cognitive capacity and increased workload due to multiple board mandates lead to inadequate fulfillment of their fiduciary duties. It links board interlocks to increased agency costs (Beasley, 1996; Shivdasani & Yermack, 1999), weakened corporate governance (Core, Holthausen, & Larcker, 1999; Jiraporn et al., 2009; Kiel & Nicholson, 2006; Min & Chizema, 2018), and lower firm performance (Fich & Shivdasani, 2006; Jiraporn et al., 2009; Jiraporn, Davidson, Ning, & DaDalt, 2008). These arguments support the following hypothesis:

Hypothesis 1b (H1b): Board interlocks are negatively associated with firm performance.

The Mediating Effects of Resource Provision and Agency Costs

Based on the two theoretical streams presented, we propose that board interlocks affect firm performance through two distinct mediating mechanisms: Improved provision of resources and increased agency costs.

Resource provision. A central tenet of RDT is that board interlocks enhance firm performance by facilitating the exchange of resources between firms (Haunschild & Beckman, 1998; Mizruchi, 1996). However, the specific nature of these resources and their impact on firm performance often remains unclear (Stinchcombe, Mizruchi, & Schwartz, 1990). To address this gap in the literature, and because research suggests that boards promote firm performance specifically by providing critical resources enabling value-enhancing growth strategies (e.g., van Essen, van Oosterhout, & Carney, 2012), we examine the mediating effects of various internal, external, and collaborative growth strategies on the board interlocks-performance relationship.

Internal growth strategies involve creating new resources by investing in research and development (Penrose, 1959). External growth strategies involve acquiring external resources, such as through mergers and acquisitions (Barney, 1986; Lockett, Wiklund, Davidsson, & Girma, 2011; Rumelt, 2005). Collaborative growth strategies involve cooperative efforts such as franchising, licensing, alliances, and joint ventures (McKelvie & Wiklund, 2010).

Directors can influence the selection as well as the success of these strategies by sharing their experiences with other firms (e.g., Baysinger & Hoskisson, 1990; Carpenter & Westphal, 2001; Singh & Delios, 2017) and using their knowledge to help implement these strategies at the focal firm (Westphal & Zajac, 1997). This includes, but is not limited to, identifying growth opportunities, M&A targets, or potential alliance partners (Hendry & Kiel, 2004; Useem, 1984). Empirical evidence shows that board interlocks are crucial to this ability by providing directors with key information, allowing them to positively contribute to R&D investments (e.g., Chuluun, Prevost, & Upadhyay, 2017; Helmers, Patnam, & Rau, 2017), M&A transactions (e.g., Cai & Sevilir, 2012; Haunschild, 1993; Stuart & Yim, 2010), and strategic alliances (e.g., Beckman, Haunschild, & Phillips, 2004; Ni Sullivan & Tang, 2013).

Growth strategies, in turn, positively affect firm performance (Fowler & Schmidt, 1988; Hill & Snell, 1989; Stuart, 2000). For instance, internal growth strategies promote continuous innovation and sustainable competitive advantages (e.g., Bettis & Hitt, 1995; Teece, 1982). External growth strategies, such as M&A, provide access to external resources, expand the firm's knowledge base (e.g., Drees & Heugens, 2013), and are generally positively associated with firm performance when the combined returns of the acquiring and target firms are considered (Bradley, Desai, & Kim, 1988; Houston, James, & Ryngaert, 2001; Leeth & Borg, 2000). Collaborative growth strategies, such as alliances, help firms acquire resources by pooling competencies or co-developing new resources, which also positively affect firm performance (e.g., McKelvie & Wiklund, 2010). Overall, these findings suggest that board interlocks positively influence the success of various growth strategies, thereby improving firm performance (e.g., Chen, 2014; Gulati & Westphal, 1999; Haunschild, 1993):

Hypothesis 2a (H2a): The enhanced ability to provide critical resources mediates the relationship between board interlocks and firm performance

Agency costs. Effective corporate governance, particularly regarding board composition, structure, and organization, is critical for firm performance. Numerous studies have demonstrated that good corporate governance is associated with better CEO monitoring, lower CEO compensation, and higher CEO turnover sensitivity, all of which contribute to improved firm performance (e.g., Bhatia & Gulati, 2021; Fernández Méndez, Pathan, & Arrondo García, 2015; Goyal & Gulati, 2023; van Essen et al., 2012).

Scholars adopting an agency theory perspective argue that directors often accept multiple board appointments to enhance their personal reputation (Jensen & Meckling, 1976; Zajac, 1988), potentially undermining the effectiveness of board monitoring because the additional responsibilities across firms may dilute a director's attention, leading to less effective governance, higher agency costs, and ultimately lower firm performance (e.g., Cashman, Gillan, & Jun, 2012; Fich & Shivdasani, 2006). The busyness hypothesis attributes this effect primarily to the fact that directors with multiple mandates face cognitive limitations and time constraints that hinder their ability to thoroughly analyze corporate issues and make well-informed decisions (Ferris et al., 2003; Harris & Shimizu, 2004; Perry & Peyer, 2005; Ruigrok, Peck, & Keller, 2006). For instance, studies suggest that board interlocks are correlated with self-serving CEO behavior, such as increased CEO compensation and reduced CEO turnover (e.g., Fich & Shivdasani, 2006; Hallock, 1997). Moreover, busy boards are related to financial fraud (e.g., Beasley, 1996) and potentially illegal practices such as earnings management (e.g., Faleye, Hoitash, & Hoitash, 2011).

When examining the impact of board interlocks on firm performance from an agency perspective, several studies suggest that board interlocks are positively related to agency costs (e.g., Andres, van den Bongard, & Lehmann, 2013; Devos et al., 2009), which negatively affect firm performance. Based on this analysis, we hypothesize:

Hypothesis 2b (H2b): Agency costs, resulting from the reduced monitoring effectiveness of interlocked directors mediate the negative impact of board interlocks on firm performance.

Moderating Effects of Board Power Relations and the Institutional Environment

Board power relations. The quality of strategic board decisions is highly dependent on the interaction and discussion among board members (Fligstein & Brantley, 1992; Kor, 2006), as information exchange has a major impact on the board's ability to align the firm's strategy with the demands of the external business environment (Zahra & Pearce, 1989). The integration of external information and resources accessed through board interlocks is particularly valuable to the decision-making process but can be significantly influenced by the power of the CEO, defined as "the ability of individual actors to exert their will" (Finkelstein, 1992: 506).

When the CEO holds significant power, they may dominate the board's strategic decision-making process, thereby limiting the directors' ability to effectively leverage their external resources (Hambrick & Finkelstein, 1995; Wu, 2008). Powerful CEOs often dominate strategic decisions, reducing the board’s role in shaping firm strategy and leveraging external connections (Golden & Zajac, 2001; Zajac & Westphal, 1996a). For instance, Haynes and Hillman (2010) find that powerful CEOs are more likely to impose their preferences over those of the board. In addition, Chen (2014) shows that CEO power significantly influences directors' willingness to provide ongoing advice and resources, while Johnson, Hoskisson, and Hitt (1993) demonstrate that powerful CEOs inhibit board involvement in strategic decision-making. Similarly, Zahra and Pearce (1990) find that boards are less likely to encourage strategic change when the CEO is powerful. Zajac and Westphal (1996b) further argue that powerful CEOs maintain control by excluding active directors and replacing them with more passive ones.

From an agency perspective, when CEO power is high, the monitoring function of the board may be compromised. For example, meta-analytic evidence shows that the presence of a powerful CEO also reduces directors' attention to monitoring (Tuggle, Sirmon, Reutzel, & Bierman, 2010). Collectively, these findings suggest that boards are less effective at monitoring and providing resources when faced with powerful CEOs. Conversely, when boards are not constrained by a powerful CEO, they engage more actively in discussions, foster more diverse viewpoints, and increase the board's positive contribution to the firm's strategy (Zahra & Pearce, 1989). Based on these arguments, we propose:

Hypothesis 3a (H3a): CEO power moderates the relationship between board interlocks and resource provision such that resource provision is lower in the presence of a powerful CEO.

Hypothesis 3b (H3b): CEO power moderates the relationship between board interlocks and agency costs such that agency costs are higher in the presence of a powerful CEO.

Formal institutional environment. Drawing on institutional theory, which defines country-level institutions as "humanly devised constraints that structure political, economic, and social interaction" (North, 1991: 97), we argue that these institutions critically influence the capacity of interlocked directors to provide resources and shape their monitoring effectiveness (e.g., Batjargal et al., 2013; Caiazza, Cannella Jr, Phan, & Simoni, 2019). Institutions, encompassing both formal laws and informal norms, create predictability, reduce uncertainty, and resolve conflicts (Dobbin, 1994). Moreover, they exert normative pressure on firms to seek social legitimacy to ensure long-term success (Hamilton & Biggart, 1988), thereby shaping their internal decision-making processes (Caiazza et al., 2019; Hambrick & Finkelstein, 1987).

Formal institutions, encompassing explicit rules, regulations, and legal frameworks enforced by governments or public agencies, particularly govern business practices and social interactions (Mantzavinos, 2001; North, 1990), by establishing the legal boundaries within which firms operate, ensuring that transactions are fair, efficient, and predictable (Judge, Douglas, & Kutan, 2008; La Porta, Lopez-De-Silanes, Shleifer, & Vishny, 1997). In environments with strong formal institutions, corruption is less prevalent, managers are less entrenched (Dreher & Herzfeld, 2005), and the exploitation of minority shareholders is less common (Swaleheen, 2011) due to stronger shareholder rights (Williamson & Kerekes, 2011) and increased board accountability (Chen, Chen, & Wei, 2011; Jiraporn, Kim, Davidson, & Singh, 2006).

In such stable environments, the clarity and enforceability of rules allow interlocked directors to effectively leverage their network connections to provide the firm with valuable resources, such as capital, strategic partnerships, and market intelligence (Caiazza et al., 2019). For instance, Carpenter and Westphal (2001) found that firms in stable environments compete primarily through the successful implementation of existing strategies, which is particularly beneficial to interlocking directors who can draw on their experience of observing similar strategies in other firms. Conversely, in environments with weak formal institutions, marked by high uncertainty and opaque business practices, effectively mobilizing external resources is more challenging. While some research suggests that social networks may be especially beneficial in such contexts (Batjargal et al., 2013), providing communication channels and insights into other firms' activities (Martin et al., 2015; Useem, 1984), other studies argue that in highly uncertain environments, boards may be less receptive to input from interlocked directors, reducing their ability to contribute (Shropshire, 2010).

Formal institutions also shape directors' monitoring effectiveness. Strong formal institutions promote transparency and accountability by imposing higher information and reporting requirements, thereby improving corporate governance (e.g., Fauver, Hung, Li, & Taboada, 2017; Leuz, Nanda, & Wysocki, 2003) and board monitoring (e.g., Muravyev, 2024). In addition, these environments tend to have lower levels of managerial entrenchment and corruption, which reduces the risk of insiders exploiting minority investors (Jin & Myers, 2006).

They also have complementary governance mechanisms that support effective monitoring, even in the presence of busy directors (Frye, Pham, & Zhang, 2022; Kim & Ozdemir, 2014). In contrast, weaker institutional environments heighten the need for vigilant board monitoring due to increased uncertainty, corruption, and lower investor protection (Francis, Zheng, & Mukherji, 2009; Frye & Pham, 2020; Jin & Myers, 2006; Shleifer & Vishny, 1994), which places higher demands on directors' monitoring abilities. However, studies show that in weak institutional environments directors often hold more directorships (Ferris et al., 2003), which could exacerbate issues of inadequate oversight, increase agency costs, and ultimately harm firm performance (Fich & Shivdasani, 2006; Latif, Voordeckers, Lambrechts, & Hendriks, 2020). Furthermore, during periods of high uncertainty, boards reduce the number of busy directors to enhance oversight, indicating that heavily interlocked directors may not provide sufficient monitoring (Frye et al., 2022). Empirical studies support this view, showing that in such environments, board interlocks lead to weaker monitoring and poorer firm performance (e.g., Hundal, 2016, 2017; Jackling & Johl, 2009; Watkins-Fassler, Rodríguez-Ariza, Fernández-Pérez, & Del Briano-Turrent, 2024). Given these dynamics, we hypothesize that the strength of formal institutions not only enhances the capacity of interlocked directors to provide critical external resources but also strengthens their ability to monitor firm management effectively. Therefore, we propose:

Hypothesis 3c (H3c): The formal institutional environment positively moderates the relationship between board interlocks and resource provision, such that the provision of resources by interlocked directors is more positive in strong formal institutional environments.

Hypothesis 3d (H3d): The formal institutional environment negatively moderates the relationship between board interlocks and agency costs, such that interlocked directors are more effective in monitoring management in strong formal institutional environments.

Informal institutional environment. Informal institutions are "socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels" (Helmke & Levitsky, 2004: 727). They vary from country to country and develop through positive social feedback loops that promote stable patterns of behavior, especially in situations of uncertainty (Crossland & Hambrick, 2007, 2011; Mantzavinos, North, & Shariq, 2004). Strong informal institutional environments promote a stable social order by creating social expectations and obligations that shape individual behavior and reduce perceived uncertainty (Brinks, 2003; Helmke & Levitsky, 2004; Mantzavinos, 2001).

Informal institutions enhance the resource-provision capabilities of interlocked directors by fostering a strong identification with the firm. This encourages directors to diligently perform their duties and share valuable personal experiences, thereby improving strategic decision-making (Dore, 1983). In cultures with strong informal institutions, directors often feel a heightened sense of obligation to the firm, driven by shared norms and values. This collective sense of duty promotes a homogeneous group identity within the board, which facilitates cooperation (Westphal & Bednar, 2005) and aligns directors' goals and behaviors with the firm's interests, increasing their commitment to resource provision (Terry & Hogg, 1996; Zhu & Yoshikawa, 2016). For example, in Chinese firms, Zhang and Merchant (2020) analyzed the influence of "guanxi", an important informal institution, defined as "personal connections between independent economic actors that facilitate the exchange of personal and social transactions" (Yeung & Tung, 1996). They found that "guanxi" positively impacts directors' ability to provide resources by enabling access to reliable and trustworthy network knowledge.

Strong informal institutional environments not only facilitate resource provision but also enhance board monitoring by creating societal expectations that directors are motivated to meet (Hillman, Nicholson, & Shropshire, 2008). In contexts where informal norms are strong, directors may face significant social pressure to ensure that management actions align with shareholders' interests. This pressure can result in more effective monitoring, as directors are both socially and professionally incentivized to fulfill their monitoring role (Solarino & Boyd, 2023). Therefore, in firms embedded in strong informal institutional environments, the presence of interlocked directors is likely to lead to reduced agency costs.

Given these insights, it is expected that strong informal institutional environments will amplify the positive effects of board interlocks on interlocked directors' ability to provide resources as well as their ability to monitor management, resulting in a positive moderating effect on the relationship between board interlocks and resource provision and a negative moderating effect on agency costs. Figure 1 summarizes our research model:

Hypothesis 3e (H3e): The informal institutional environment positively moderates the relationship between board interlocks and the resource provision, such that the provision of resources by interlocked directors is more positive in strong informal institutional environments.

Hypothesis 3f (H3f): The informal institutional environment negatively moderates the relationship between board interlocks and agency costs, such that interlocked directors are more effective in monitoring management in strong informal institutional environments.

Insert Figure 1 about here

METHOD

Database development

Following prior meta-analyses (e.g., Holmes et al., 2021; Palm, Kraft, & Kammerlander, 2023), we employed five search strategies to identify research on board interlocks and firm performance: First, we searched academic databases (Web of Science, Business Source Premier, Google Scholar, EBSCO, SSRN) using the following search terms: *"board interlock*", "interlocking directorat*", and "director interlock*",* combined with *"financial performance", "firm performance", "organizational performance", and "organizational outcome*"*. Second, we reviewed the reference lists of previous review articles (e.g., Lamb

& Roundy, 2016; Mizruchi, 1996) to identify further articles. Third, we searched relevant academic journals (e.g., Academy of Management Journal, Administrative Science Quarterly, Journal of Management, Organization Science, Strategic Management Journal).[1] Fourth, we searched the ProQuest database for dissertations and reviewed conference proceedings for unpublished papers to reduce the risk of publication bias (Rosenthal, 1979). Finally, to trace backward and forward references, we used bidirectional snowballing (Hippel, Franke, & Prügl, 2009).

Studies had to meet several criteria to be included in the meta-analytic database. First, they needed to empirically investigate the relationship between board interlocks and firm performance. Second, they had to measure board interlocks using the most popular metric, degree centrality. Third, they needed to report a correlation coefficient between board interlocks and firm performance or provide sufficient data for its calculation (e.g., *t*-statistics, *p*-values or *Chi*-square; Lipsey & Wilson, 2001).[2] When studies did not report all required information but otherwise met the inclusion criteria, we contacted the study authors. After identifying relevant studies, we established a coding protocol of the information to be extracted from the studies to minimize coding errors (Lipsey & Wilson, 2009), which guided the creation of our meta-analytic database (Steel, Beugelsdijk, & Aguinis, 2021). Three independent coders with extensive knowledge of the board interlock literature coded each study, achieving intercoder reliability estimates ranging from $\alpha = .92$ to $\alpha = .96$ (Cohen, 1960), indicating high reliability (Perreault & Leigh, 1989). Remaining concerns were addressed through discussion or review of the primary studies.

By December 2023, this process resulted in 191 effect sizes from 119 studies (112 published, 7 unpublished) across 29 countries, encompassing 1,133,014 board interlocks from 1962 to 2022. A detailed overview of the included studies is available in Online Supplement 1.

Variables

Independent variable - Board interlocks. Research on board interlocks has developed various methods to analyze their effects, with centrality measures from social network analysis being especially popular (Borgatti & Everett, 2006). We focus on degree centrality, which quantifies the number of direct connections a firm has with other firms. For example, if firm A is connected to eight other firms through its directors, it has a degree centrality of eight. This measure offers insights into a firm's network influence, access to external resources, and exposure to business opportunities (Aktamov & Zhao, 2014; Larcker, So, & Wang, 2013).

Dependent variable - Firm performance. Consistent with previous meta-analyses (e.g., Lee & Madhavan, 2010), we assess firm performance using both accounting measures (e.g., ROA, ROI, ROE) and market-based measures (e.g., M/B ratio, Tobin's Q, CAR).[34] When studies report multiple effect sizes, we collect them separately (Cheung, 2014c).

Mediator variable – Resource provision. To assess the impact of board interlocks on firms' access to key resources as proposed by RDT, we analyze the correlation coefficients between board interlocks and different growth strategies. These strategies include internal growth strategies (e.g., Chen, 2014), external growth strategies (e.g., Haunschild, 1993), and collaborative growth strategies (e.g., Beckman et al., 2004).

Mediator variable – Agency costs. Agency theory suggests that board interlocks may increase agency costs by reducing the monitoring effectiveness of directors. To test this, we collected correlation coefficients for variables associated with agency conflicts, including higher cash holdings (e.g., Chen, Chen, Schipper, Xu, & Xue, 2012), increased free cash flow (e.g., Cadenillas & Clark, 2007), greater diversification (e.g., Staglianò, La Rocca, & La Rocca, 2014), and elevated CEO compensation (e.g., Boyd, 1994).

Moderating variable - CEO power. We assess board power relations through CEO power, a multidimensional concept that includes structural, ownership, expert, and prestige aspects (Finkelstein, 1992). A powerful CEO can enhance decision-making efficiency and command unity but may also increase agency costs, hinder information sharing, and lead to managerial entrenchment [see Ozgen, Mooney, and Zhou (2024) for a recent bibliometric analysis and review]. Following Burkhard, Sirén, van Essen, Grichnik, and Shepherd (2023) and Zhu and Chen (2015), we measure CEO power using a composite index that includes CEO duality, board independence, board size, and CEO ownership.

Moderating variable - Formal national institutions. We analyze the moderating effect of formal rules and regulations using a composite index from Crossland and Hambrick (2011), which includes ownership dispersion, legal origin, and employer flexibility. Ownership dispersion data is from La Porta, Lopez-De-Silanes, and Shleifer (1999), legal origin classifies countries by common or civil law, and employer flexibility is measured by the employment protection index from Margarita Estevez-Abe, Torben Iversen, and and David Soskice (2001).

Moderating variable - Informal national institutions. Following Crossland and Hambrick (2011), informal institutions are measured using a composite index that incorporates Hofstede's (1980) cultural dimensions, including power distance, individualism, and uncertainty avoidance (reverse-coded as uncertainty tolerance), as well as Gelfand et al.'s (2011) national-level cultural tightness index. For countries not included in the original scores, data from Uz (2015) were used.

Control variables. To better isolate the effect of board interlocks, we control for several variables. Firm size is measured by total assets, as larger firms are often more interlocked (Zona et al., 2018). We also control for whether firms are in the technology and financial sectors (0 = no, 1 = yes), due to financial and knowledge dependence driving board interlocks (Howard, Withers, & Tihanyi, 2017; Mizruchi & Stearns, 1994). Additionally, we control for the type of performance measures (0 = market-based, 1 = accounting-based) as well as the quality of primary studies by including the journal's impact factor (Carney, Gedajlovic, Heugens, van Essen, & van Oosterhout, 2011). We also use a binary indicator variable indicating whether studies control for endogeneity in their research design (0 = no, 1 = yes; Kraft, 2022; Palm et al., 2023). Finally, we control for the average sample year to account for changes in network effects over time. Table 1 provides a summary of the main constructs.

Insert Table 1 about here

Meta-Analytic Procedure

In line with recent methodological recommendations (Cheung, 2014a; Hox, Moerbeek, & van de Schoot, 2017), we employed a three-level random effects meta-analytic approach to account for multiple effect sizes contributed by individual studies. This approach evaluates heterogeneity at three levels: Level 1 analyzes individual effect sizes, Level 2 addresses within-study heterogeneity, and Level 3 focuses on between-study heterogeneity. Multilevel methods are increasingly popular in management research due to their ability to manage dependent effect sizes and provide more accurate estimates of heterogeneity compared to traditional methods (Cheung, 2014a, 2014c; Fernández-Castilla et al., 2020).

Consistent with recent meta-analyses in management research (e.g., Holmes et al., 2021; Palm et al., 2023), we used multiple methods to assess heterogeneity of effect sizes. Cochran's *Q* tests were applied to determine if observed variation exceeded what would be expected from sampling error alone, indicating between-study heterogeneity (Hedges & Olkin, 1985). *I*-squared was used to quantify the magnitude of this heterogeneity (Higgins & Thompson, 2002). Additionally, we computed 80% confidence ranges (*CR*) for the sample size-weighted mean observed effect sizes, where wider intervals suggested the presence of moderators (Koslowsky & Sagie, 1993). The meta-analysis was conducted using R (version 4.1) with the metafor package (version 2.4) by Viechtbauer (2010).

MASEM Procedure

To examine the mediating effects of resource provision and agency costs on the relationship between board interlocks and firm performance, we used meta-analytic structural equation modeling (MASEM) following established methodological guidelines (Combs et al., 2019; Viswesvaran & Ones, 1995). MASEM combines meta-analysis and structural equation modeling, allowing for the exploration of complex models by synthesizing data from multiple studies (Bergh et al., 2016; Cheung & Chan, 2005). Unlike traditional meta-analysis, MASEM enables the examination of complex theoretical models, accounts for sampling covariance, and provides estimates of model parameters, confidence intervals, and standard errors (Cheung, 2015; Jak, 2015; Jak & Cheung, 2020). This has led to its widespread adoption in the research literature (Combs et al., 2019; Sheng, Kong, Cortina, & Hou, 2016).

MASEM typically involves two steps (Viswesvaran & Ones, 1995). First, a pooled correlation matrix is estimated using methods like generalized least squares (GLS) or full information maximum likelihood (FIML). Second, a structural equation model is fitted using techniques such as weighted least squares (WLS; Browne, 1984; Cheung, 2016). Although advanced methods like two-stage structural equation modeling (TSSEM) optimize sample sizes, they do not fully exploit the strengths of standard meta-analysis in accounting for study-level variation. Therefore, we adopted a one-stage meta-analytic structural equation modeling (OSMASEM) approach (Jak & Cheung, 2020) for hypothesis testing.

OSMASEM advances other MASEM by using a one-stage FIML estimation method that fits structural equation models directly to primary study correlation coefficients. This approach improves the accuracy of explaining study-level heterogeneity and allows for the inclusion of continuous and categorical moderators, increasing analytical flexibility (Jak & Cheung, 2020), which explains its rapid adoption in management research and meta-analyses (e.g., Kraft, 2022).

Throughout the MASEM process, we followed established guidelines (e.g., Jak & Cheung, 2020; Jak, Li, Kolbe, Jonge, & Cheung, 2021). First, we identified key constructs, formulated inclusion criteria, and extracted relevant Pearson correlation coefficients and effect sizes from primary studies. Because three-level MASEM approaches are not yet available, we aggregated correlation coefficients representing the same concept within each study to avoid biased estimates due to the violation of statistical independence (Cheung & Chan, 2004; Hedges & Olkin, 1985).[5] To further minimize bias, we ensured that at least 30 primary studies contributed an effect size for each variable pair, as recommended by Jak and Cheung (2020). When analyzing continuous moderators, we standardized all values before analysis. We then tested multiple competing structural equation models (Hayes, 2013), and evaluated model fit using popular SEM goodness-of-fit statistics (Zhang, Dawson, & Kline, 2021). RMSEA (Root Mean Square Error of Approximation) with values below .06 indicating good fit (Hu & Bentler, 1999), SRMR (Standardized Root Mean Square Residual) with values below .08 considered acceptable, CFI (Comparative Fit Index) and TLI (Tucker-Lewis Index) with values above .95 indicating good fit (Tucker & Lewis, 1973). The chi-squared statistic assesses differences between observed and model-implied covariance matrices, with nonsignificant values indicating good fit (West, Taylor, & Wu, 2012). We also tested full versus partial mediation using likelihood-based confidence intervals (Cheung, 2009). The MASEM analysis was conducted using R (version 4.1) with the metaSEM package (version 1.4) by Cheung (2014b).

RESULTS

Meta-Analytical Results

Table 2 presents the main results of our meta-analysis on the relationship between board interlocks and firm performance, showing the mean observed sample size-weighted effect size ($\bar{r}$) and its estimated standard deviation (*sdr*), along with the 95% confidence interval (*CI*) and 80% confidence range (*CR*) for $\bar{r}$. The 95% *CI* does not include zero, which allows us to reject the null hypothesis and indicates a significant positive relationship between board interlocks and firm performance (b = .02, p < .05), supporting Hypothesis 1a.

Insert Table 2 about here

Cochran's *Q*-test and *I*-squared analyses indicate significant heterogeneity in underlying effect sizes (Higgins & Thompson, 2002). The large 80% *CR* and a *CI* greater than .11 for the relationship between board interlocks and firm performance suggest potential moderators influencing this relationship (Koslowsky & Sagie, 1993). To explore this heterogeneity, we conducted subgroup analyses. The first analysis, based on the type of performance measure, revealed a positive association between board interlocks and firm performance for accounting-based measures ($b = .02$, $p < .05$), but not for market-based measures. The second analysis, based on geographic region, found a significant positive relationship in primary study samples from Asia ($b = .02$, $p < .05$), while the results for other regions were inconclusive.

MASEM Results

Using MASEM, we analyze the mediating effects of resource provision and agency conflict on the relationship between board interlocks and firm performance. Table 3 presents the implied pooled meta-analytic correlation matrix.[6]

Insert Table 3 about here

Table 4 shows the results of OSMASEM, indicating a good fit of the model to the data ($\chi^2(23) = 25.88$, $p = .356$, $AIC = -690.93$, $BIC = -329.90$, $CFI = 1.01$, $TLI = 1.00$, $RMSEA = 0$ [.000, .002]). Following Hayes (2013), multiple models were evaluated, including direct, partial, and full mediation models. Comparative analysis revealed that the partial model had a better fit than the direct effects model ($\Delta\chi^2 = 155.96$, $\Delta df = 5$, $\Delta AIC = 145.96$, $p < .001$) and the full mediation model ($\Delta\chi^2 = 5.44$, $\Delta df = 1$, $\Delta AIC = 23.56$, $p = .020$). The partial model with both moderators, agency costs and resource provision, showed a better fit than partial models with only one moderator, such as agency costs ($\Delta\chi^2 = 3.45$, $\Delta df = 1$, $\Delta AIC = 1.48$, $p = .050$) or resource provision ($\Delta\chi^2 = 10.32$, $\Delta df = 1$, $\Delta AIC = 8.32$, $p < .001$).

Insert Table 4 about here

Hypothesis 2a posits that resource provision mediates the relationship between board interlocks and firm performance. The results in Table 4 support this hypothesis, showing a positive and significant relationship between board interlocks and resource provision (b = .07, $p \leq .001$) and between resource provision and firm performance (b = .06, $p \leq .05$). Analysis of the indirect effect using Wald Chi 95% confidence intervals confirms a positive and significant indirect effect (b = .004, 95% CI = [.002, .007]), supporting Hypothesis 2a.[7]

Hypothesis 2b proposes that agency costs mediate the relationship between board interlocks and firm performance. The results show a positive and significant relationship between board interlocks and agency costs (b = .03, $p \leq .01$) and a negative yet not significant relationship between agency costs and firm performance (b = -.04, p = .059). However, testing for mediation using Wald Chi 95% confidence intervals reveals a significant negative indirect effect (b = -.00, 95% CI = [-.002, -.000]), supporting Hypothesis 2b. Analysis of the total indirect effect using Wald Chi 95% confidence intervals confirms a positive and significant total indirect effect (b = .003, 95% CI = [.001, .006]) of board interlocks on firm performance, consistent with our meta-analytic findings. Finally, the direct path effect of board interlocks on firm performance becomes insignificant when mediator variables are included (b = .01, $p \leq$ .409), indicating full mediation by resource provision and agency costs.

OSMASEM Moderation Results

To explore how board power relations and the institutional environment shape the mediation model, we use a moderated mediation analysis with OSMASEM. This approach examines how these moderating factors influence the balance between interlocking directors' ability to provide resources and their effectiveness in monitoring management, thereby impacting agency costs. The results are summarized in Table 5.

Insert Table 5 about here

Model 1 examines the moderating effect of CEO power on the two mediators, resource provision and agency costs. Goodness-of-fit indices confirm a good model fit ($\chi^2(25)$ = 18.68, *p* = .812, *AIC* = -706.83, *BIC* = -329.01, *CFI* = 1, *TLI* = .99). In line with Hypothesis 3a, CEO power negatively moderates the relationship between board interlocks and resource provision (*b* = -.07, $p < .001$) and positively moderates the relationship between board interlocks and agency costs (*b* = .04, $p < .001$), thereby supporting Hypothesis 3b. The indirect effect of resource provision is positive and significant (*b* = .003, 95% *CI* = [.000, .001]), while the indirect effect of agency costs is negative and significant (*b* = -.002, 95% *CI* = [-.003, -.001]). The total indirect effect is (*b* = .002, 95% *CI* = [.000, .005]), indicating a reduction in the overall indirect effect of board interlocks on firm performance compared to the main MASEM analysis. A likelihood ratio test comparing the model to the base model without moderators underscores significant influence of CEO power ($\Delta\chi^2$ = 19.83, Δdf = 2, $p < .001$).

Model 2 examines the moderating effect of the formal institutional environment. Goodness-of-fit indices confirm a good model fit ($\chi^2(25)$ = 18.22, *p* = .833, *AIC* = -704.64, *BIC* = -318.42, *CFI* = 1.09, *TLI* = .99). In line with Hypothesis 3c strong formal environments positively moderate the relationship between board interlocks and resource provision (*b* = .09, $p < .001$) and negatively moderate the relationship with agency costs (*b* = -.02, *p* = .115), thereby not supporting Hypothesis 3d. The indirect effects are significant, with resource provision showing a positive effect (*b* = .004, 95% *CI* = [.002, .007]) and agency costs showing a negative effect (*b* = -.000, 95% *CI* = [.000, .000]). The overall indirect effect is (*b* = .003, 95% *CI* = [.001, .006]). Compared to our primary analysis, the formal institutional environment significantly explains a substantial portion of the variance ($\Delta\chi^2$ = 19.64, Δdf = 2, $p < .001$).

Model 3 examines the moderating effect of the informal institutional environment. Goodness-of-fit indices suggest a good model fit ($\chi^2(25)$ = 18.22, *p* = .833, *AIC* = -709.44, *BIC*

= -323.23, *CFI* = 1.1, *TLI* = .99). Supporting Hypothesis 3e, strong informal environments positively influence the relationship between board interlocks and resource provision (*b* = .10, $p < .001$) but have a non-significant negative effect on agency costs (*b* = -.02, *p* = .157), thereby not supporting Hypothesis 3f. Indirect effects confirm significant impacts, with resource provision having a positive effect (*b* = .004, 95% *CI* = [.002, .007]) and agency costs having a negative effect (*b* = -.000, 95% *CI* = [-.000, -.000]). The total indirect effect is (*b* = .004, 95% *CI* = [.001, .007]). A likelihood ratio test confirms that the informal institutional environment explains significantly more variance than our primary analysis ($\Delta\chi^2 = 24.45$, $\Delta df = 2$, $p < .001$).

Insert Figure 2 about here

POST HOC ANALYSIS

Impact of Power Relations and Institutional Environment on the Interlock-Performance Link

To gain a more comprehensive understanding of how power relations and a firm's institutional environment influence the relationship between board interlocks and firm performance, we employed a mixed-effects multilevel meta-analytic regression analysis (multilevel-MARA). Following established procedures (e.g., Holmes et al., 2021) and adhering to recent guidelines (e.g., Gonzalez-Mulé & Aguinis, 2018). Results are detailed in Table 6.

Insert Table 6 about here

Model 4, which includes all control variables at the firm, industry, and study levels, serves as our baseline. The heterogeneity test statistic (Q) from this model is used to assess changes in heterogeneity in the subsequent models (ΔQ). Model 5 tests the moderating effect of CEO power on the relationship between board interlocks and firm performance. The significant negative effect (*b* = -.04, *p* < .001) suggests that stronger CEO power diminishes the positive impact of board interlocks on firm performance. In contrast, Model 6 reveals that formal national institutions positively moderate this relationship (*b* = .02, *p* < .05), implying that in environments with stricter rules and regulations, board interlocks contribute more positively to firm performance. Similarly, Model 7 shows that informal national institutions, such as socially shared norms, enhance this positive impact (*b* = .07, *p* < .01). Finally, Model 8, which integrates all moderating variables, confirms the distinct effects of each, solidifying our understanding of how these factors interact with board interlocks to influence firm performance.

Impact of Individual CEO Power Dimensions on the Interlock-Performance link

To further explore the negative moderating effect of CEO power, we conducted a post hoc analysis focusing on its sub-dimensions as described by Finkelstein (1992). The summarized results are presented in Table 7.

Insert Table 7 about here

Model 9 serves as the baseline for estimating heterogeneity and benchmarking goodness-of-fit indices in subsequent analyses. Model 10 assesses CEO structural power, defined as the CEO's authority and influence within the organizational structure. The results show that structural power has a significant negative effect on the relationship between board interlocks and firm performance (*b* = -.03, *p* < .001). Model 11 examines CEO ownership power, which, shows no significant effect (*b* = .00, *p* = .802). Model 12 investigates CEO expert power, revealing a significant negative moderating effect (*b* = -.02, *p* < .05), suggesting that high levels of experience and knowledge may lead to a reduced openness to adopting external network knowledge from board interlocks. Finally, Model 13, which incorporates all dimensions of CEO power, suggests that the negative moderating effect is primarily driven by CEO structural power, which remains significant when accounting for all sub-dimensions.

Publication Bias

To assess the robustness of our analysis against publication bias, we applied several established methods (e.g., Tehrani & Yamini, 2020). First, the Kendall rank correlation test (Begg & Mazumdar, 1994; Dear & Begg, 1992) indicated no significant funnel plot asymmetry (e.g., board interlocks - firm performance: τb = -.00, p = .97). Second, Egger's test also showed no significant asymmetry in effect size distribution (e.g., board interlocks - firm performance: p = .89), further supporting the absence of bias. Lastly, Rosenberg's fail-safe N indicated that 2,496 additional null-result studies would be required to alter our findings significantly (e.g., board interlocks - firm performance: 11,949). Based on these results and following Rothstein and Bushman (2012), we conclude that publication bias does not significantly affect our analysis.

Endogeneity

To address endogeneity concerns, we again followed prior meta-analyses (e.g., Palm et al., 2023) and performed a subgroup analysis on primary studies that accounted for endogeneity in their research designs. This analysis confirmed the results of our main analysis, showing a positive and statistically significant relationship between board interlocks and firm performance (b = 0.02, p < .01). This demonstrates that endogeneity-adjusted studies consistently indicate a significant positive effect.

Sample Overlap

To address concerns about sample overlap in the primary studies, we conducted a robustness test using the Generalized Weights (GW) estimator (Bom & Rachinger, 2020), which adjusts for temporal and spatial aggregation across studies. The results showed that the effect of board interlocks on firm performance remained significant, b = .0178 (SE = .0067), $t(118)$ = 2.66, p = .0088, demonstrating the robustness of the primary meta-analytic results and suggesting that sample overlap in years and countries does not affect the conclusions of the primary analysis.

Methodological Bias

To assess the sensitivity of our results to the choice of analytical method, we used TSSEM (Cheung and Chan, 2005), including only firm size as the primary control due to TSSEM's limitations in handling continuous study-level controls. The pooled TSSEM correlation matrix is presented in Online Supplement 2. The results are presented in Online Supplement 3.

The TSSEM model fit the data well ($\chi^2(1) = .05$, p = .823, AIC = -1.95, BIC = -13.43, CFI = .99, TLI = 1.00, RMSEA = 0 [0, 0], SRMR < .01). The relationship between board interlocks and resource provision was positive and significant (*b* = .07, *p* < .001), as was the relationship between resource provision and firm performance (*b* = .04, *p* = .016). The significant indirect effect of resource provision (*b* = .002, 95% *CI* = [0, .003]) suggests mediation between board interlocks and firm performance. Similarly, the relationship between board interlocks and agency costs was positive and significant (*b* = .04, *p* < .001), while agency costs negatively affected firm performance (*b* = -.04, *p* = .077). The significant indirect effect of agency costs (*b* = -.002, 95% *CI* = [-.003, -.001]) also suggests mediation. When accounting for mediators, the direct effect of board interlocks on performance became insignificant

Overall, TSSEM results align with our main analysis, confirming that resource provision and agency costs fully mediate the relationship between board interlocks and firm performance.

DISCUSSION

Summary of Results

This meta-analysis aimed to address two key questions that have long been debated in the literature on board interlocks: "What do board interlocks do?" (Mizruchi, 1996) and "When do interlocks matter?" (Haunschild & Beckman, 1998). We specifically examined the impact of board interlocks on firm performance, along with key mediating and moderating factors. By integrating RDT and agency theory, we developed and tested a model that captures both the positive effects of resource provision and the negative effects of increased agency costs. Our aim was to provide a more comprehensive understanding of how board interlocks influence firm performance under various conditions. Our results indicate that board interlocks generally have a positive and statistically significant effect on firm performance. Using MASEM, we tested the mediating effects of two key mechanisms: directors' enhanced ability to provide resources, consistent with RDT, and increased agency costs due to reduced monitoring effectiveness, as suggested by agency theory. The findings reveal that both resource provision and agency costs fully mediate the relationship between board interlocks and firm performance. This confirms the core principles of both theories and highlights the value of an integrative approach that considers these dual effects.

To further investigate the conditions under which board interlocks matter (e.g., Haunschild & Beckman, 1998), we analyzed two key contingencies: board power dynamics and the institutional environment. Our moderation analysis show that CEO power negatively affects directors' ability to provide resources while increasing agency costs. This aligns with previous research indicating that powerful CEOs often dominate strategic decision-making, undermine directors' expertise (e.g., Zajac & Westphal, 1996b), and reduce the board's monitoring effectiveness (e.g., Ozgen et al., 2024). A post hoc analysis shows that these dynamics lead to a negative moderating effect of CEO power on the relationship between board interlocks and performance, driven primarily by CEO structural power (Finkelstein, 1992).

Our analysis of the institutional environment reveals that strong formal and informal institutional environments positively moderate the relationship between board interlocks and directors' ability to provide key resources. However, we do not find a significant moderating effect of the institutional environment on agency costs. A post hoc analysis confirms that the institutional environment positively influences the relationship between board interlocks and firm performance, with the informal environment having a more pronounced impact than the formal one, echoing findings by Solarino and Boyd (2023).

Implications for Research

Our findings have important implications for future research on board interlocks. First, they underscore the benefits of an integrated theoretical perspective that combines different theoretical frameworks (e.g., Zona et al., 2018). Future research should therefore consider both resource-based and agency-theoretical influences to better understand the mechanisms behind and effects of board interlocks. This approach allows for a more nuanced analysis of the complex dynamics surrounding board interlocks. Second, our results show that the effects of board interlocks are not confined by geographic boundaries but are influenced by broader institutional factors (Caiazza et al., 2019). Future research should explore additional cross-country moderators that could influence whether agency costs or resource provision dominate. Cultural differences, regulatory frameworks, and industry-specific factors may all play significant roles. Investigating these factors further could help identify conditions under which board interlocks are particularly beneficial or detrimental. Third, researchers should employ multiple measures to examine the effects of board interlocks to avoid bias. Combining accounting-based and market-based measures can provide a more comprehensive understanding of these effects and help explain the heterogeneity of results. Longitudinal studies that track the impacts over extended periods could also offer valuable insights into the long-term effects of board interlocks (Daily, 1997; Mizruchi & Stearns, 1994).

Practical Implications

The results of our study have significant implications for management. First, practitioners should promote knowledge and information exchange among board members to maximize the positive effects of board interlocks. This includes maintaining a balanced board composition, ensuring that all members are actively involved in decision-making and can effectively contribute resources (e.g., Combs, Ketchen, Perryman, & Donahue, 2007). Second, a strong institutional environment enhances the positive effects of board interlocks. Therefore, practitioners should take active steps to promote compliance and ethical standards within the board, creating a climate that encourages directors to fulfill their fiduciary duties and share their experiences (Solarino & Boyd, 2023). Third, practitioners should be aware that board interlocks are particularly related to accounting performance measures. Understanding this relationship can help companies better quantify the benefits of interorganizational relationships when designing internal measurement systems and performance indicators.

Limitations and Future Research

While this study makes a significant contribution to the field of board interlocks research, it has limitations. For example, our meta-analysis focuses on "degree centrality," which measures the number of network connections. Future meta-analytic research should examine other relevant network measures, such as the presence of structural holes, which may positively affect firm performance (e.g., Burt, 1983; Wang, Lu, Kweh, Nourani, & Hong, 2021). Additionally, the ongoing debate about whether the effects of board interlocks are influenced by endogeneity remains crucial (Helmers et al., 2017). Despite our efforts to mitigate endogeneity through subgroup analysis, we cannot entirely rule out its influence (Bergh et al., 2015; Connelly et al., 2015). Future studies should consider (quasi-) experimental designs to rigorously investigate these effects and more clearly identify causal relationships. Finally, current methodological limitations may also affect our results. The lack of approaches for conducting a three-stage MASEM means that our findings may contain some information loss due to the aggregation of performance variables. Future research should aim to develop more sophisticated methods to overcome these limitations and provide a more nuanced understanding of the impact of board interlocks on firm performance. Overall, this study offers valuable insights into the complex dynamics of board interlocks and lays the groundwork for further research in this important area.

NOTES

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[1] *Academy of Management Journal, Accounting Review, Administrative Science Quarterly, Corporate Governance – An international review, International Business Review, Journal of Corporate Finance, Journal of Family Business Strategy, The Journal of Finance, Journal of Financial Economics, Journal of Management, Journal of Management Studies, Journal of Small Business Management, Long Range Planning, Management Science, Organization Science,*

Organization Studies, Strategic Organization, Strategic Entrepreneurship Journal, and Strategic Management Journal

[2] Studies reporting only beta coefficients were excluded from our meta-analysis because estimation procedures based on correlation coefficients often significantly outperform beta estimation procedures (Roth et al., 2018).

[3] Accounting-based measures include *Free Cashflow, Growth, Net income, Revenue, Return on Assets Return on capital employed (ROCE), Return on equity (ROE), Return on sales (ROS), and Sales*

[4] Market-based measures include *Cumulative abnormal return (CAR), Market-to-book Ratio, Tobin's Q, and Shareholder Return*

[5]A discussion on common methods for handling dependent effect sizes in the context of meta-analysis can be found at Cheung (2014c).

[6] We included the pooled correlation matrix only for transparency, as OSMASEM does not rely on the two-step process often used by other MASEM procedures, where a pooled correlation matrix is first generated and then path effects are estimated (Viswesvaran & Ones, 1995). The pooled correlation matrix was generated using the tssem1 function from the metaSEM package (Cheung, 2014b), which is used to perform the first step of the TSSEM approach.

[7] The direct effects pertain to the influence that board interlocks have on firm performance without the involvement of mediators. In contrast, the indirect effects are the result of the pathways connecting board interlocks to resource provision and agency costs, which in turn impact firm performance. The overall effects are the combined sum of both the direct and indirect effects.

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APPENDIX

TABLE 1

T - I - 1: Description of variables

Variable	Description
Board interlocks	Continuous variable measuring the number of board interlocks a firm has with other firms, operationalized through degree centrality (e.g., Zona et al., 2018).
Firm performance	Continuous variable assessing firm performance through both accounting measures (e.g., Martin et al., 2015) and market measures (e.g., Cordeiro, 1993).
Resource provision	Continuous variable measuring the extent to which a firm pursues internal, external, and cooperative growth strategies (e.g,. Beckman et al., 2004; Chen, 2014; Haunschild, 1993).
Agency costs	Continuous variable assessing the level of agency costs within a firm (e.g., Berger, Ofek, & Yermack, 1997; Couzoff, Banerjee, & Pawlina, 2022; Kalcheva & Lins, 2007).
CEO power	Continuous variable measuring the CEO's ability to influence and shape the firm's strategy and decision-making processes through formal authority, resource control, and positional advantages (e.g., Burkhard et al., 2023; Zhu & Chen, 2015).
CEO structural power	Continuous variable assessing the CEO's authority derived from formal organizational structures and hierarchical positions (e.g., Burkhard et al., 2023; Finkelstein, 1992).
CEO ownership power	Continuous variable measuring the influence a CEO derives from their ownership stake in the firm, which strengthens their position in the principal-agent relationship (e.g., Burkhard et al., 2023; Finkelstein, 1992)
CEO expert power	Continuous variable assessing the influence a CEO derives from their expertise and experience in managing critical organizational challenges (e.g., Combs et al., 2007; Finkelstein, 1992).
Formal institutions	Continuous variable measuring the strength of formal rules and regulations within a country (e.g., Burkhard et al., 2023; Crossland & Hambrick, 2007, 2011).
Informal institutions	Continuous variable assessing cultural and social norms within a country (e.g., Burkhard et al., 2023; Crossland & Hambrick, 2007, 2011).
Firm size	Continuous variable measuring the size of the firm, commonly measured as a firm's total assets, sales, or employees (e.g., van Essen et al., 2012).
Accounting indicator	Binary variable indicating whether the performance measure used in the study is an accounting measure (1; e.g., ROA, ROE, ROI) or a market measure (0; e.g., market-to-book ratio and stock returns).
Endogeneity control	Binary variable indicating whether the primary study implemented control measures to address potential endogeneity concerns (e.g., Palm et al., 2023)
Journal impact factor	Continuous variable measuring the publication quality of the study, proxied by the impact factor of the journal in which it was published (e.g., Carney et al., 2011).
Industry control	Continuous variable capturing industry-specific effects, defined as the proportion of the sample from the primary study that is in either the technology or financial industry (e.g., Fich & White, 2005)
Firm age	Continuous variable measuring the age of the firm, calculated as the number of years since the firm's founding (e.g., Zajac & Westphal, 1996b).
Mean sample year	Continuous variable representing the average year of the data sample used in the study, calculated as the mean year across the underlying primary studies (e.g., Palm et al., 2023).

TABLE 2

T - I - 2: Meta-analytic results

Variables	N	k	$\bar{r}$	sd_r	95% CI	80% CR	χ2
Board interlocks and firm performance	1,133,014	191	.02	.01	[.01: .02]	[-.05: .08]	2415.60 [<.001]
Performance measures							
Accounting measures	840,342	129	.02	.01	[.01: .03]	[-.06: .11]	1156.64 [<.001]
Market measures	292,672	62	.00	.01	[-.02: .02]	[-.14: .14]	1172.41 [<.001]
Geographic location							
Africa	1,440	3	.07	.03	[-.02: .12]	[-.02: .19]	.51
Asia	332,742	58	.02	.01	[.01: .03]	[-.06: .10]	566.46 [<.001]
Europe	344,267	22	-.01	.02	[-.05: .03]	[-.15: .13]	174.95 [<.001]
North America	349,015	72	.01	.01	[-.01: .02]	[-.09: .11]	1106.96 [<.001]
South America	6,359	9	.04	.05	[-.06: .13]	[-.24: .30]	79.90 [<.001]
Australia	37,652	16	.02	.02	[-.02: .06]	[-.11: .16]	263.78 [<.001]

Note: N = total sample size; k = number of effect sizes included in analysis; $\bar{r}$ = sample size-weighted mean observed effect size; sd_r = standard deviation of $\bar{r}$; χ2 = test of heterogeneity; 95% confidence intervals were calculated using $\bar{r}$ and standard error of $\bar{r}$; 80% credibility intervals were calculated using $\bar{r}$ and standard deviation of $\bar{r}$.

TABLE 3

T - I - 3: Pooled meta-analytic correlation matrix

Variables	(1)	(2)	(3)	(4)
(1) Board interlocks	-			
(2) Resource provision				
r	.07			
95% CI	[.02: .11]			
n (*k*)	171,337 (69)			
(3) Agency costs				
r	.04	.01		
95% CI	[.01: .06]	[-.05: .07]		
n (*k*)	452,113 (112)	158,395 (51)		
(4) Firm size				
r	.24	.10	.11	
95% CI	[.20: .27]	[.02: .18]	[.07: .14]	
n (*k*)	635,659 (140)	200,477 (62)	487,126 (114)	
(5) Performance				
r	.03	.05	-.03	.06
95% CI	[.01: .05]	[.00: .09]	[-.08: .01]	[.03: .10]
n (*k*)	1,133,014 (191)	177,090 (68)	504,446 (121)	669,506 (149)

Note: r = inverse variance weighted effect size; 95% CI = 95% confidence interval; n = observations in primary studies (sample size); k = number of effect sizes.

TABLE 4

T - I - 4: OSMASEM results

	Resource provision	Agency costs	Performance
Main Relationships			
Board interlocks	.07 (.02) [<.001]	.03 (.01) [.005]	.01 (.01) [.409]
Resource provision			.06 (.03) [.019]
Agency costs			-.04 (.02) [.059]
Controls			
Firm size	.09 (.04) [.018]	.10 (.02) [<.001]	.07 (.02) [<.001]
Accounting indicator (0/1)	True		
Endogeneity control (0/1)	True		
Journal impact factor	True		
Industry control	True		
Model indices			
$\chi 2$ (*df*)	25.88 (23)		
AIC	-690.93		
BIC	-329.90		
TLI	.99		
CFI	1		
RMSEA	.00 [.00, .01]		
SRMR	< .01		
N	340,826		
k	99		

Note: Standardized coefficients are shown with standard errors in parentheses; MASEM = meta-analytic structural equation modeling; *N* = harmonic mean of total sample size; *k* = harmonic mean of independent studies; *AIC* = Akaike information criterion; *BIC* = Bayesian information criterion; *TLI* = Tucker-Lewis index; *CFI* = comparative fit index; *RMSEA* = root mean square error of approximation; *SRMR* = standard root mean square residual.

TABLE 5

T - I - 5: Board power relations and institutional environment MASEM results

Relationship	**Model 1**	**Modell 2**	**Model 3**
Main Relationships			
Board interlocks – Performance	.01 (.01) [.972]	.01 (.01) [.426]	.01 (.01) [.407]
Board interlocks – Resource provision	.07 (.02) [< .001]	.08 (.02) [< .001]	.08 (.02) [< .001]
Board interlocks – Agency costs	.03 (.01) [.003]	.02 (.01) [.043]	.02 (.01) [.035]
Resource provision – Performance	.05 (.02) [.023]	.06 (.03) [.021]	.05 (.03) [.044]
Agency costs – Performance	-.04 (.02) [.030]	-.04 (.02) [.058]	-.04 (.02) [.061]
Moderators			
CEO Power – BIxRp	-.07 (.02) [< .001]		
CEO Power – BIxAc	.04 (.01) [< .001]		
Formal institutions – BIxRp		.09 (.02) [< .001]	
Formal institutions – BIxAc		-.02 (.01) [.115]	
Informal institutions – BIxRp			.10 (.02) [< .001]
Informal institutions – BIxAc			-.02 (.01) [.157]
Controls			
Firm size – Performance	.07 (.02) [< .001]	.07 (.02) [< .001]	.07 (.02) [< .001]
Firm size – Resource provision	.09 (.04) [< .001]	.09 (.04) [< .001]	.09 (.04) [< .001]
Firm size – Agency costs	.09 (.01) [< .001]	.10 (.02) [< .001]	.09 (.01) [< .001]
Accounting indicator (0/1)	True	True	True
Endogeneity control (0/1)	True	True	True
Journal impact factor	True	True	True
Industry control	True	True	True
Model indices			
$\chi 2$ (*df*)	18.68 (25)	18.24 (25)	20.00 (26)
TLI	.98	.99	.99
CFI	1	1	1
AIC	-706.83	-704.64	-709.44
BIC	-329.01	-318.42	-323.23
N	325,983	311,242	302,836
k	95	91	86

Note: Standardized coefficients are reported with standard errors in parentheses; Model 1 reports the results of the mediation model that includes the moderating effects of CEO power on the relationship between board interlocks and resource provision and board interlocks and agency costs; Model 2 reports the results of the mediation model that includes the moderating effects of formal institutions on the relationship between board interlocks and resource provision and board interlocks and agency costs; Model 3 reports the results of the mediation model that includes the moderating effects of informal institutions on the relationship between board interlocks and resource provision and board interlocks and agency costs; MASEM = meta-analytic structural equation modeling; *N* = harmonic mean of total sample size; *k* = harmonic mean of independent studies; *TLI* = Tucker–Lewis index; *CFI* = comparative fit index; *RMSEA* = root mean square error of approximation; *AIC* = Akaike information criterion; *BIC* = Bayesian information criterion.

TABLE 6

T - I - 6: Post-hoc multilevel-MARA results (I)

Coefficients	Model 4	Model 5	Model 6	Model 7	Model 8
Main moderators					
CEO power		-.04 (.01) [<.001]			-.05 (.01) [<.001]
Formal institutions			.02 (.01) [.048]		.01 (.01) [.091]
Informal institutions				.07 (.02) [.004]	.09 (.03) [.010]
Firm-level controls					
Firm size	.00 (.01) [.484]	.00 (.01) [.435]	.01 (.01) [.337]	.01 (.01) [.106]	.01 (.01) [.104]
Industry control	.01 (.02) [.561]	.01 (.02) [.461]	.01 (.02) [.697]	.00 (.02) [.978]	.01 (.02) [.634]
Study-level controls					
Accounting indicator (0/1)	.03 (.01) [.012]	.02 (.01) [.018]	.03 (.01) [.001]	.03 (.01) [.003]	.03 (.01) [.009]
Endogeneity control (0/1)	.02 (.01) [.017]	.02 (.01) [.041]	.02 (.01) [.045]	.03 (.01) [.002]	.03 (.01) [.003]
Journal impact factor	-.00 (.00) [.302]	.00 (.00) [.897]	-.00 (.00) [.212]	-.00 (.00) [.148]	-.00 (.00) [.341]
Mean sample year	-.00 (.00) [.003]	-.00 (.00) [.013]	-.00 (.00) [.049]	-.00 (.00) [.020]	-.00 (.00) [.127]
Model indices					
Log-likelihood	220.48	221.05	205.24	192.71	191.07
Q_{E}	2013.51 [<.001]	1889.11 [<.001]	1787.36 [<.001]	1589.07 [<.001]	1468.85 [<.001]
ΔQ_{E}	-	124.40	226.15	424.43	544.66
AIC	-449.20	-452.90	-419.90	-395.30	-396.00
BIC	-421.20	-422.00	-389.60	-365.50	-360.60
N	1,078,996	1,076,149	1,017,079	1,003,226	980,735
k	166	162	153	146	141

Note: N = total sample size for all samples combined in model; k = number of effect sizes included in analysis; Q_E = test statistics for the tests of heterogeneity; ΔQ_{E} = difference in Q_E between a model without predictors and a model with predictors; *AIC* = Akaike information criterion; *BIC* = Bayesian information criterion; Values out of the parentheses are regression coefficients and values in parentheses are standard errors of the coefficients.

TABLE 7

T - I - 7: Post-hoc multilevel-MARA results (II)

Coefficients	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**
CEO power moderators					
CEO structural power		-.03 (.01) [<.001]			-.07 (.02) [.00]
CEO ownership power			.00 (.01) [.802]		-.01 (.03) [.617]
CEO expert power				-.02 (.01) [.032]	-.01 (.02) [.501]
Firm-level controls					
Firm size	.00 (.01) [.484]	.01 (.01) [.224]	.00 (.01) [.491]	.00 (.01) [.927]	-.01 (.02) [.404]
Industry control	.01 (.02) [.561]	.01 (.03) [.777]	.01 (.02) [.535]	.01 (.03) [.641]	.00 (.04) [.944]
Study-level controls					
Accounting indicator (0/1)	.03 (.01) [.012]	.02 (.01) [.039]	.03 (.01) [.012]	.01 (.01) [.251]	.02 (.03) [.526]
Endogeneity control (0/1)	.02 (.01) [.017]	.03 (.01) [.025]	.02 (.01) [.037]	-.01 (.02) [.639]	-.02 (.02) [.389]
Journal impact factor	-.00 (.00) [.302]	.00 (.00) [.438]	-.00 (.00) [.412]	.00 (.00) [.936]	.01 (.01) [.193]
Mean sample year	-.00 (.00) [.003]	-.00 (.00) [.093]	-.00 (.00) [.004]	.00 (.00) [.966]	.00 (.00) [.659]
Model indices					
Log-likelihood	220.48	166.58	199.84	54.39	34.84
Q_{E}	2013.51 [<.001]	1497.05 [<.001]	1851.85 [<.001]	367.53 [<.001]	306.65 [<.001]
ΔQ_{E}	-	-516.46	-161.66	-1645.98	-1706.86
AIC	-449.2	-343.5	-409.2	-119.5	-82.6
BIC	-421.2	-315.2	-378.8	-103.1	-68.0
N	1,078,996	662,250	1,017,457	185,249	165,810
k	166	125	154	38	25

Note: *N* = total sample size for all samples combined in model; *k* = number of effect sizes included in analysis; Q_E = test statistics for the tests of heterogeneity; ΔQ_{E} = difference in $Q_E$between a model without predictors and a model with predictors; *AIC* = Akaike information criterion; *BIC* = Bayesian information criterion. Values outside the parentheses represent regression coefficients, and values inside parentheses represent standard errors of the coefficients.

FIGURE 1

F - I - 1: Research model

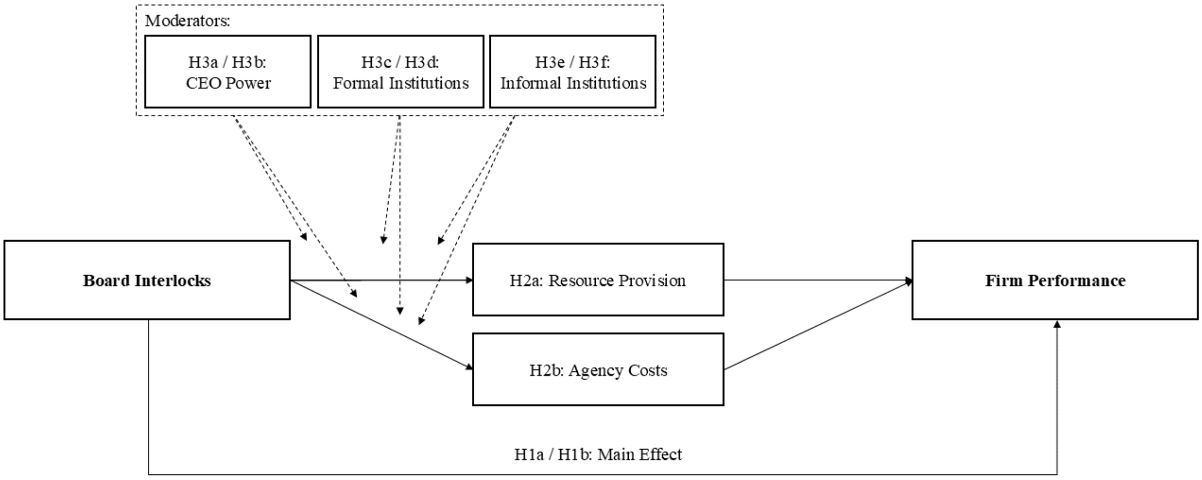
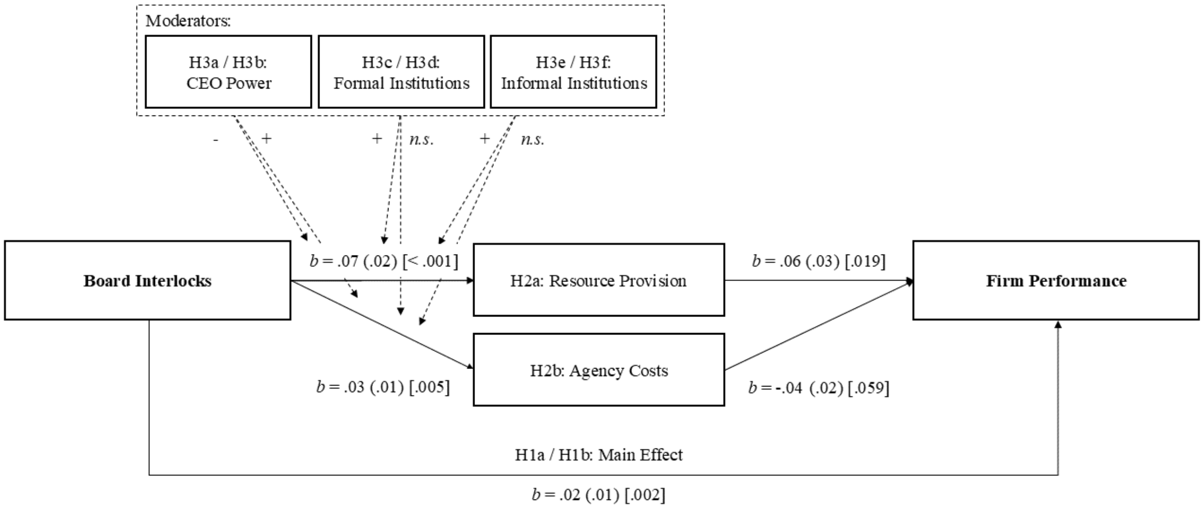


FIGURE 2

F - I - 2: MASEM results



ONLINE SUPPLEMENT 1A

T - I - 8: Studies included in the meta-analysis

Study	Publication	Multiple Measures	Accounting Measures	Market Measures	Direction of Effects
Aalbers and Ma (2023)	MOR	No	Yes	No	-
Abdelbadie and Salama (2019)	JBR	No	No	Yes	+
Afzali and Kettunen (2019)	SSRN	Yes	Yes	No	+
Aggarwal, Jindal, and Seth (2019)	IBR	No	No	Yes	0
Ahmad (2017)	WP	No	Yes	No	-
Akram and Abrar Ul Haq (2022)	CBM	No	No	Yes	+
Al Dah, Dah, and Frye (2023)	SSRN	Yes	Yes	Yes	+ / -
Andersen (2015)	WP	Yes	Yes	Yes	+ / -
Basuil and Datta (2017)	JBR	Yes	Yes	Yes	+ / -
Beckman, Haunschild, and Phillips (2004)	OS	No	Yes	No	-
Bell (2005)	SMJ	No	No	Yes	+
Ben Barka and Dardour (2015)	MD	No	Yes	No	-
Benton (2021)	OS	Yes	Yes	Yes	+ / -
Bischoff and Buchwald (2018)	JICT	Yes	Yes	Yes	+
Brown, Dai, and Zur (2018)	SSRN	Yes	Yes	Yes	+ / -
Cannella, Jones, and Withers (2015)	AMJ	Yes	Yes	Yes	+ / -
Carpenter and Westphal (2001)	AMJ	Yes	Yes	Yes	+
Chan, Lee, Petaibanlue, and Tan (2017)	RQFA	Yes	Yes	Yes	+
Chandler, Haunschild, Rhee, and Beckman (2013)	SO	No	No	Yes	-
Chen (2014)	CG	No	Yes	No	+
Chen, Ding, and Wilson (2021)	JRFM	Yes	Yes	Yes	+
Chen, Hsu, and Chang (2016)	IBR	No	Yes	No	+
Chiu, Teoh, and Tian (2010)	SSRN	Yes	Yes	Yes	+
Chong et al. (2023)	MATEC	No	No	Yes	-
Chu (2012)	SSRN	No	No	Yes	+
Connelly, Johnson, Tihanyi, and Ellstrand (2011)	OS	No	Yes	No	+
Cordeiro (1993)	AMP	No	No	Yes	-
Croci and Grassi (2014)	CMOT	Yes	Yes	Yes	+ / -
Dalziel, Gentry, and Bowerman (2011)	JMS	No	No	Yes	+
Davis (1991)	ASQ	Yes	No	Yes	+
Elouaer Mrizak (2009)	SSRN	Yes	No	Yes	-
Farwis and Nazar (2019)	AJRBF	Yes	No	Yes	-
Filatotchev, Chahine, and Bruton (2018)	JOM	Yes	Yes	No	+
Fonseka, Farooque, Rajapakse, and Tian (2018)	EMFT	Yes	Yes	No	+
Fortich, Gutiérrez Ramírez, and Pombo Vejarano (2008)	AR	Yes	Yes	Yes	+ / -

Fuad and Sinha (2018)	APJOM	Yes	Yes	Yes	+ / -
Geletkanycz and Hambrick (1997)	ASQ	Yes	Yes	No	+
Geletkanycz, Boyd, and Finkelstein (2001)	SMJ	Yes	No	Yes	+
George, Robley Wood, and Khan (2001)	ERD	Yes	Yes	Yes	+ / -
Glass, Cook, and Ingersoll (2016)	BSE	Yes	Yes	No	+
González (2019)	BJM	Yes	Yes	Yes	+ / -
Gulati and Westphal (1999)	ASQ	Yes	Yes	No	+
Hammami, Lyubimov, and Yousefvand Mansouri (2023)	CJASQ	Yes	Yes	Yes	+ / -
Harris and Shimizu (2004)	JMS	Yes	No	Yes	-
Haunschild (1993)	ASQ	Yes	Yes	No	+ / -
Hernández-Lara and Gonzales-Bustos (2019)	MD	Yes	Yes	Yes	+ / -
Hillman, Shropshire, and Cannella (2007)	AMJ	Yes	Yes	Yes	+ / -
Howard, Withers, and Tihanyi (2017)	AMJ	Yes	No	Yes	0
Howard, Withers, Carnes, and Hillman (2016)	SMJ	No	Yes	No	+
Hudson and Morgan (2022)	LRP	No	Yes	No	+
Janney and Gove (2017)	JBE	No	No	Yes	-
Johansen and Pettersson (2013)	CG	No	Yes	No	-
Johansson, Dahlander, and Wallin (2008)	WP	No	Yes	No	-
Johnson, Schnatterly, Bolton, and Tuggle (2011)	JMS	No	No	Yes	+
Kaczmarek, Kimino, and Pye (2014)	JMG	No	No	Yes	-
Keister (1998)	AJS	No	No	Yes	+
Khanna, Jones, and Boivie (2014)	JM	No	Yes	No	-
Kiel and Nicholson (2003)	CG	Yes	Yes	Yes	+ / -
Kiel and Nicholson (2006)	CG	No	No	Yes	-
Kirschbaum, Rossoni, Minardi, and Da Silva (2023)	MOR	No	No	Yes	+
Kopoboru, Cuevas-Rodríguez, and Pérez-Calero (2020)	S	No	Yes	No	+
Kor and Sundaramurthy (2009)	JOM	No	No	Yes	+
Krause, Wu, Bruton, and Carter (2019)	AMJ	Yes	Yes	Yes	-
Krenn (2017)	CG	No	Yes	No	+
Li et al. (2020)	IREF	Yes	Yes	Yes	+ / -
Li, Fung, Fung, and Qiao (2020)	IREF	Yes	Yes	Yes	+ / -
Li, Tian, and Yan (2013)	JABR	Yes	Yes	Yes	+ / -
Lin, Xie, Hao, and Wang (2020)	IJIM	No	Yes	No	0
Lu, Mahmoudian, Yu, Nazari, and Herremans (2021)	BSE	Yes	Yes	No	+
Lu, Shailer, and Wilson (2016)	JBE	No	Yes	No	+
Lu, Wang, and Dong (2013)	CFRI	No	Yes	No	+
Markóczy, Li Sun, Peng, Shi, and Ren (2013)	SMJ	No	Yes	No	+

Markoczy, Sun, and Zhu (2020)	JBE	Yes	Yes	No	+
Martin, Gözübüyük, and Becerra (2015)	SMJ	No	Yes	No	+
Miglani, Ahmed, and Henry (2020)	NA	No	Yes	No	-
Moore, Bell, Filatotchev, and Rasheed (2012)	SMJ	No	Yes	No	-
Nam and An (2018)	GER	Yes	Yes	Yes	+
Ni Sullivan and Tang (2013)	SO	Yes	Yes	No	+
Noyes, Brush, Hatten, and Smith-Doerr (2014)	JSBM	Yes	Yes	No	+ / -
Ohlenbusch and Kakievska (2018)	BINBS	Yes	Yes	No	+
Ooi, Hooy, and Mat Som (2017)	MF	No	No	Yes	+
Ortiz-de-Mandojana, Aragón-Correa, Delgado-Ceballos, and Ferrón-Vílchez (2012)	CG	No	Yes	No	-
Owen-Smith, Cotton-Nessler, and Buhr (2015)	SN	Yes	Yes	No	-
Palmer and Barber (2001)	ASQ	Yes	Yes	Yes	+ / -
Palmer, Jennings, and Zhou (1993)	ASQ	No	Yes	No	+
Park and Oh (2023)	FIP	Yes	Yes	No	0
Park, Tsai, and Lungeanu (2018)	AMP	No	No	Yes	-
Pérez-Calero, Del Villegas, and Barroso (2016)	CG	No	Yes	No	+
Pérez-Calero, Hurtado-González, and López-Iturriaga (2019)	SO	No	Yes	No	+
Phan, Lee, and Lau (2003)	JMI	No	Yes	No	+
Popli, Ladkani, and Gaur (2017)	JBR	Yes	Yes	Yes	+
Qu, Xu, and Guo (2022)	FP	Yes	Yes	No	+
Roudaki and Bhuiyan (2015)	AABFJ	Yes	Yes	No	+
Rubino and Napoli (2020)	WP	Yes	Yes	Yes	+ / -
Ruigrok, Peck, and Keller (2006)	JMS	No	Yes	No	-
Salgado, Schneider, and Costa (2022)	IJDG	No	Yes	No	+
Sarkar and Sarkar (2009)	PBFJ	No	No	Yes	+
Shao (2010)	JMBS	No	Yes	No	+
Shaw, Cordeiro, and Saravanan (2016)	ABM	Yes	Yes	Yes	+
Shi, Hong Teoh, and Zhou (2023)	CCSM	No	No	Yes	-
Shipilov, Greve, and Rowley (2010)	AMJ	No	No	Yes	-
Shipilov, Greve, and Rowley (2019)	SMJ	No	No	Yes	-
Siudak (2020)	WP	No	Yes	No	+
Smith (2009)	Thesis	Yes	Yes	Yes	+ / -
Song, Lee, and Kang (2021)	TM	No	No	Yes	+
Sousa Barros, Cárdenas, and Mendes-Da-Silva (2021)	JMG	No	Yes	No	+
Sukumara Panicker and Upadhyayula (2021)	CCSM	No	Yes	No	+
Sullivan, Haunschild, and Page (2007)	OS	No	Yes	No	+
Tang, Mack, and Chen (2018)	SMJ	Yes	Yes	Yes	+ / -
Tian, Haleblian, and Rajagopalan (2011)	SMJ	Yes	Yes	Yes	+ / -

Tian, Wang, and Li (2021)	MDE	No	Yes	No	+
Wang, Lu, Kweh, Nourani, and Hong (2021)	RMS	Yes	Yes	No	+
Wang, Lu, Ting, and Chen (2021)	SAR	Yes	Yes	No	-
Westphal, Seidel, and Stewart (2001)	ASQ	Yes	Yes	Yes	+ / -
Wu, Zhang, and Chen (2021)	JCG	No	Yes	No	+
Xie, Lin, Wang, Hu, and Miao (2020)	NA	Yes	Yes	Yes	+ / -
Yoo, Reed, Shin, and Lemak (2009)	JMS	Yes	Yes	No	+ / -
Yoshikawa, Shim, Kim, and Tuschke (2020)	CG	Yes	Yes	Yes	+ / -
Yousaf, Ullah, Jiang, and Wang (2022)	JBEF	No	Yes	No	+
Yu and Chiu (2013)	JMI	No	Yes	No	+
Yue (2012)	OSe	No	Yes	No	+
Zajac and Westphal (1996)	ASQ	No	Yes	No	+
Zhao (2021)	IREF	Yes	Yes	Yes	+ / -
Zhao and Chan (2023)	IRFA	No	Yes	No	-
Zhu and Chen (2015)	ASQ	No	Yes	No	-
Zona, Gomez-Mejia, and Withers (2018)	JOM	No	Yes	No	+
Zou, Xie, Meng, and Yang (2019)	CSREM	Yes	Yes	Yes	+ / -

Note: AMJ = Academy of Management Journal; AMP = Academy of Management Proceedings; ACCR = Accounting Review; ASQ = Administrative Science Quarterly; AJS = American Journal of Sociology; APJOM = Asia Pacific Journal of Management; ABM = Asian Business & Management; AJRBF = Asian Journal of Research in Banking and Finance; AA = Australasian Accounting; BINBS = BI Norwegian Business School; BJM = British Journal of Management; BSE = Business Strategy and the Environment; CJASQ = Canadian Journal of Administrative Sciences; CFRI = China Finance Review International; CBM = Cogent Business & Management; CMOT = Computational and Mathematical Organization Theory; CG = Corporate Governance; CSREM = Corporate Social Responsibility and Environmental Management; CCSM = Cross Cultural & Strategic Management; EMFT = Emerging Markets Finance and Trade; ERD = Entrepreneurship & Regional Development; FIP = Frontiers in Physics; FP = Frontiers in Psychology; GER = Global Economic Review; IBR = International Business Review; IJDG = International Journal of Disclosure and Governance; IJIM = International Journal of Information Management; IREF = International Review of Economics & Finance; IRFA = International Review of Financial Analysis; JABR = Journal of Applied Business Research; JBEF = Journal of Behavioral and Experimental Finance; JBE = Journal of Business Ethics; JBR = Journal of Business Research; JCG = Journal of Chinese Governance; JICT = Journal of Industry; Competition and Trade; JOM = Journal of Management; JMG = Journal of Management & Governance; JMS = Journal of Management Studies; JOMI = Journal of Managerial Issues; JMBS = Journal of Media Business Studies; JRFM = Journal of Risk and Financial Management; JSBM = Journal of Small Business Management; LRP = Long Range Planning; MOR = Management and Organization Review; MD = Management Decision; MDE = Managerial Decision Economics; MF = Managerial Finance; MATEC = MATEC Conference; OS = Organization Science; PBFJ = Pacific-Basin Finance Journal; RMS = Review of Managerial Science; RQFA = Review of Quantitative Finance and Accounting; SN = Social Networks; SAR = Spanish Accounting Review; SSRN = SSRN Electronic Journal; SMJ = Strategic Management Journal; SO = Strategic Organization; S = Sustainability; T = Thesis; TM = Tourism Management; WP = Working Paper.

ONLINE SUPPLEMENT 1B

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ONLINE SUPPLEMENT 2

T - I - 9: TSSEM - pooled correlation matrix

Variables	(1)	(2)	(3)	(4)
(1) Board interlocks	-			
(2) Resource provision				
r	.07			
95% CI	[.02: .11]			
n (*k*)	171,337 (69)			
(3) Agency costs				
r	.04	.01		
95% CI	[.01: .06]	[-.05: .07]		
n (*k*)	452,113 (112)	158,395 (51)		
(4) Firm size				
r	.24	.10	.11	
95% CI	[.20: .27]	[.02: .18]	[.07: .14]	
n (*k*)	635,659 (140)	200,477 (62)	487,126 (114)	
(5) Performance				
r	.03	.05	-.03	.06
95% CI	[.01: .05]	[.00: .09]	[-.08: .01]	[.03: .10]
n (*k*)	1,133,014 (191)	177,090 (68)	504,446 (121)	669,506 (149)

Note: *r* = inverse variance weighted effect size; 95% *CI* = 95% confidence interval; *n* = observations in primary studies (sample size); *k* = number of effect sizes.

ONLINE SUPPLEMENT 3

T - I - 10: TSSEM results

Relationships	Resource provision	Agency costs	Performance
Main Relationships			
Board interlocks	.07 (.02) [<.001]	.04 (.01) [<.001]	.01 (.01) [.159]
Resource provision			.04 (.03) [.016]
Agency costs			-.04 (.02) [.077]
Controls			
Firm size	.09 (.04) [.032]	.09 (.02) [<.001]	.06 (.02) [<.001]
Model indices			
χ2 (df)	.05 (1)		
AIC	-1.95		
BIC	-13.43		
TLI	.99		
CFI	1		
RMSEA	.00 [.00, .00]		
SRMR	< .01		
N	340,826		
k	99		

Note: Standardized coefficients are shown with standard errors in parentheses; MASEM = meta-analytic structural equation modeling; *N* = harmonic mean of total sample size; *k* = harmonic mean of independent studies; *AIC* = Akaike information criterion; *BIC* = Bayesian information criterion; *TLI* = Tucker-Lewis index; *CFI* = comparative fit index; *RMSEA* = root mean square error of approximation; *SRMR* = standard root mean square residual.

II. RESOURCE APPROPRIATION IN STRATEGIC ALLIANCES: THE IMPACT OF BOARD INTERLOCKS ON DIFFERENTIAL BENEFITS

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Awaiting Reviewer Feedback from:
Strategic Management Journal, submitted October 2024

RESOURCE APPROPRIATION IN STRATEGIC ALLIANCES:

THE IMPACT OF BOARD INTERLOCKS ON DIFFERENTIAL BENEFITS

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ABSTRACT

Research summary: This study investigates the dual role of board interlocks in shaping the dynamics of cooperation and competition in strategic alliances. While board interlocks facilitate the diffusion of strategies and the transfer of resources between firms, they also serve as mechanisms of control. Analyzing 2,102 alliances from 2002 to 2021, we find that both direct and indirect board interlocks are associated with resource appropriation and differential benefits, indicating their function as competitive mechanisms. Additionally, we examine how a board's openness to external information affects these outcomes, showing that factors such as relative board power and firm status shape a firm's ability to leverage board network information. The findings contribute to literature on inter-firm networks by highlighting how pluralistic ties influence resource appropriation and generate asymmetric returns.

Managerial summary: This study highlights the impact of board interlocks, where directors sit on multiple boards, on resource transfer and competitive dynamics in alliances. We find that both direct and indirect board interlocks can increase the risk of unintended resource leakage and lead to disproportionate benefits for some partners. For managers, this underscores the importance of carefully managing pluralistic network ties to mitigate competitive behavior and enhance joint value creation in alliances. Additionally, our findings show that a board's openness to external information significantly influences these outcomes, suggesting that managers should not underestimate how external factors shape competition and cooperation between alliance partners. Proactively addressing these dynamics can help firms better navigate the complexities of strategic alliances.

Keywords: Strategic alliances; Differential benefits; Board interlocks; Board of directors

INTRODUCTION

Strategic alliances, including joint ventures, partnerships, and licensing agreements, represent collaborative strategies that firms use to co-develop products, exchange technologies, or share services. These alliances enable firms to access resources, mitigate risk, and enhance performance (Barringer & Harrison, 2000; Doz, 1996; Hitt, Ireland, Camp, & Sexton, 2001). However, despite these potential benefits, alliances are often characterized by inherent tensions between cooperation and competition (Arslan, 2018; Christoffersen, 2013; Das & Teng, 1998, 2000b; Khanna, Gulati, & Nohria, 1998; Parkhe, 1993), as alliance partners must continually balance the pursuit of shared goals with the protection of their own strategic interests. The tension created by this dynamic can adversely affect alliance stability and value creation. As a result, alliances frequently experience high termination rates (Das & Teng, 2000b) and often result in differential benefits, where one partner captures a disproportionately larger share of the generated value (Arslan, 2018; Lavie, 2006).

The sources of these tensions are varied and multifaceted. For example, differences in partners' access to resources, operational efficiency, and resource endowments contribute to cooperative tensions (Dyer & Singh, 1998; Gulati & Wang, 2003; Kumar, 2011). In addition, differences in learning capabilities, bargaining power, and opportunistic behavior can lead to conflict between alliance partners (Hamel, 1991; Khanna et al., 1998, 1994; Kumar, 2010).

Traditionally, scholars have focused on dyadic relationships between partners to explain cooperative tensions. However, recent research highlights the influence of the broader network context in which alliances are embedded. For instance, firms that occupy central positions within alliance networks often have privileged access to resources and greater flexibility to switch partners for more favorable opportunities. While this flexibility provides advantages, it can also exacerbate tensions with current partners, especially when central firms terminate alliances in pursuit of better opportunities (Rooks, Snijders, & Duysters, 2013).

Network ties between alliance partners also play a crucial role in shaping cooperative and competitive dynamics. For example, Liu, Mantecon, Silveri, and Sun (2020) found that prior employment and educational ties between board members of alliance partners can facilitate alliance formation, enhance cooperation, and improve alliance performance. Conversely, formal ties such as board interlocks, where a director serves on multiple boards simultaneously (Fich & White, 2005; Knoben & Bakker, 2019), present a more complex picture. Results from Liu et al. (2020) suggest that while board interlocks may enhance information flow between partners, they may also reduce total value creation due to increased agency costs and conflicts of interest. In contrast, indirect interlocks, in which directors from each alliance partner serve on the board of an unrelated firm (Burt, 1980), tend to enhance value creation by facilitating access to richer information and mutual learning. Knoben and Bakker (2019) also highlight the competitive nature of direct board interlocks, noting that startups may use these ties to protect proprietary knowledge while gaining access to the resources of their alliance partners, ultimately securing a greater share of benefits.

The literature on board interlocks underscores their double-edged nature. On the one hand, board interlocks facilitate the flow of information and resources across firms, enhancing directors' ability to provide strategic insights (Beckman & Haunschild, 2002; Haunschild & Beckman, 1998; Mizruchi, 1996). As a result, board interlocks are often viewed as an important source of learning (Tuschke, Sanders, & Hernandez, 2014) that shapes board members' perspectives and influences their decision-making processes (Carpenter & Westphal, 2001). Moreover, they facilitate the diffusion of firm strategies (Davis, 1991) and have a significant impact on firm performance (Martin, Gözübüyük, & Becerra, 2015; Zona, Gomez-Mejia, & Withers, 2018). On the other hand, board interlocks can serve as mechanisms of influence and control, enabling firms to co-opt and exert power over connected firms (Mizruchi & Stearns, 1988). This duality suggests that board interlocks between alliance partners can function as both cooperative and competitive mechanisms.

Despite these insights, the impact of board interlocks on the balance between cooperation and competition in strategic alliances remains underexplored. Our study addresses this gap by examining how both direct and indirect board interlocks shape this balance and contribute to differential benefits in the context of alliances. Drawing on resource dependence theory (Pfeffer & Salancik, 1978), organizational learning theory (Crossan, Lane, & White, 1999), and Granovetter's (1973) theory of strong and weak ties, we propose that direct interlocks exacerbate tensions and lead to differential benefits by increasing opportunities for opportunistic behavior and resource appropriation. In contrast, indirect interlocks are expected to alleviate these tensions by fostering trust and promoting mutual learning.

The extant literature suggests that the existence of network connections alone is often not sufficient to induce an effect (Allison & Potts, 1999; Lamb & Roundy, 2016), rather certain enablers are required for resource transfer to occur. We therefore test whether differences in board receptivity to external information, driven by factors such as board power and firm status, moderate the relationship between board interlocks and differential benefits (Shropshire, 2010). Our research model, presented in Figure 1, illustrates the relationships explored.

This study makes several important contributions to the literature. First, we address the complex dynamics of cooperation and competition within alliances by examining for the first time the impact of multiplex interorganizational ties, specifically direct and indirect board interlocks between alliance partners, on differential benefits. Our findings are consistent with previous research highlighting the central role of directors' social networks as crucial channels for learning and information diffusion (Hoffmann, Lavie, Reuer, & Shipilov, 2018). Contrary to our initial hypothesis, however, our results suggest that both types of interlocks, direct and indirect, serve as cooptative mechanisms that facilitate differential benefits. Second, our study contributes to the literature on relational pluralism (Shipilov, Gulati, Kilduff, Li, & Tsai, 2014) by empirically exploring the interplay between different types of interorganizational ties, thereby providing new insights into how social networks shape the behavior of alliance partners and influence the dynamics of value creation (Gulati, 1998). Our findings challenge the conventional view that pluralistic relationships among alliance partners primarily promote trust and joint value creation (Beckman, Schoonhoven, Rottner, & Kim, 2014). Instead, they suggest that specific types of relationships may represent competitive strategies that facilitate the creation of private benefits. Third, we empirically examine the moderating role of relative board receptivity by testing whether differences in the receptivity of alliance partners' boards to external information affect information flows between alliance partners. Our findings support previous work promoting the idea that interorganizational ties alone are not sufficient for resource transfer (Allison & Potts, 1999). Rather, internal and external conditions act as critical enablers that play an important role in facilitating information flows (Shropshire, 2010). Our findings have important implications for alliance management and governance practitioners, as well as for future research on the effects of board interlocks.

THEORETICAL BACKGROUND

The interplay of competitive and collaborative forces in strategic alliances

Strategic alliances encompass a wide range of collaborative relationships, such as joint ventures, R&D partnerships, research consortia, marketing agreements, and buyer-supplier relationships (Barringer & Harrison, 2000; Das & Teng, 2000a). They are essential strategies for pooling and leveraging complementary resources to enhance firm performance (Das, Sen, & Sengupta, 1998; Mowery, Oxley, & Silverman, 1996; Stuart, 2000). Consequently, alliances play a central role for firms seeking to expand into new markets, achieve economies of scale and scope, and mitigate the financial risks associated with strategies that require significant capital investment. From a theoretical standpoint, resource dependence theory posits that alliances improve firm performance by reducing resource-related uncertainties (Pfeffer & Salancik, 1978). Conversely, the relational view suggests that alliances create value through the joint development and exchange of resources (Dyer & Singh, 1998).

The literature on strategic alliances highlights two key mechanisms through which value is created. First, common benefits arise from cooperative efforts to share knowledge and pool resources, which require repeated interactions, resource compatibility, and established routines for knowledge sharing (Lavie, 2006; Samant & Kim, 2021). Second, private benefits arise when partners appropriate value by leveraging each other's resources beyond the intended scope of the alliance (Dyer, Singh, & Kale, 2008; Inkpen & Currall, 2004; Kale, Singh, & Perlmutter, 2000; Kumar, 2010, 2011). Therefore, the intentions, characteristics, and capabilities of the firms involved play a critical role in determining the value they derive from the alliance (Samant & Kim, 2021).

Although alliances are expected to provide mutual benefits, research shows that the actual benefits generated are often asymmetric, with some partners benefiting more than others (Adegbesan & Higgins, 2011; Arslan, 2018; Kumar, 2010, 2011). These differences arise from the interplay of cooperative and competitive behaviors and are often associated with tensions and conflicts between alliance partners (Adegbesan & Higgins, 2011; Das & Teng, 2000a; Hoffmann et al., 2018; Khanna et al., 1998; Kumar & Nti, 1998).

Two main theoretical perspectives dominate the discussion on cooperative tensions in strategic alliances. First, resource dependence theory (Pfeffer & Salancik, 1978) explains cooperative tensions by emphasizing how power differences between alliance partners affect the value they can extract from the alliance. These power imbalances can arise from differences in resource dependence, in resource endowments, in access to critical resources, in network positions, or in the strategic importance of the alliance (Casciaro & Piskorski, 2005; Inkpen & Beamish, 1997; Xia, 2011). For example, alliances are often formed between firms of different sizes and resource needs, leading to unequal bargaining power and consequently to asymmetric distribution of benefits (Koh & Venkatraman, 1991), as firms with stronger bargaining positions can typically secure a larger share of the benefits (Yan & Gray, 1994). However, resource-constrained partners may adopt strategies to improve their bargaining position, increasing the potential for cooperative tensions (Bucklin & Sengupta, 1993). Second, organizational learning theory (Crossan et al., 1999) suggests that the pursuit of knowledge is a primary motivation for forming alliances and is essential to their success (Barringer & Harrison, 2000; Das & Teng, 2000b). Through collaboration, firms gain access to each other's structures, processes, and strategies, sharing routines and engaging in interorganizational learning. This creates both common and private benefits (Hippel, 1988; Lane & Lubatkin, 1998). However, alliances also present risks of unintended resource leakage, which can undermine a partner's competitive position (Hamel, 1991; Kale et al., 2000). For instance, empirical evidence shows that resource-constrained firms can gain private benefits from knowledge spillovers when collaborating with resource-rich partners, potentially shifting the competitive balance (Kalaignanam, Shankar, & Varadarajan, 2007; Koh & Venkatraman, 1991). Similarly, Hamel (1991: 83) notes that "collaboration may provide an opportunity for one alliance partner to internalize the capabilities of the other and thereby improve its position both inside and outside the alliance". Lane and Lubatkin (1998) found that this effect is particularly pronounced when partners share similar knowledge bases and organizational structures. Under these circumstances, alliances can lead to "learning races," where partners compete to absorb each other's knowledge, reducing dependency and maximizing private benefits (Hamel, 1991). Partners that "win" these learning races often enjoy higher equity returns, demonstrating the tangible benefits of outlearning an alliance partner (Yang, Zheng, & Zaheer, 2015). However, disparities in learning rates can foster mistrust, prompting the slower-learning firm to withhold information to prevent critical knowledge leakage. This dynamic fosters tension, which may lead to renegotiation or early termination of the alliance (Das & Teng, 2000b; Kumar & Nti, 1998).

Knowledge-transfer, pluralistic ties and appropriation of resources

Both resource dependence and organizational learning theory identify resources, whether currently owned or desired, as key drivers of cooperative tensions, making it essential to understand the dynamics of interorganizational resource transfer. According to Hamel (1991) resource transfer between firms is generally influenced by three factors: intention, receptivity, and transparency. *Intention* refers to a partner's deliberate effort to share knowledge, often facilitated by dedicated structures and systems, particularly in firms that rely on partners or face resource constraints (Gulati & Singh, 1998). *Receptivity* reflects a firm's capacity to absorb new knowledge and is typically higher in firms lacking expertise in a particular area or when the knowledge gap between partners is small. For example, Koh and Venkatraman (1991) found that alliances within similar industries promote efficient knowledge sharing and yield greater mutual benefits due to shared expertise. *Transparency*, influenced by the frequency of interactions and the number of interfirm connections, affects how much information is exchanged. For instance, Mowery et al. (1996) showed that transparency is higher in equity joint ventures, which require closer cooperation, than in other types of alliances. However, high transparency can lead to unintended resource leakage (Hamel, 1991). Conversely, Oxley and Sampson (2004) point out that reducing transparency by reducing the scope of the alliance can mitigate the risk of unintended resource leakage.

Building on these findings, Larsson, Bengtsson, Henriksson, and Sparks (1998) developed a model describing the dynamics of resource transfer in strategic alliances. According to this model, common benefits are more likely when both partners exhibit high levels of transparency and receptivity, fostering a cooperative dynamic. In contrast, when one partner limits transparency, adopting a more competitive approach, it can increase private benefits at the expense of the other, leading to differential benefits.

A firm's transparency and receptivity are significantly influenced by its network of relationships, both internally and with external partners (Zhang, Jiang, Wu, & Li, 2019). For instance, the concept of relational pluralism (Shipilov et al., 2014) highlights the effects of participating in multiple types of network ties with the same partner. Firms often engage in different networks simultaneously and assume different roles within these network interactions (Chen, Mehra, Tasselli, & Borgatti, 2022; Connolly, 2005). These pluralistic ties are associated with increased resource transfer, faster adoption of new strategies and practices (Da Silva & Verschoore, 2021; Raffaelli & Glynn, 2014), firm entry into new technologies (Aalbers & Ma, 2023), and the establishment of diverse alliance portfolios (Beckman et al., 2014). In the context of alliances, relational pluralism allows firms to access a broader range of partner resources, which enhances information sharing, builds trust, and improves alliance stability (Connelly & van Slyke, 2012; Granovetter, 1973; Polidoro, Ahuja, & Mitchell, 2011; Shipilov et al., 2014). Furthermore, relational pluralism suggests that different types of networks are interrelated and mutually reinforcing. For example, firms may respond to sudden increases in market uncertainty by strengthening their ties and initiating new but diverse relationships with existing network contacts (Beckman, Haunschild, & Phillips, 2004). Conversely, firms may reduce their networks to minimize the risk of resource leakage (Hernandez, Sanders, & Tuschke, 2015). Nevertheless, pluralistic ties have been associated with an increased risk of resource leakage between alliance partners. For example, Zhang et al. (2019) find that pluralistic ties increase knowledge sharing in the context of alliances, but also increase the risk of unintended resource leakage, which has been shown to affect firm performance (Knoben & Bakker, 2019).

The board of directors as a source of pluralistic network ties

The board of directors plays a central role as a nexus of pluralistic network ties, serving as an essential conduit for resource acquisition and influence in strategic alliances (Aalbers & Ma, 2023; Beckman et al., 2014; Burt, 1980; Knoben & Bakker, 2019). According to resource dependence theory, boards provide firms with strategic guidance, legitimacy, and access to external resources, which reduces uncertainty and dependence and ultimately improves firm performance (Hillman & Dalziel, 2003; Pfeffer & Salancik, 1978; Zona et al., 2018). Empirical studies further demonstrate that board members play an important role in forming and maintaining inter-firm relationships, securing critical resources, and guiding strategic actions that also influence alliance dynamics (Beckman et al., 2014; Carpenter & Westphal, 2001; Kor & Sundaramurthy, 2009; Reuer, Klijn, & Lioukas, 2014).

The effectiveness of boards in fulfilling these roles depends largely on the personal networks of their members (Carpenter & Westphal, 2001), as these connections provide access to relevant and timely external information (Useem, 1984). A key form of connection is board interlocks, where board members simultaneously hold positions on the boards of multiple firms (Mizruchi, 1996; Pfeffer & Salancik, 1978). These interlocks facilitate information exchange, foster trust, and help resolve conflicts between firms (Beckman & Haunschild, 2002; Burt, 1980; Connelly & van Slyke, 2012). They also enhance the legitimacy of firms and serve as a quality signal to external stakeholders (Certo, 2003; Certo, Holcomb, & Holmes, 2009). Additionally, board interlocks contribute to organizational learning by providing access to new business opportunities, technologies, and strategic practices (Kalnins, Swaminathan, & Mitchell, 2006; Tuschke et al., 2014). Hence, board interlocks are associated with the diffusion of conglomerate structures, independent boards, and strategic measures such as poison pills and golden parachutes among firms (Davis & Greve, 1997; Donaldson & Davis, 1991; Granovetter, 1985; Palmer, Jennings, & Zhou, 1993; Rogers, 1983).

Board interlocks foster both direct and indirect learning. Direct interlocks offer immediate access to the structures, strategies, and processes of other firms, allowing board members to internalize these experiences (Li, 2021; Lorsch & MacIver, 1989). Indirect learning occurs through interactions with other board members, enabling them to benefit from the expertise and insights of their peers (Tuschke et al., 2014). This dual learning mechanism strengthens the contributions of board members to the strategic decisions of their own firms (Carpenter & Westphal, 2001). However, these mechanisms also pose the risk of unintended resource leakage, as knowledge shared within cooperative ties may be appropriated beyond the intended scope (Hernandez et al., 2015).

According to the principle of relational pluralism, firms can engage in alliances while also establishing interlocking directorates, thereby participating in two distinct but interrelated networks that influence each other (Knoben & Bakker, 2019). This dual participation underscores the importance of the board as a source of pluralistic ties, which can affect both the cooperative potential and the competitive dynamics of alliances. Empirical findings suggest that board interlocks in the context of strategic alliances can serve as a defensive mechanism by providing insights into the strategies and intentions of affiliated firms and supporting preventive measures against potential competitive threats (Gulati & Westphal, 1999; Knoben & Bakker, 2019). This is particularly valuable for resource-constrained firms, as interlocks can help balance power asymmetries in alliances and prevent opportunistic behavior by monitoring partners' decisions. Moreover, resource-constrained firms benefit from resource flows when they are connected to resource-rich firms through board interlocks (Zona et al., 2018). Overall, board interlocks not only provide access to critical resources of partner firms, but also help protect a firm's own resources by reducing the risk of exploitation in alliances.

HYPOTHESIS DEVELOPMENT

Direct board interlocks and differential benefits in strategic alliances

Building on the previously discussed effects of board interlocks and cooperative tensions in alliances, we propose that pluralistic network ties, particularly in the form of direct board interlocks, can act as a cooptative mechanism, allowing one alliance partner to realize private benefits at the expense of the other (Knoben & Bakker, 2019). This dynamic can lead to an increase in cooperative tensions, negatively impacting alliance performance (Liu et al., 2020). Therefore, we hypothesize a positive relationship between direct board interlocks and differential benefits in strategic alliances.

Our hypothesis rests on several key arguments. First, direct board interlocks, as strong interorganizational ties (Granovetter, 1973), positively influence trust and communication between alliance partners, fostering a willingness to share resources and knowledge. For example, Da Silva and Verschoore (2021) show that firms with pluralistic network ties adopt strategic practices more quickly, while Beckman et al. (2014) show that board interlocks help startups build diverse alliance portfolios more quickly. These findings suggest that resource-constrained firms in particular benefit from direct board interlocks by leveraging trust to extract greater value from alliance partners with greater resources. Second, directors who serve on the boards of both alliance partners gain direct access to sensitive alliance partner resources that are not typically shared with non-alliance partners. This increased transparency allows alliance partners to absorb valuable knowledge and convert it into private benefits, enhancing its performance and bargaining power (Inkpen & Beamish, 1997). Knoben and Bakker (2019) find that resource-constrained firms, in particular, can use external resources to gain private benefits by learning efficient practices from resource-advantaged partners, while their own, often more specialized, competitive knowledge is harder to exploit. This observation is supported by the findings of Zona et al. (2018), who show that resource transfers in board interlocks typically occur from resource-advantaged firms to resource-constrained firms. Third, direct interlocks provide resource-constrained partners with greater control over the actions of resource-advantaged alliance partners, allowing resource-constrained partners to monitor, influence, and, if necessary, constrain the strategic decisions of resource-advantaged partners (Knoben & Bakker, 2019). This increased control helps resource-constrained firms protect their often more specialized resources. However, it also contributes to an asymmetric flow of resources between alliance partners. Fourth, direct board interlocks facilitate conflict resolution, which may prolong the duration of cooperation between alliance partners. However, prolonged access to the other partner's strategic resources over time may contribute to one firm receiving more private benefits (Knoben & Bakker, 2019) thereby increasing differential benefits.

In summary, direct board interlocks allow one partner to better access and control the resources of the other, resulting in differential benefits. This is consistent with the model of Larsson et al. (1998), which suggests that companies pursuing competitive strategies can secure more common and private benefits than their cooperative counterparts. Therefore, we propose the following hypothesis (see Figure 2 for an illustration of the proposed effects):

Hypothesis 1a (H1a): Direct board interlocks between alliance partners are positively associated with differential benefits in alliances.

Indirect board interlocks and differential benefits in strategic alliances

We hypothesize that indirect board interlocks, where two directors from different alliance partners also serve on the board of a third firm (Burt, 1983), act as a cooperative mechanism that increases both receptivity and transparency among alliance partners. This dynamic promotes the realization of common benefits while reducing the potential for private benefits (Liu et al., 2020). Consequently, we expect a negative correlation between indirect board interlocks and differential benefits.

Our argument is based on three main points: First, indirect network ties, often referred to as "weak ties" (Granovetter, 1973), provide access to diverse, non-redundant information (Burt, 1980; Galaskiewicz & Burt, 1991; Singh & Delios, 2017) which has been shown to foster innovation and improve firm performance (Ahuja, 2000; Lang & Lockhart, 1990; Palmer et al., 1993). However, indirect ties provide only limited direct insight into the strategies and processes of an alliance partner, as information is filtered through the interlocking directors of each firm. This limits the potential for resource appropriation and the pursuit of private benefits by individual alliance partners (Khanna et al., 1998). Second, indirect board interlocks promote cooperative behavior by serving as channels for communication, knowledge exchange, and conflict resolution among alliance partners (Das & Teng, 2000a). Directors linked indirectly through a third firm can use this link to share perspectives, address common concerns, and coordinate strategies without the pressure of direct cooperative tensions, helping to establish routines for processing and transferring tacit knowledge (Hansen, 1999; Uzzi, 1997) and creating a reciprocal dynamic that builds trust (Mohr & Spekman, 1994). Trust-based interactions, in turn, have been shown to increase transparency and receptivity, ensuring a balanced flow of information between alliance partners, thereby reducing opportunistic behavior and promoting collaborative learning (Powell, Koput, & Smith-Doerr, 1996; Salman

& Saives, 2005). Third, in line with the previous arguments, the conceptual model proposed by Larsson et al. (1998) suggests that alliance partners that are highly receptive and transparent are more likely to pursue cooperative strategies. These strategies, in turn, facilitate the creation of common benefits and reduce differential benefits (Arslan, 2018). By building trust and reducing information asymmetries, indirect board interlocks promote a cooperative approach to value creation. As a result, alliance partners are more likely to create common benefits rather than compete for a larger share of the benefits, further reducing differential benefits.

In sum, we argue that indirect board interlocks create an environment conducive to joint learning and resource sharing, which promotes common benefits while minimizing the risk of resource appropriation by individual partners. We therefore propose the following hypothesis (see Figure 3 for an illustration of the proposed effects):

Hypothesis 1b (H1b): Indirect board interlocks between alliance partners are negatively associated with differential benefits in alliances.

The moderating influence of relative board receptivity

Studies show that the mere presence of board interlocks does not guarantee resource exchange between firms. A prerequisite for this is receptivity, i.e. the openness of firms to external network information (Allison & Potts, 1999; Lamb & Roundy, 2016). In their conceptual model, Larsson et al. (1998) also emphasize the importance of receptivity, noting that knowledge transfer can come to a complete standstill if one of the alliance partners is not receptive to the information of the other and pursues an avoidance strategy. At the same time, differences in the receptivity of individual alliance partners can be used strategically to maximize private benefits. For example, if one partner is highly receptive while the other is transparent but not receptive, the receptive partner can absorb the other's knowledge and thus maximize private benefits (Larsson et al., 1998). To empirically examine the role of receptivity and its influence on differential benefits in strategic alliances, we analyze the effects of different levels of receptivity between alliance partners. Our study examines this dynamic by analyzing how asymmetric receptivity affects the relationship of direct and indirect board interlocks and differential benefits. Key effects are considered at the board and firm level.

Moderating effect of relative board power. At the board level, the extent to which information from board interlocks is reflected in firm behavior is significantly influenced by the board's decision-making authority. Studies suggest that CEOs with extensive decision-making authority may override board preferences, particularly when the board's own authority is constrained (Golden & Zajac, 2001; Westphal & Zajac, 1997). In contrast, a board with high decision-making power is more likely to use its members' experience in other firms to inform the focal firm's strategy and to respond to emerging industry trends and customer preferences (Zahra & Pearce, 1990). In light of these findings, we expect that the efficiency of transforming external information into private benefits will differ between alliances in which the partners are linked by board interlocks but have different levels of board power. Therefore, we expect that differential benefits within an alliance will increase in proportion to relative board power.

In the case of direct board interlocks, the alliance partner with greater board power and receptivity is better positioned to translate acquired knowledge into strategic initiatives. For example, resource- constrained partners with significant board power can more effectively leverage the expertise of resource-rich alliance partners. On the other hand, resource-constrained partners with significant board power may be more effective in accessing the resources of their resource-rich counterparts, while at the same time more effective in protecting their own assets through social defense mechanisms (Knoben & Bakker, 2019).

In the context of indirect board interlocks, where there is a significant disparity in board power, it is likely that only one of the alliance partners will be able to effectively implement the agreements reached among the indirectly interlocking directors. This imbalance has the potential to undermine mutual trust and increase the risk of opportunistic behavior, making it more difficult to achieve common benefits. Therefore, we hypothesize that alliances linked by either direct or indirect board interlocks are more likely to result in differential benefits when there is high relative board power, allowing the more influential board to exert greater control over the strategic direction and resource allocation of the alliance, resulting in an unequal distribution of benefits. This provides the basis for the following hypotheses:

Hypothesis 2a (H2a): Relative board power positively moderates the relationship between direct board interlocks and differential benefits.

Hypothesis 2b (H2b): Relative board power positively moderates the relationship between indirect board interlocks and differential benefits.

Moderating effect of relative firm status. Status is conceptualized as "a socially constructed, intersubjectively agreed-upon hierarchy among individuals, groups, organizations, or activities within a social system" (Washington & Zajac, 2005: 284). It has economic significance, securing not only financial and physical assets for firms, but also social resources (Lin, Yang, & Arya, 2009). Status differences often arise from different resource endowments (Brass & Burkhardt, 1993), which typically result from access to more valuable contacts and resources (Chandler, Haunschild, Rhee, & Beckman, 2013). As a result, high-status firms are perceived as more valuable and influential (Cialdini, Trost, & Newsom, 1995) and are preferred as alliance partners (Lin et al., 2009).

Collaborating with high-status firms can enhance a partner’s reputation, increase its visibility, and attract future alliances (Eisenhardt & Schoonhoven, 1996; Podolny, 1993, 1994; Stuart, 2000). This effect is particularly pronounced for low-status firms, where quality assessment is more difficult (Benjamin & Podolny, 1999), with empirical studies suggesting that low-status alliance partners particularly benefit from asymmetric status distributions (Lin et al., 2009).

We find that status differences between alliance partners linked by board interlocks influence interorganizational resource flows and contribute to the emergence of differential benefits. When a firm is linked to a higher status alliance partner through direct board interlocks, it tends to attach greater strategic importance to the alliance and pay more attention to the partner's information, thereby increasing its receptivity (Shropshire, 2010). Moreover, lower status firms often receive direct support from their higher status counterparts, demonstrating the latter's increased transparency, which disproportionately benefits the former (Blau, 1963; Burt, 1992). Such support is particularly important for focal firms with limited resources, as it helps mitigate external dependencies while maintaining the support of influential partners (Pfeffer & Salancik, 1978; Zona et al., 2018). As a result, direct board interlocks allow low-status firms to leverage the resources and status of high-status partners, protect against opportunism, and increase their bargaining power and attractiveness as alliance partners. This, in turn, increases the probability of private gains (Knoben & Bakker, 2019).

In the context of indirect board interlocks, even without direct access to the high-status partner’s resources, the low-status firm may benefit from status spillovers, enhancing its network connections and improving its access to previously inaccessible firms. This association can lead to private benefits through increased network influence and conflict mitigation, enabling the high-status firm to prolong the alliance and secure more benefits over time. Based on these arguments, we propose:

Hypothesis 3a (H3a): Relative firm status positively moderates the relationship between direct board interlocks and differential benefits.

Hypothesis 3b (H3b): Relative firm status positively moderates the relationship between indirect board interlocks and differential benefits.

METHOD

Sample Selection

We tested our hypotheses using a sample of 2,102 alliances involving U.S., Canadian, and U.K. firms between 2002 and 2021. This sample included joint ventures, equity alliances, and non-equity alliances, all of which involved publicly traded firms. Data on alliances were obtained from S&P Global's CapitalIQ database, which provides comprehensive information on firms' stock prices, financial data, and details of the alliances they form. The BoardEx database was used to construct the network of board interlocks.

To create our final dataset, we followed a multi-step process. First, we identified all alliances from the CapitalIQ database spanning the years 2002 to 2021. Following previous studies (Arslan, 2018; Gulati & Wang, 2003), we then narrowed this initial sample to include only alliances involving two firms. We then matched all firms involved in these alliances with data available in the BoardEx database, retaining only those alliances in our sample for which data were available from both CapitalIQ and BoardEx. Finally, we further refined the sample to include only publicly traded firms for which stock price data was available at the time the alliance was announced. This process resulted in our final dataset of 2,102 alliances.

Measures

Dependent Variable

Differential Benefits. The study of differential benefits poses a significant challenge in quantifying the actual value generated by each alliance partner, primarily due to the limited availability of internal alliance data. To overcome this limitation, we rely on proven market measures as proxies for the distribution of value created (Christoffersen, 2013; Gulati & Wang, 2003). This approach is consistent with the efficient market hypothesis, which suggests that abnormal stock returns are indicative of the expected future value for alliance partners (Anand & Khanna, 2000). Market measures have also been used in studies of board interlocks (Basuil & Datta, 2017; Harris & Shimizu, 2004; Horton, Millo, & Serafeim, 2012; Kiel & Nicholson, 2006), particularly to assess the impact of board interlocks on alliances (Cordeiro, 1993), suggesting that directors' relational capital does indeed influence investment decisions.

Following the approach of Gulati and Wang (2003), we define differential benefits as the difference in exponential cumulative abnormal returns between alliance partners:

$$DifferentialBenefits_{i,j} = \frac{\exp\left(max\left(CAR_i, CAR_j\right)\right) - \exp\left(min\left(CAR_i, CAR_j\right)\right)}{\exp\left(max\left(CAR_i, CAR_j\right)\right) + \exp\left(min\left(CAR_i, CAR_j\right)\right)} \quad (1)$$

where CAR is the cumulative abnormal stock return of alliance partners i and j, respectively. This measure effectively captures the variance in relative abnormal stock returns between alliance partners and addresses the issue of potential conflation of positive and negative abnormal returns. A value of zero for this measure indicates that investors anticipate an equal distribution of benefits between the firms, implying no differential benefits. Conversely, as the value of the measure increases, it signifies a rise in differential benefits, suggesting that one alliance partner is reaping more benefits than the other.

Abnormal returns are calculated following standard event study methodology (Brown & Warner, 1985; Suk & Wang, 2021):

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{M,t}) \quad (2)$$

where $R_{i,t}$ is the actual stock return of firm *i* on day *t* and $R_{M,t}$ is the market return on day *t*. Alpha and beta coefficients are derived from the market model, based on data from -250 to -50 days prior to the alliance announcement. Expected returns are then predicted and subtracted from actual returns to estimate abnormal returns over a three-day event window [-1, 1] around the alliance announcement (*DiffBenefits_1*).

Table 1 presents daily abnormal return statistics for alliance partners. Mean abnormal returns are positive and significant (.72%, *Patell z* = 15.99, $p < .001$) over the event window, peaking on the announcement day (.70%, $p < .001$), aligning with findings from Arslan (2018) and others such as McConnell and Nantell (1985) and Koh and Venkatraman (1991), who report comparable market reactions to alliance announcements.

Insert Table 1 about here

Independent Variables

Direct Board Interlocks. We measure direct board interlocks using a binary indicator (*Direct_BoardInterlocks*), which identifies whether a board member of one alliance partner concurrently serves on the board of the other alliance partner at the time of the alliance announcement (0 = no direct ties, 1 = direct ties). We define two firms as directly interlocked if at least one director is a member of the boards of both alliance partners (Mizruchi, 1996).

Indirect Board Interlocks. Similarly, indirect board interlocks are represented by a binary indicator (*Indirect_BoardInterlocks*) that indicates the existence of second-degree ties between alliance partners at the time of the announcement (0 = no indirect ties, 1 = indirect ties). Indirect interlocks occur when directors of allied firms *i* and *j* each serve on the board of a separate third firm *k* that is not part of alliance *m* (Burt, 1992).

Moderating variables

Relative Board Power. We construct our measure of board power by adapting the CEO power metric developed by Haynes and Hillman (2010). This includes variables such as CEO duality (the concurrent role of the CEO as board chair), the proportion of independent directors, the ratio of CEO to board equity ownership in the firm, and the proportion of directors appointed during the CEO's tenure. These factors are standardized and then inverted to reflect board power as opposed to CEO power. Subsequently, they are aggregated into an index. For each alliance, we calculate the relative board power (*Relative_BoardPower*) by determining the ratio of the higher board power score to the lower one among the alliance partners.

Relative Firm Status. Consistent with previous studies (Arslan, 2018; Granados & Knoke, 2013; Lin et al., 2009), we use the normalized Bonacich's eigenvector centrality measure divided by the maximum network value to estimate the status of each alliance partner (Bonacich, 1987). We then determine the relative firm status (*Relative_FirmStatus*) within each alliance by comparing the highest to the lowest status ratios.

Control Variables

Consistent with other research on differential benefits (Arslan, 2018; Gulati & Wang, 2003; Kumar, 2010), we include a comprehensive set of control variables in our regression models. These variables include board, firm, dyad, and industry characteristics that may affect the distribution of relational rents in alliances (see online supplement for full variable description).

Board controls. We include variables that capture informational advantages and network effects stemming from the personal networks of the alliance partners' board members. We measure prior board ties (*Prior_Board_Ties*) as the number of direct ties between the board members of both alliance partners that do not constitute a board interlocks. This includes, for example, common educational or professional backgrounds, or common memberships in organizations such as charities. We also consider the relative size of board networks (*Relative_NetworkSize*), which compares the total number of board members' network contacts with other firms to measure potential information advantages.

Firm controls. Recognizing the influence of firm characteristics on differential benefits, we adjust for relative firm size (*Relative_FirmSize*) based on sales ratios. We define relative firm performance (*Relative_FirmPerformance*) as the ratio of return on assets (ROA). Differences in absorptive capacity are approximated by differences in R&D intensity (*Relative_RDIntensity*). All three firm controls are based on the year prior to the alliance announcement. In addition, we include the number of alliances formed in the five years prior to the current alliance to capture prior alliance experience (*Relative_AllianceExperience*).

Alliance controls. Recognizing that repeated interactions build trust and reduce opportunistic behavior, we include the number of previous alliances between partners (*Alliance_RelationalEmbeddedness*). We also consider the position of the alliance in the alliance network using the geometric mean of the Bonacich eigenvector centrality (*Alliance_StructuralEmbeddedness*) and include indicator variables for the type of alliance-joint venture, equity, or non-equity (*JV_Indicator*, *Equity_Indicator*) as well as the presence of a technology component (*TechnologyAlliance_Indicator*). The strategic focus of the alliance is captured by an exploration alliance indicator (*ExplorationAlliance_Indicator*), reflecting joint pursuit of new development versus core competency collaboration. The international alliance indicator (*InternationalAlliance_Indicator*) captures international cooperation.

Industry controls. The horizontal alliance indicator (*HorizontalAlliance_Indicator*) captures the potential risk of resource appropriation between firms of the same industry while the risk of resource appropriation across related but distinct industries is captured by the related scope (*Industry_RelatedScope*), which is calculated by the common three-digit SIC codes, excluding four-digit SIC code overlaps. Resource complementarity (*Industry_Complementarity*) captures synergy potential between partners' resources based on shared industry affiliations. Finally, we include the growth rate of sales within a four-digit SIC code over the period from five to one year prior to the alliance announcement (*Industry_Growth*).

Measurement Model

To test our hypotheses, we apply the following two-way fixed effects regression model:

$$DifferentialBenefits_m = \alpha + \beta_1 BoardInterlocks_{i,j} + \sum \beta_m BoardControls_m + \sum \beta_m FirmControls_m + \sum \beta_m AllianceControls + \sum \beta_m IndustryControls + \gamma_i + \delta_t + \varepsilon_m \quad (3)$$

where $DifferentialBenefits_{\mathrm{m}}$ represents the respective dependent variable of alliance m, $BoardInterlocks_{\mathrm{i,j}}$ stands for our main independent variables related to the existence of direct or indirect board interlock ties between the alliance partners i and j. $Controls$ are four vectors containing several control variables of alliance m, and firms i and j. To reduce concerns about potential endogeneity, we introduce fixed effects for the industry group combination (measured as 2-digit-SIC code combination) of both alliance partners (γi). This approach reduces the threat of omitted variable bias, specifically from unobserved industry-level factors that could influence both the formation of direct and indirect board interlocks and the distribution of benefits. By controlling for industry-specific effects, we ensure that any variation in differential benefits is not driven by time-invariant characteristics unique to particular industries (Antonakis, Bendahan, Jacquart, & Lalive, 2010). In addition, we apply time effects (δt) to control for time related effects and macroeconomic trends. Standard errors are robust to heteroskedasticity within 2-digit SIC industry clusters.

RESULTS

Table 2 describes the frequency of alliances, by the year of alliance announcement. The data show a relatively even distribution of alliances across years, with each year representing between 2% and 10% of the total sample.

Insert Table 2 about here

Table 3 presents descriptive statistics for the variables analyzed. The primary dependent variable, differential benefits (*DiffBenefits_1*), has a mean of $M = .023$, ranging from $Min = .00001$ to $Max = .191$, which is consistent with the findings of Gulati and Wang (2003). The values tend to increase as the event window lengthens; for example, the mean increases to $M = .035$ for an 11-day window surrounding the alliance announcement (*DiffBenefits_5*).

The analysis indicates that about 1.5% of the alliances in our sample have direct board interlocks, while about 10% have indirect board interlocks at the time of announcement. The control variables related to board network effects reveal frequent overlaps among alliance partners' board members in areas such as prior education, corporate affiliation, or nonprofit affiliation, with an average prior overlap of $M = 1.32$ ($SD = 5.982$). In addition, there are significant differences in network size and external connections between the boards of alliance partners, with an average network size of $M = 24.56$ and a standard deviation of $SD = 345.45$.

Table 4 presents the Pearson product-moment correlation coefficients for all variables. We find no evidence of high linear dependence ($r > .8$) between our variables, suggesting that multicollinearity is unlikely to significantly affect our regression results (Sheth, Malhotra, Sheth, & Malhotra, 2011).

Insert Table 3 and Table 4 about here

For H1a we argue that alliances with direct board interlocks between partners will experience higher differential benefits. Model 2 in Table 5 presents the results of our two-way fixed effects regression analysis. The positive and statistically significant relationship ($b = .015$, $p < .05$) between direct board interlocks (*Direct_BoardInterlocks*) and differential benefits (*DiffBenefits_1*) suggests that capital markets expect higher differential benefits among alliance partners with direct board interlocks, lending support to H1a. Compared to Model 1, which includes only control variables, Model 2 explains more variance, as indicated by a higher adjusted R-squared, stressing the impact of direct interlocks on differential benefits.

Model 3 examines the relationship between indirect board interlocks (*Indirect_BoardInterlocks*) and differential benefits (*DiffBenefits_1*), addressing H1b. Contrary to our hypothesis, we find that indirect board interlocks are positively related to differential benefits, as evidenced by a significant coefficient ($b = .004$, $p < .05$), leading us to reject H1b. Model 4 is the full model that includes both direct and indirect board interlocks. We find that the coefficients and significance levels of direct and indirect board interlocks do not change drastically when compared to Models 2 and 3, confirming our earlier conclusions.

Insert Table 5 about here

For H2a we propose that relative board power (*Relative_BoardPower*) positively moderates the relationship between direct board interlocks and differential benefits. This is based on the premise that firms high in board power can better translate direct interlock information into strategic action. In alliances where firms are linked by direct interlocks and have different levels of board power, the firm with higher board power can better use external information, potentially leading to increased differential benefits. The moderating effects of relative board power are shown in Table 6, Model 5, results in a positive and significant coefficient of the interaction term (b = .015, p < .001), supporting H2a. H2b follows a similar argument and states that relative board power positively moderates the relationship between indirect board interlocks and differential benefits. Again, the results of Model 7 show that the positive coefficient on the interaction term is statistically significant (b = .003, p < .05), leading us to support H2b.

H3a asserts that relative firm status (*Relative_FirmStatus*) positively moderates the effect of direct board interlocks on differential benefits, based on the argument that low-status firms stand to benefit from multiplex relationships with high-status firms. Empirical evidence suggests that board connections have a more significant positive impact on performance for smaller firms than for larger firms, a phenomenon that Zona et al. (2018) attribute to the self-serving actions of managers in resource-rich firms who seek to increase their personal influence. As a result, resource-constrained firms may benefit from these actions. Model 6 reveals a positive and statistically significant effect of relative firm status on the relationship between direct board interlocks and differential benefits term (b = .002, p < .05), supporting H3a. Similarly, H3b predicts that relative firm status positively moderates the relationship between indirect board interlocks and differential benefits. The results of Model 8 show a significant moderating effect of firm status (b = .001, p < .05), supporting H3b.

Insert Table 6 about here

ROBUSTNESS CHECKS

To validate our main analysis, we conducted several robustness tests, the results of which are detailed in the online supplement to this article. First, we assessed the impact of using alternative event windows for our primary dependent variable, differential benefits. Consistent with our main findings, event windows of 5 and 11 days around the alliance announcement date (*DiffBenefits_2; DiffBenefits_5*) revealed significant positive effects of both direct and indirect board interlocks on differential benefits, strengthening our main results, as shown in Online Supplement 1. Similarly, the moderation analysis supported these findings, with results available in Online Supplement 2.

Second, we computed an alternative measure of differential benefits, defined as the absolute difference in cumulative abnormal stock returns of alliance firms (*DiffBenefits_AD1*). The results of both the main and moderation analyses, presented in Online Supplements 3 and 4, confirm the robustness of our original findings to variations in the dependent variable.

Third, we tested different proxies for our moderating variables, as shown in Online Appendix 5. For relative board power, we used CEO duality as an indicator of CEO power, reverse-coded to be consistent with our hypotheses (*Relative_CEODuality*), where 1 indicates no CEO duality and 0 indicates CEO duality. The results of this moderation analysis, particularly in Model 17, show a significant positive moderating effect of relative CEO duality on the relationship between direct board interlocks (b = .059, p < .05). The effect of indirect board interlocks remained positive and statistically significant in Model 19 (b = .009, p < .05).

Finally, we examined an alternative measure of relative firm status based on the premise that higher status firms attract more analyst coverage (Shen, Tang, & Chen, 2014). We calculated the ratio of analyst coverage for each firm dyad to create a relative measure (*Relative_AnalystCoverage*). Consistent with our primary moderation results, we found a significant positive moderating effect for direct board interlocks in Model 18 (b = .004, p < .01) and a significant effect for indirect board interlocks in Model 20 (b = .000, p < .05).

In summary, the robustness checks confirm the reliability of our main analysis and provide strong support for our initial conclusions.

DISCUSSION

Discussion of findings

Board interlocks have been extensively studied as a mechanism for firms to access external resources and thereby reduce their environmental dependence (Lamb & Roundy, 2016; Mizruchi & Stearns, 1988). Previous research has also emphasized their role in monitoring firms, underscoring their importance as an instrument of corporate control (Mizruchi, 1996). However, their specific impact in the context of alliances remains underexplored. Our study addresses this gap by examining how direct and indirect board interlocks affect the dynamics of cooperation and competition in strategic alliances, focusing in particular on their association with resource appropriation and differential benefits. Our results show that both direct and indirect board interlocks are positively associated with differential benefits in alliances. These results are supported by robustness tests that are consistent with our primary analyses, providing a coherent and consistent narrative.

For direct board interlocks, our results support the hypothesis that they facilitate resource appropriation by an alliance partner by providing unique learning opportunities for directors, leading to private benefits for alliance partners. At the same time, they act as a social defense mechanism, reducing the threat of opportunistic behavior (Knoben & Bakker, 2019). Consistent with the conceptual framework proposed by Larsson et al. (1998), which predicts unilateral resource flows in scenarios of unequal transparency, we find a positive correlation between direct interlocks and differential benefits.

Contrary to our initial hypothesis, indirect board interlocks also have a positive effect on differential benefits. This suggests that competitive forces may offset the expected benefits of improved coordination and communication. One plausible explanation is that the strategic value of information exchanged through indirect interlocks varies across partners, with resource-constrained firms potentially gaining more than their resource-rich counterparts (Zona et al., 2018). Alternatively, indirect board interlocks may allow one alliance partner to influence its partners' decisions in a way that favors the focal firm.

Our moderation analysis further confirms the role of board receptivity in shaping the relationship between board interlocks and differential benefits. We find that receptivity to external information, which is influenced by board and firm-level factors, significantly affects how firms use network information for private benefits (Shropshire, 2010). In particular, we find that differences in board power and the status of the firm positively moderate this relationship, providing empirical support for the propositions of Shropshire (2010).

Implications for theory

Our results contribute to the literature in several ways. First, they extend research on board interlocks by demonstrating their influence on the distribution of benefits in alliances, consistent with studies by Tuschke et al. (2014) and Knoben and Bakker (2019). Second, our findings challenge the prevailing view that pluralistic network ties primarily promote trust (Beckman et al., 2014), by showing that certain ties may instead facilitate resource appropriation. Third, we provide empirical evidence supporting the role of board receptivity in assimilating external information, contributing to the discourse on board interlocks (Shropshire, 2010). Finally, our results highlight the directional nature of information exchange through board interlocks, an important consideration for future research (Gulati & Westphal, 1999).

Practical implications

This study provides several practical insights for alliance managers. First, it highlights the influence of board members' social networks on the balance between cooperation and competition in alliances, underscoring the need for effective governance structures to prevent unintended resource leakage. Second, our findings suggest that not only direct, but also second-degree network connections can lead to unintended resource leakage, consistent with previous research (Tuschke et al., 2014). Finally, this study highlights the strategic value of network information embedded in board members' connections and the importance of boards' receptivity to external information in gaining competitive advantage.

Limitations and suggestions for future research

The main limitation of our study is its reliance on market data, due to the challenge of accessing authentic internal alliance data. Therefore, despite its use in previous studies (Arslan, 2018; Gulati & Wang, 2003), it should be noted that the study of differential benefits assumes that the market response to alliance announcements is (almost) instantaneous, complete, and unbiased, which requires at least the semi-strong form of the efficient market hypothesis (Fama, 1970). Additionally, our data's focus on U.S., U.K., and Canadian alliance partners may limit the generalizability of our findings.

CONCLUSION

This research contributes to the understanding of competition and cooperation in alliances by illustrating how pluralistic network ties among alliance partners affect the generation of private benefits. We find that alliances with direct and indirect board interlocks experience increased differential benefits. These effects are positively moderated by high relative board power and high relative firm status. The study underscores the importance of alliance governance, particularly in leveraging external information for strategic advantage.

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APPENDIX

TABLE 1

T - II - 1: Daily abnormal returns to alliance announcements

Day	Mean abnormal return (%)	Standardized t-statistic	p-value	Patell Z	p-value
-5	0.00	0.500	0.618	-0.772	0.440
-4	0.00	-0.476	0.634	-2.415	0.016
-3	-0.10	-1.162	0.246	-1.384	0.166
-2	0.00	0.147	0.883	0.114	0.910
-1	0.10	1.371	0.172	0.642	0.521
0	0.70	16.546	0.000	15.986	0.000
1	0.20	3.638	0.000	4.659	0.000
2	0.00	0.064	0.949	-0.137	0.891
3	0.10	1.219	0.224	1.228	0.219
4	-0.00	-1.989	0.048	-2.581	0.010
5	0.00	-1.013	0.312	-1.302	0.193

Notes. This table presents the average daily abnormal returns for the five-day event window around the date of the alliance announcement. The descriptive statistics are based on the daily abnormal returns of 2,102 alliance announcements for the years 2002 to 2021.

TABLE 2

T - II - 2: Frequency table of alliance announcements by year

Announcement year	**Alliances**	**Percentage (%)**	**Total percentage (%)**
2002	116	5.52	5.52
2003	148	7.04	12.56
2004	155	7.37	19.93
2005	155	7.37	27.31
2006	133	6.33	33.63
2007	191	9.09	42.72
2008	145	6.90	49.62
2009	139	6.61	56.23
2010	109	5.19	61.42
2011	122	5.80	67.22
2012	87	4.14	71.36
2013	77	3.66	75.02
2014	65	3.09	78.12
2015	56	2.66	80.78
2016	44	2.09	82.87
2017	50	2.38	85.25
2018	50	2.38	87.63
2019	99	4.71	92.34
2020	78	3.71	96.05
2021	83	3.95	100
Total	2,102	100	100

Notes. This table presents the number of alliances per year. The descriptive statistics are based on 2,102 alliance announcements for the years 2002 to 2021.

TABLE 3

T - II - 3: Descriptive statistics

Variable	N	M	SD	Min	Max
Dependent variables					
DiffBenefits_1	2,102	0.023	0.027	0.00001	0.191
DiffBenefits_2	2,102	0.026	0.029	0.00002	0.216
DiffBenefits_5	2,102	0.035	0.036	0.0001	0.249
DiffBenefits_AD1	2,102	0.046	0.055	0.00003	0.387
DiffBenefits_AD2	2,102	0.052	0.058	0.00004	0.440
DiffBenefits_AD5	2,102	0.069	0.073	0.0001	0.508
Network variables					
Direct_BoardInterlocks	2,102	0.014	0.117	0	1
Indirect_BoardInterlocks	2,102	0.099	0.299	0	1
Prior_Board_Ties	2,102	1.321	5.982	0	97
Relative_Board_NetworkSize	2,102	24.562	345.479	1	12,245.630
Moderating variables					
Relative_BoardPower	1,528	3.101	2.453	0.002	27.680
Relative_FirmStatus	1,824	6.317	6.283	1	39.000
Dyad-level controls					
Ln(Total_FirmSize)	2,102	9.389	2.025	4.151	12.113
Relative_FirmSize	2,102	273.976	732.830	1.196	3,150.484
Relative_FirmPerformance	2,102	0.058	0.080	0.0001	1
Relative_RDIntensity	2,102	0.469	0.460	-5.075	2.884
Relative_AllianceExperience	2,102	8.726	20.776	1	215.000
Alliance-level controls					
Alliance_Relational_Embeddedness	2,102	0.505	1.327	0	16
Alliance_Structural_Embeddedness	2,102	0.125	0.189	0	0.908
JV_Indicator	2,102	0.141	0.348	0	1
EquityAlliance_Indicator	2,102	0.029	0.167	0	1
TechnologyAlliance_Indicator	2,102	0.406	0.491	0	1
ExplorationAlliance_Indicator	2,102	0.521	0.500	0	1
InternationalAlliance_Indicator	2,102	0.153	0.360	0	1
HorizontalAlliance_Indicator	2,102	0.235	0.424	0	1
Industry-level controls					
Industry_RelatedScope	2,102	5.173	3.667	1	24
Industry_Complementarity	2,102	0.813	0.265	0	1
Industry_Growth	2,102	0.265	0.318	-0.014	1.221
Year	2,102	2,009.744	5.573	2,002	2,021
Robustness check variables					
Relative_CEODuality	1,528	0.452	0.498	0	1
Relative_AnalystCoverage	1,788	7.646	12.833	1	90.000
Relative_AnnualStockPriceVolatility	2,102	2.710	8.040	1	69.400

TABLE 4

T - II - 4: Correlation matrix

#	Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.	DiffBenefits_1	1													
2.	DiffBenefits_2	0.86	1												
3.	DiffBenefits_5	0.65	0.74	1											
4.	Direct_BoardInterlocks	0.07	0.08	0.05	1										
5.	Indirect_BoardInterlocks	-0.04	-0.03	-0.03	-0.03	1									
6.	Prior_Board_Ties	-0.07	-0.07	-0.07	0.07	0.04	1								
7.	Relative_Board_NetworkSize	0.00	0.00	0.00	-0.01	-0.02	-0.01	1							
8.	Relative_BoardPower	0.06	0.07	0.06	-0.04	-0.03	-0.03	0.03	1						
9.	Relative_FirmStatus	0.03	0.02	0.05	-0.00	0.00	0.01	-0.00	0.18	1					
10.	Ln(Total_FirmSize)	-0.19	-0.19	-0.19	0.01	0.13	0.18	0.05	0.22	0.27	1				
11.	Relative_FirmSize	0.20	0.20	0.23	-0.04	-0.07	-0.07	0.02	0.20	0.16	0.13	1			
12.	Relative_FirmPerformance	-0.04	-0.03	-0.01	0.00	-0.02	-0.00	0.01	0.01	-0.02	0.03	-0.03	1		
13.	Relative_RDIntensity	-0.00	0.04	0.06	-0.00	-0.01	-0.00	-0.00	0.05	0.04	0.01	0.08	-0.00	1	
14.	Relative_AllianceExperience	0.02	0.01	0.05	-0.02	0.03	0.00	0.03	0.15	0.43	0.26	0.09	-0.01	0.03	1
15.	Alliance_Relational_Embeddedness	-0.07	-0.06	-0.06	0.07	0.01	0.34	-0.01	-0.04	-0.06	0.12	-0.02	-0.02	-0.01	-0.08
16.	Alliance_Structural_Embeddedness	-0.09	-0.09	-0.08	0.02	0.16	0.20	0.05	0.03	0.20	0.36	-0.08	0.01	-0.01	0.30
17.	JV_Indicator	-0.01	-0.00	-0.03	0.06	-0.07	-0.02	0.01	-0.04	-0.18	-0.07	-0.05	-0.00	-0.01	-0.12
18.	EquityAlliance_Indicator	0.02	0.02	0.01	0.04	-0.03	0.01	0.01	0.02	-0.04	0.00	0.07	-0.01	-0.00	0.00
19.	TechnologyAlliance_Indicator	0.00	-0.02	-0.01	-0.01	0.06	0.07	-0.01	0.04	0.11	0.09	-0.02	0.02	-0.02	0.12
20.	ExplorationAlliance_Indicator	-0.03	-0.01	0.02	-0.03	0.00	0.01	0.00	0.02	0.09	0.01	0.08	-0.02	0.02	0.06
21.	InternationalAlliance_Indicator	-0.01	-0.01	-0.02	-0.03	-0.05	-0.07	0.07	0.01	-0.09	0.07	0.04	0.01	-0.01	-0.05
22.	HorizontalAlliance_Indicator	0.05	0.05	0.04	0.00	0.03	-0.06	0.02	-0.08	-0.10	-0.19	0.00	-0.02	-0.01	-0.07
23.	Industry_RelatedScope	-0.12	-0.11	-0.13	0.04	0.03	0.10	0.01	0.15	0.09	0.51	0.01	0.05	-0.01	0.07
24.	Industry_Complementarity	-0.03	-0.02	-0.02	-0.02	0.02	0.06	0.01	0.14	0.14	0.28	0.07	0.01	0.01	0.09
25.	Industry_Growth	0.19	0.18	0.20	0.04	-0.05	-0.04	-0.03	0.05	-0.01	-0.24	0.24	-0.00	0.06	-0.02
26.	Relative_CEODuality	-0.00	-0.01	0.01	0.02	0.03	0.04	0.03	0.30	0.19	0.29	0.14	-0.04	0.02	0.18
27.	Relative_AnalystCoverage	0.10	0.09	0.12	-0.03	0.00	-0.04	-0.01	0.13	0.21	0.05	0.21	-0.05	-0.01	0.10
28.	Year	-0.02	-0.04	-0.05	0.05	0.00	-0.06	0.02	0.05	0.01	0.17	-0.05	0.02	-0.01	0.16

TABLE 4 (II)

#	Variable	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)
15.	Alliance_Relational_Embeddedness	1													
16.	Alliance_Structural_Embeddedness	0.14	1												
17.	JV_Indicator	0.07	-0.16	1											
18.	EquityAlliance_Indicator	-0.02	-0.06	0.10	1										
19.	TechnologyAlliance_Indicator	-0.02	0.20	-0.21	-0.05	1									
20.	ExplorationAlliance_Indicator	-0.02	0.05	-0.19	-0.04	0.09	1								
21.	InternationalAlliance_Indicator	-0.03	-0.05	0.14	0.02	-0.02	-0.03	1							
22.	HorizontalAlliance_Indicator	0.07	-0.11	0.10	0.02	-0.12	-0.05	0.04	1						
23.	Industry_RelatedScope	-0.02	0.15	0.11	-0.02	0.02	-0.01	0.12	-0.28	1					
24.	Industry_Complementarity	-0.03	0.11	-0.12	-0.04	0.08	0.12	-0.04	-0.44	0.37	1				
25.	Industry_Growth	0.06	-0.14	-0.09	0.01	-0.07	0.09	-0.10	0.07	-0.26	-0.05	1			
26.	Relative_CEODuality	0.03	0.15	-0.08	-0.01	0.03	0.07	-0.07	-0.08	0.15	0.14	0.03	1		
27.	Relative_AnalystCoverage	-0.04	0.06	-0.07	0.01	0.01	0.05	-0.08	-0.01	-0.06	0.04	0.11	0.14	1	
28.	Year	0.04	-0.02	0.06	0.06	0.07	-0.07	0.10	-0.01	0.05	0.02	-0.11	-0.01	-0.18	1

TABLE 4

T - II - 5: Regression analysis of direct effects

Model	(1) Base	(2) Direct BI	(3) Indirect BI	(4) Full Model
Direct_BoardInterlocks		0.015		0.016
		(0.007)		(0.008)
		[0.044]		[0.040]
Indirect_BoardInterlocks			0.004	0.004
			(0.002)	(0.002)
			[0.027]	[0.021]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.848]	[0.936]	[0.828]	[0.919]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.342]	[0.333]	[0.420]	[0.419]
Ln(Total_FirmSize)	-0.002	-0.002	-0.002	-0.002
	(0.000)	(0.000)	(0.001)	(0.001)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmPerformance	0.010	0.010	0.010	0.010
	(0.016)	(0.016)	(0.016)	(0.016)
	[0.521]	[0.524]	[0.533]	[0.537]
Relative_RDIntensity	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.481]	[0.477]	[0.482]	[0.479]
Relative_AllianceExperience	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.270]	[0.214]	[0.206]	[0.152]
Alliance_RelationalEmbeddedness	-0.001†	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.064]	[0.053]	[0.084]	[0.072]
Alliance_StructuralEmbeddedness	0.004	0.003	0.003	0.002
	(0.006)	(0.005)	(0.005)	(0.005)
	[0.519]	[0.563]	[0.591]	[0.651]
JV_Indicator	0.000	0.000	0.000	0.000
	(0.001)	(0.002)	(0.002)	(0.002)
	[0.797]	[0.828]	[0.786]	[0.816]
Equity_Indicator	0.006	0.006	0.006	0.006
	(0.007)	(0.007)	(0.007)	(0.007)
	[0.355]	[0.425]	[0.357]	[0.428]
Technology_Indicator	0.002	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.312]	[0.310]	[0.310]	[0.308]
ExplorationAlliance_Indicator	-0.004	-0.004	-0.004	-0.003
	(0.001)	(0.001)	(0.001)	(0.001)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
InternationalAlliance_Indicator	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.178]	[0.216]	[0.187]	[0.230]
Relatedness_Indicator	0.000	0.000	0.000	0.000
	(0.002)	(0.002)	(0.002)	(0.002)

	[0.866]	[0.861]	[0.926]	[0.924]
Industry_Growth	0.007	0.007	0.007	0.007
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.003]	[0.003]	[0.003]	[0.003]
Industry_Complementarity	-0.003	-0.003	-0.004	-0.003
	(0.003)	(0.003)	(0.003)	(0.003)
	[0.221]	[0.256]	[0.196]	[0.227]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.719]	[0.761]	[0.721]	[0.764]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.125	0.129	0.126	0.130
Observations	2,102	2,102	2,102	2,102

Notes. This table presents results from a two-way fixed effects regression examining the influence of direct and indirect board interlocks on differential returns for the three days around the alliance announcement date [-1;1]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

TABLE 5

T - II - 6: Regression analysis of moderating effects

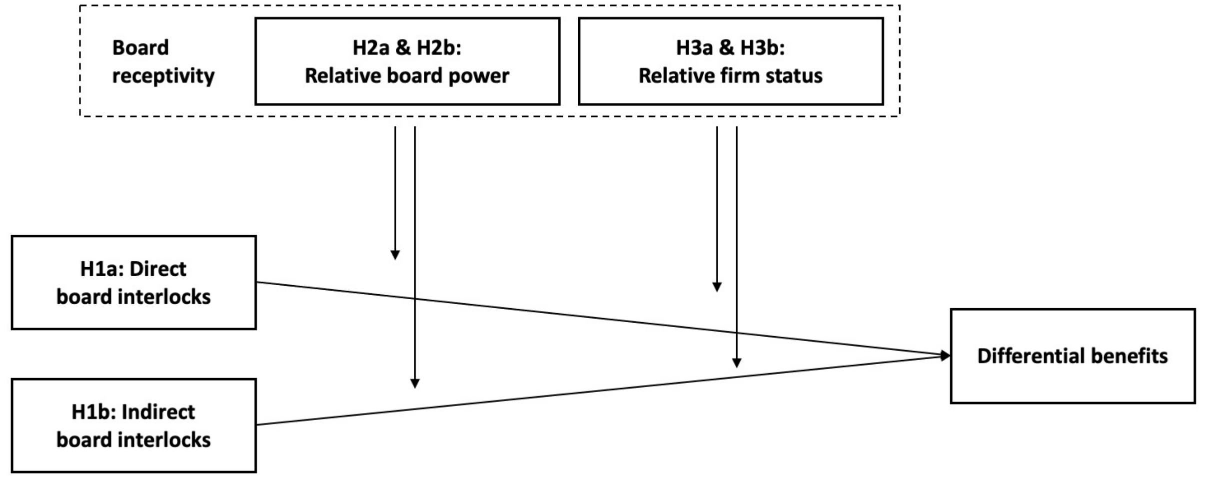
	Direct Board Interlocks		**Indirect Board Interlocks**	
Model	**(5)**	**(6)**	**(7)**	**(8)**
Direct_BoardInterlocks	-0.015	0.001		
	(0.007)	(0.008)		
	[0.032]	[0.945]		
Indirect_BoardInterlocks			-0.004	-0.001
			(0.003)	(0.003)
			[0.208]	[0.777]
Relative_BoardPower	0.001		0.001	
	(0.000)		(0.000)	
	[0.017]		[0.054]	
Relative_FirmStatus		0.000		0.000
		(0.000)		(0.000)
		[0.211]		[0.127]
Direct_BoardInterlocks x Relative_BoardPower	0.015			
	(0.005)			
	[<0.001]			
Direct_BoardInterlocks x Relative_FirmStatus		0.002		
		(0.001)		
		[0.011]		
Indirect_BoardInterlocks x Relative_BoardPower			0.003	
			(0.001)	
			[0.018]	
Indirect_BoardInterlocks x Relative_FirmStatus				0.001
				(0.001)
				[0.047]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.531]	[0.797]	[0.337]	[0.986]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.328]	[0.503]	[0.273]	[0.697]
Ln(Total_FirmSize)	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.000)	(0.001)	(0.001)
	[0.034]	[<0.001]	[0.043]	[<0.001]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.004]	[<0.001]	[0.006]	[<0.001]
Relative_FirmPerformance	0.034	0.011	0.034	0.011

	(0.023)	(0.016)	(0.022)	(0.015)
	[0.156]	[0.650]	[0.131]	[0.656]
Relative_RDIntensity	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.522]	[0.929]	[0.510]	[0.952]
Relative_AllianceExperience	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.384]	[0.524]	[0.391]	[0.611]
Alliance_RelationalEmbeddedness	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.092]	[0.119]	[0.106]	[0.215]
Alliance_StructuralEmbeddedness	-0.005	0.003	-0.006	0.002
	(0.006)	(0.006)	(0.007)	(0.005)
	[0.404]	[0.651]	[0.380]	[0.646]
JV_Indicator	0.001	0.000	0.001	0.000
	(0.002)	(0.001)	(0.002)	(0.002)
	[0.646]	[0.876]	[0.570]	[0.932]
Equity_Indicator	0.008	0.006	0.008	0.007
	(0.008)	(0.007)	(0.008)	(0.007)
	[0.331]	[0.431]	[0.349]	[0.408]
Technology_Indicator	0.001	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.459]	[0.350]	[0.385]	[0.324]
ExplorationAlliance_Indicator	-0.005	-0.004	-0.005	-0.004
	(0.001)	(0.001)	(0.001)	(0.001)
	[<0.001]	[<0.001]	[0.001]	[0.001]
InternationalAlliance_Indicator	-0.004	-0.002	-0.004	-0.001
	(0.002)	(0.001)	(0.002)	(0.001)
	[0.023]	[0.767]	[0.013]	[0.814]
Relatedness_Indicator	0.000	0.000	-0.001	0.000
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.853]	[0.705]	[0.649]	[0.797]
Industry_Growth	0.004	0.006	0.004	0.007
	(0.003)	(0.002)	(0.003)	(0.002)
	[0.159]	[0.097]	[0.134]	[0.043]
Industry_Complementarity	-0.003	-0.004	-0.004	-0.004
	(0.004)	(0.003)	(0.003)	(0.003)
	[0.293]	[0.081]	[0.266]	[0.074]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.959]	[0.973]	[0.900]	[0.988]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.132	0.137	0.116	0.131
Observations	1,528	1,824	1,528	1,824

Notes. This table reports results from a two-way fixed effects regression examining the moderating influence of differences in board power, and firm status on differential benefits for the three days around the alliance announcement date [-1;1]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

FIGURE 1

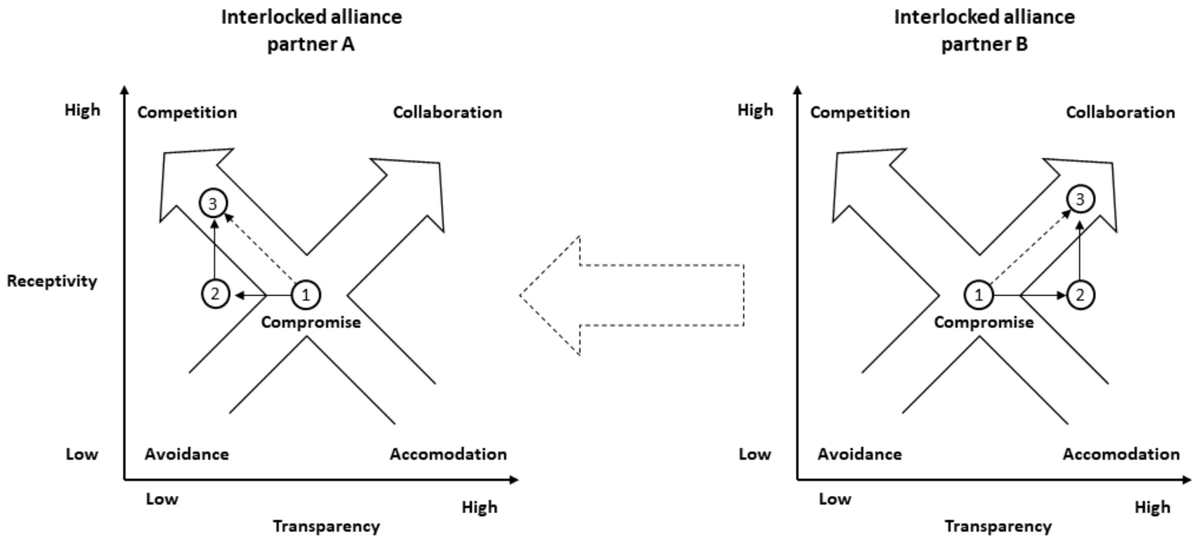
F - II - 1: Research model



Notes. This figure depicts the research model for this study.

FIGURE 2

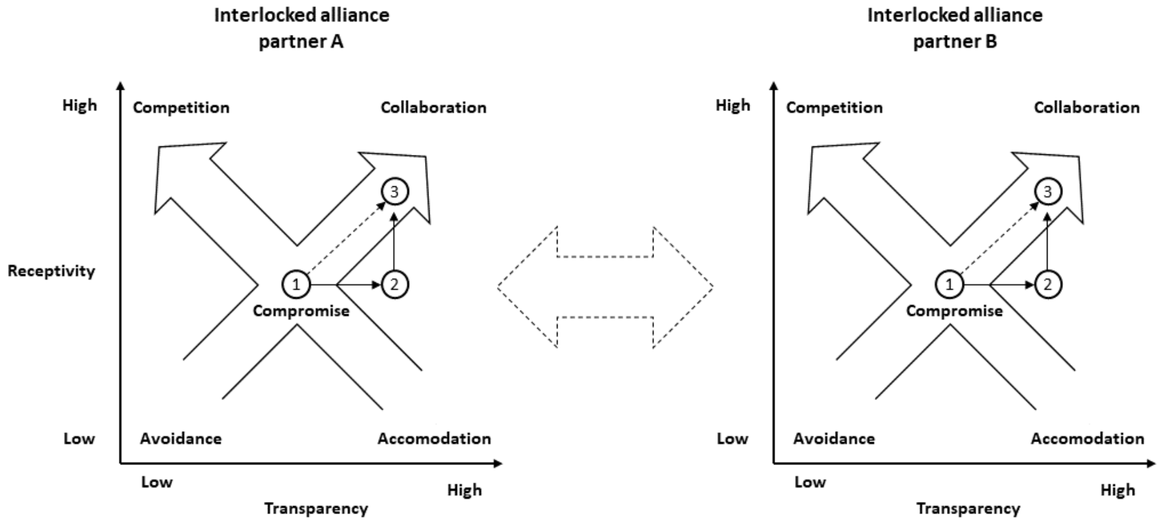
F - II - 2: Proposed effect of direct board interlocks on alliance partner strategies



Notes. This figure shows the evolution of alliance partners' strategy and the direction of resource flows from one alliance partner to another when they are linked by direct board interlocks, based on the model of Larsson et al. (1998). Alliance partner A reduces its own transparency vis-à-vis alliance partner B, while the transparency of alliance partner B is increased by a direct interlock. Both alliance partners increase their openness to information from the network due to the strategic relevance of the board interlock, which is reflected in higher receptivity. From the combination of competitive and cooperative strategies, Larsson et al. (1998) suggest unilateral resource flows from alliance partner B to A, as indicated by the dashed arrow.

FIGURE 3

F - II - 3: Proposed effect of indirect board interlocks on alliance partner strategies



Notes. This figure shows the evolution of alliance partners' strategy and the direction of resource flows from one alliance partner to another when they are linked by indirect board interlocks, based on the model of Larsson et al. (1998). Alliance partner A increases its own transparency vis-à-vis alliance partner B, while the transparency of alliance partner B is also increased by an indirect interlock. Both alliance partners increase their openness to information from the network due to the strategic relevance of board interlocks, which is reflected in higher receptivity Larsson et al. (1998) suggest bilateral resource flows from the combination of two cooperative and cooperative strategies, as indicated by the dashed arrow.

ONLINE SUPPLEMENT 1

T - II - 7: Regression analysis of direct effects using different event windows

Models	**(1) Direct [-2;2]**	**(2) Direct [-5;5]**	**(3) Indirect [-2;2]**	**(4) Indirect [-5;5]**
Direct_BoardInterlocks	0.017	0.017		
	(0.008)	(0.009)		
	[0.030]	[0.046]		
Indirect_BoardInterlocks			0.006	0.007
			(0.002)	(0.001)
			[0.001]	[<0.001]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.816]	[0.631]	[0.879]	[0.665]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.314]	[0.987]	[0.412]	[0.780]
Ln(Total_FirmSize)	-0.002	-0.003	-0.002	-0.003
	(0.001)	(0.001)	(0.001)	(0.001)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmPerformance	0.045	0.072	0.045	0.072
	(0.012)	(0.015)	(0.012)	(0.015)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_RDIntensity	-0.002	-0.004	-0.002	-0.004
	(0.001)	(0.002)	(0.001)	(0.002)
	[0.130]	[0.048]	[0.140]	[0.051]
Relative_AllianceExperience	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.324]	[0.006]	[0.261]	[0.004]
Alliance_RelationalEmbeddedness	-0.001	0.000	-0.001	0.000
	(0.001)	(0.000)	(0.001)	(0.000)
	[0.051]	[0.611]	[0.092]	[0.918]
Alliance_StructuralEmbeddedness	0.002	-0.004	0.002	-0.005
	(0.007)	(0.006)	(0.007)	(0.006)
	[0.742]	[0.465]	[0.804]	[0.388]
JV_Indicator	0.001	-0.001	0.001	-0.001
	(0.001)	(0.002)	(0.002)	(0.002)
	[0.464]	[0.667]	[0.435]	[0.707]
Equity_Indicator	0.008	0.001	0.009	0.002
	(0.005)	(0.008)	(0.005)	(0.009)
	[0.144]	[0.873]	[0.098]	[0.785]
Technology_Indicator	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.506]	[0.504]	[0.527]	[0.503]
ExplorationAlliance_Indicator	-0.003	-0.004	-0.003	-0.004
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.048]	[0.022]	[0.062]	[0.030]
InternationalAlliance_Indicator	-0.001	0.000	-0.001	0.000
	(0.001)	(0.002)	(0.001)	(0.002)
	[0.307]	[0.909]	[0.303]	[0.918]
Relatedness_Indicator	0.002	-0.001	0.001	-0.001

	(0.002)	(0.003)	(0.002)	(0.003)
	[0.303]	[0.696]	[0.366]	[0.603]
Industry_Growth	0.004	0.006	0.004	0.007
	(0.003)	(0.004)	(0.003)	(0.004)
	[0.247]	[0.106]	[0.217]	[0.095]
Industry_Complementarity	0.000	0.002	-0.001	0.001
	(0.002)	(0.003)	(0.002)	(0.003)
	[0.803]	[0.651]	[0.516]	[0.819]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.384]	[0.235]	[0.354]	[0.208]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.137	0.155	0.136	0.155
Observations	2,102	2,102	2,102	2,102

Notes. This table presents results from a two-way fixed effects regression examining the influence of direct and indirect board interlocks on differential returns for the five and eleven days around the alliance announcement date [-2;2], [-5;5]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

ONLINE SUPPLEMENT 2

T - II - 8: Regression analysis of moderating effects using different event window [-5;5]

	Direct Board Interlocks		Indirect Board Interlocks	
Model	**(5)**	**(6)**	**(7)**	**(8)**
Direct_BoardInterlocks	-0.014	-0.002		
	(0.008)	(0.007)		
	[0.099]	[0.227]		
Indirect_BoardInterlocks			0.001	0.000
			(0.004)	(0.004)
			[0.247]	[0.923]
Relative_BoardPower	0.001		0.001	
	(0.000)		(0.000)	
	[0.056]		[0.042]	
Relative_FirmStatus		0.000		0.000
		(0.000)		(0.000)
		[0.053]		[0.121]
Direct_BoardInterlocks x Relative_BoardPower	0.013			
	(0.005)			
	[0.022]			
Direct_BoardInterlocks x Relative_FirmStatus		0.003		
		(0.000)		
		[0.001]		
Indirect_BoardInterlocks x Relative_BoardPower			0.002	
			(0.001)	
			[0.042]	
Indirect_BoardInterlocks x Relative_FirmStatus				0.001
				(0.001)
				[0.012]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.744]	[0.312]	[0.769]	[0.351]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.872]	[0.462]	[0.892]	[0.508]
Ln(Total_FirmSize)	-0.002	-0.003	-0.002	-0.003
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.039]	[0.006]	[0.045]	[0.008]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmPerformance	0.107	0.075	0.108	0.075
	(0.019)	(0.018)	(0.019)	(0.018)
	[0.996]	[0.241]	[0.893]	[0.221]
Relative_RDIntensity	-0.002	-0.005	-0.002	-0.005
	(0.002)	(0.002)	(0.002)	(0.003)
	[0.678]	[0.191]	[0.715]	[0.185]
Relative_AllianceExperience	0.000	0.000†	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.557]	[0.224]	[0.619]	[0.198]
Alliance_RelationalEmbeddedness	0.000	0.000	0.000	0.000

	(0.001)	(0.000)	(0.001)	(0.000)
	[0.011]	[0.011]	[0.008]	[0.014]
Alliance_StructuralEmbeddedness	-0.014	-0.004	-0.015	-0.004
	(0.007)	(0.006)	(0.007)	(0.006)
	[0.634]	[0.729]	[0.660]	[0.602]
JV_Indicator	-0.001	-0.001	-0.001	0.000
	(0.003)	(0.002)	(0.003)	(0.002)
	[0.517]	[0.320]	[0.617]	[0.338]
Equity_Indicator	0.004	0.006	0.004	0.006
	(0.007)	(0.009)	(0.007)	(0.009)
	[0.479]	[0.318]	[0.439]	[0.213]
Technology_Indicator	0.000	0.001	0.000	0.001
	(0.002)	(0.002)	(0.001)	(0.001)
	[0.999]	[0.436]	[0.980]	[0.368]
ExplorationAlliance_Indicator	-0.003	-0.005	-0.003	-0.005
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.234]	[0.247]	[0.209]	[0.208]
InternationalAlliance_Indicator	0.000	0.001	0.000	0.001
	(0.003)	(0.002)	(0.003)	(0.002)
	[0.143]	[0.102]	[0.121]	[0.124]
Relatedness_Indicator	-0.001	-0.002	-0.002	-0.003
	(0.003)	(0.002)	(0.003)	(0.002)
	[0.604]	[0.501]	[0.820]	[0.640]
Industry_Growth	0.002	0.003	0.002	0.004
	(0.005)	(0.004)	(0.005)	(0.004)
	[0.030]	[0.173]	[0.027]	[0.189]
Industry_Complementarity	0.000	0.001	0.000	0.001
	(0.004)	(0.004)	(0.004)	(0.004)
	[0.214]	[0.357]	[0.190]	[0.355]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.094]	[0.431]	[0.141]	[0.441]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.164	0.150	0.160	0.146
Observations	1,528	1,824	1,528	1,824

Notes. This table reports results from a two-way fixed effects regression examining the moderating influence of differences in board power and firm status on differential benefits for the eleven days around the alliance announcement date [-5;5]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

ONLINE SUPPLEMENT 3

T - II - 9: Regression analysis of direct effect using absolute difference in abnormal returns

Model	(9) Base	(10) Direct BI	(11) Indirect BI	(12) Full Model
Direct_BoardInterlocks		0.034		0.035
		(0.015)		(0.020)
		[0.031]		[0.082]
Indirect_BoardInterlocks			0.012	0.012
			(0.004)	(0.005)
			[0.001]	[0.008]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	[0.848]	[0.818]	[0.881]	[0.775]
	(0.000)	(0.000)	(0.000)	(0.000)
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.342]	[0.315]	[0.413]	[0.475]
Ln(Total_FirmSize)	-0.002	-0.004	-0.004	-0.004
	(0.000)	(0.001)	(0.001)	(0.001)
	[<0.001]	[<0.001]	[<0.001]	[0.002]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmPerformance	0.010	0.091	0.090	0.090
	(0.016)	(0.024)	(0.024)	(0.034)
	[0.521]	[<0.001]	[<0.001]	[0.008]
Relative_RDIntensity	-0.001	-0.004	-0.004	-0.004
	(0.001)	(0.003)	(0.003)	(0.004)
	[0.481]	[0.131]	[0.141]	[0.224]
Relative_AllianceExperience	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.270]	[0.323]	[0.260]	[0.199]
Alliance_RelationalEmbeddedness	-0.001	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.064]	[0.052]	[0.092]	[0.019]
Alliance_StructuralEmbeddedness	0.004	0.005	0.004	0.002
	(0.006)	(0.015)	(0.014)	(0.012)
	[0.519]	[0.739]	[0.801]	[0.858]
JV_Indicator	0.000	0.002	0.002	0.002
	(0.001)	(0.003)	(0.003)	(0.005)
	[0.797]	[0.464]	[0.435]	[0.620]
Equity_Indicator	0.006	0.016	0.017	0.016
	(0.007)	(0.011)	(0.011)	(0.012)
	[0.355]	[0.145]	[0.099]	[0.182]
Technology_Indicator	0.002	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)	(0.003)
	[0.312]	[0.503]	[0.524]	[0.616]
ExplorationAlliance_Indicator	-0.004	-0.006	-0.006	-0.006
	(0.001)	(0.003)	(0.003)	(0.003)
	[<0.001]	[0.047]	[0.061]	[0.043]
InternationalAlliance_Indicator	-0.002	-0.003	-0.003	-0.003
	(0.001)	(0.003)	(0.003)	(0.004)

	[0.178]	[0.309]	[0.305]	[0.515]
Relatedness_Indicator	0.000	0.004	0.003	0.003
	(0.002)	(0.003)	(0.003)	(0.005)
	[0.866]	[0.301]	[0.363]	[0.525]
Industry_Growth	0.007	0.008	0.009	0.008
	(0.002)	(0.007)	(0.007)	(0.008)
	[0.003]	[0.245]	[0.215]	[0.277]
Industry_Complementarity	-0.003	-0.001	-0.002	-0.002
	(0.003)	(0.004)	(0.003)	(0.007)
	[0.221]	[0.808]	[0.520]	[0.824]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.001)
	[0.719]	[0.388]	[0.358]	[0.469]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.125	0.129	0.126	0.130
Observations	2,102	2,102	2,102	2,102

Notes. This table presents results from a two-way fixed effects regression examining the influence of direct and indirect board interlocks on differential returns for the three days around the alliance announcement date [-1;1]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

ONLINE SUPPLEMENT 4

T - II - 10: Regression analysis of moderating effects using absolute difference in abnormal returns

	Direct Board Interlocks		Indirect Board Interlocks	
Model	**(13)**	**(14)**	**(15)**	**(16)**
Direct_BoardInterlocks	-0.036	-0.019		
	(0.016)	(0.014)		
	[0.025]	[0.175]		
Indirect_BoardInterlocks			-0.001	0.002
			(0.006)	(0.006)
			[0.905]	[0.792]
Relative_BoardPower	0.001		0.001	
	(0.000)		(0.000)	
	[0.003]		[0.002]	
Relative_FirmStatus		0.000		0.001
		(0.000)		(0.000)
		[0.321]		[0.146]
Direct_BoardInterlocks x Relative_BoardPower	0.038			
	(0.013)			
	[0.005]			
Direct_BoardInterlocks x Relative_FirmStatus		0.008		
		(0.002)		
		[<0.001]		
Indirect_BoardInterlocks x Relative_BoardPower			0.004	
			(0.002)	
			[0.045]	
Indirect_BoardInterlocks x Relative_FirmStatus				0.002
				(0.001)
				[0.124]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.979]	[0.864]	[0.773]	[0.852]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.128]	[0.361]	[0.094]	[0.537]
Ln(Total_FirmSize)	-0.002	-0.004	-0.002	-0.005
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.078]	[0.001]	[0.067]	[<0.001]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.014]	[<0.001]	[0.024]	[<0.001]
Relative_FirmPerformance	0.129	0.095	0.134	0.093
	(0.036)	(0.031)	(0.036)	(0.030)
	[<0.001]	[0.002]	[<0.001]	[0.002]
Relative_RDIntensity	-0.002	-0.005	-0.002	-0.005
	(0.004)	(0.003)	(0.004)	(0.004)
	[0.653]	[0.171]	[0.660]	[0.216]
Relative_AllianceExperience	0.000	0.000	0.000	0.000

	(0.000)	(0.000)	(0.000)	(0.000)
	[0.502]	[0.843]	[0.500]	[0.977]
Alliance_RelationalEmbeddedness	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.151]	[0.078]	[0.186]	[0.168]
Alliance_StructuralEmbeddedness	-0.016	0.005	-0.017	0.006
	(0.013)	(0.016)	(0.014)	(0.015)
	[0.225]	[0.761]	[0.238]	[0.692]
JV_Indicator	0.004	0.001	0.004	0.002
	(0.005)	(0.003)	(0.004)	(0.003)
	[0.392]	[0.748]	[0.365]	[0.650]
Equity_Indicator	0.021	0.019	0.021	0.018
	(0.015)	(0.014)	(0.014)	(0.014)
	[0.155]	[0.170]	[0.155]	[0.189]
Technology_Indicator	0.001	0.003	0.001	0.003
	(0.002)	(0.003)	(0.002)	(0.002)
	[0.622]	[0.300]	[0.523]	[0.273]
ExplorationAlliance_Indicator	-0.008	-0.008†	-0.009	-0.008
	(0.004)	(0.003)	(0.005)	(0.004)
	[0.058]	[0.018]	[0.065]	[0.030]
InternationalAlliance_Indicator	-0.004	-0.001	-0.004	-0.001
	(0.003)	(0.004)	(0.003)	(0.004)
	[0.216]	[0.744]	[0.139]	[0.805]
Relatedness_Indicator	0.004	0.004	0.002	0.003
	(0.003)	(0.003)	(0.003)	(0.004)
	[0.134]	[0.262]	[0.421]	[0.417]
Industry_Growth	0.006	0.001	0.006	0.004
	(0.009)	(0.008)	(0.008)	(0.008)
	[0.503]	[0.905]	[0.469]	[0.653]
Industry_Complementarity	-0.002	-0.004	-0.002	-0.004
	(0.007)	(0.004)	(0.006)	(0.004)
	[0.745]	[0.381]	[0.711]	[0.294]
Industry_RelatedScope	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.752]	[0.773]	[0.624]	[0.806]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.160	0.142	0.138	0.125
Observations	1,528	1,824	1,528	1,824

Notes. This table reports results from a two-way fixed effects regression examining the moderating influence of differences in board power and firm status on the absolute difference of abnormal returns of alliance partners for the three days around the alliance announcement date [-1;1]. Constant terms are estimated but not reported. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

ONLINE SUPPLEMENT 5

T - II - 11: Regression analysis of moderating effects using alternative moderator measures

Models	(17) CEODuality	(18) AnalystCov	(19) CEODuality	(20) AnalystCov
Direct_BoardInterlocks	0.000	-0.008		
	(0.006)	(0.007)		
	[0.993]	[0.227]		
Indirect_BoardInterlocks			-0.004	0.000
			(0.003)	(0.003)
			[0.247]	[0.923]
Relative_CEODuality	-0.001		-0.002	
	(0.002)		(0.002)	
	[0.568]		[0.340]	
Relative_AnalystCoverage		0.000		0.000
		(0.000)		(0.000)
		[0.053]		[0.173]
Direct_BoardInterlocks x Relative_CEODuality	0.059			
	(0.026)			
	[0.022]			
Direct_BoardInterlocks x Relative_AnalystCoverage		0.004		
		(0.001)		
		[0.001]		
Indirect_BoardInterlocks x Relative_CEODuality			0.009	
			(0.004)	
			[0.042]	
Indirect_BoardInterlocks x Relative_AnalystCoverage				0.000
				(0.000)
				[0.121]
Prior_Board_Ties	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.744]	[0.312]	[0.769]	[0.351]
Relative_Board_NetworkSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.872]	[0.462]	[0.892]	[0.508]
Ln(Total_FirmSize)	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)
	[0.039]	[0.006]	[0.045]	[0.008]
Relative_FirmSize	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[<0.001]	[<0.001]	[<0.001]	[<0.001]
Relative_FirmPerformance	0.000	0.018	0.002	0.019
	(0.013)	(0.016)	(0.013)	(0.016)
	[0.996]	[0.241]	[0.893]	[0.221]
Relative_RDIntensity	-0.001	-0.003	-0.001	-0.003
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.678]	[0.191]	[0.715]	[0.185]

Relative_AllianceExperience	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.557]	[0.224]	[0.619]	[0.198]
Alliance_RelationalEmbeddedness	-0.001	-0.001	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.011]	[0.011]	[0.008]	[0.014]
Alliance_StructuralEmbeddedness	0.003	-0.002	0.003	-0.003
	(0.006)	(0.006)	(0.006)	(0.006)
	[0.634]	[0.729]	[0.660]	[0.602]
JV_Indicator	-0.001	0.002	-0.001	0.002
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.517]	[0.320]	[0.617]	[0.338]
Equity_Indicator	0.005	0.007	0.005	0.009
	(0.007)	(0.007)	(0.007)	(0.007)
	[0.479]	[0.318]	[0.439]	[0.213]
Technology_Indicator	0.000	0.001	0.000	0.001
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.999]	[0.436]	[0.980]	[0.368]
ExplorationAlliance_Indicator	-0.002	-0.002	-0.002	-0.002
	(0.002)	(0.001)	(0.002)	(0.001)
	[0.234]	[0.247]	[0.209]	[0.208]
InternationalAlliance_Indicator	-0.003	-0.003	-0.003	-0.003
	(0.002)	(0.002)	(0.002)	(0.002)
	[0.143]	[0.102]	[0.121]	[0.124]
Relatedness_Indicator	0.002	0.002	0.001	0.001
	(0.003)	(0.003)	(0.003)	(0.003)
	[0.604]	[0.501]	[0.820]	[0.640]
Industry_Growth	0.009	0.005	0.009	0.004
	(0.004)	(0.003)	(0.004)	(0.003)
	[0.030]	[0.173]	[0.027]	[0.189]
Industry_Complementarity	-0.007	-0.004	-0.007	-0.004
	(0.005)	(0.004)	(0.005)	(0.004)
	[0.214]	[0.357]	[0.190]	[0.355]
Industry_RelatedScope	-0.001	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
	[0.094]	[0.431]	[0.141]	[0.441]
Year FE	True	True	True	True
Industry Combination FE	True	True	True	True
Adjusted R-Squared	0.125	0.132	0.113	0.121
Observations	1,528	1,788	1,528	1,788

Notes. This table presents results from a two-way fixed effects regression examining the moderating influence of differences in board power and firm status on differential benefits for the three days around the alliance announcement date [-1;1]. Standard errors are clustered by 2-digit SIC code combinations of alliance partners to account for potential industry-related correlations in the error terms. Industry combination and year fixed effects are included to control for unobservable heterogeneity and common time-related factors. Standard errors in parentheses. Exact p-values in brackets. A detailed description of the variables can be found in the online supplement.

ONLINE SUPPLEMENT 6

T - II - 12: Variable definitions

Variable	Definition	Prior Studies
Dependent variables		
DiffBenefits_1, DiffBenefits_2, DiffBenefits_5	Differential benefits measured over 3, 5, or 11 days around the alliance announcement date. Following Gulati and Wang (2003), the measure of differential benefits is based on the cumulative abnormal returns (*CAR*) of both alliance partners i and j and is calculated as follows: $DifferentialBenefits_{GW} = (exp(max(CAR_i, CAR_j)) - exp\ (min(CAR_i, CAR_j))\ /\ (exp(max(CAR_i, CAR_j)) + exp\ (min(CAR_i, CAR_j)))$	Gulati & Wang, 2003
DiffBenefits_Abs_1, DiffBenefits_Abs_2, DiffBenefits_Abs_5	Absolute differential benefits is measured over 3, 5, or 11 days around the alliance announcement date and represents the absolute difference in the alliance partners' cumulative abnormal returns (*CAR*) around the alliance announcement date: $DifferentialBenefits_{Abs} = max(CAR_i, CAR_j) - min(CAR_i, CAR_j)$	
Independent variables		
Direct_BoardInterlocks	Dichotomous indicator variable indicating whether the alliance partners were connected by a direct board interlock at the time of the alliance announcement (i.e., whether a board member served on both boards at the same time).	Gulati & Westphal, 1999; Liu, Mantecon, Silveri, & Sun, 2020
Indirect_BoardInterlocks	Dichotomous indicator variable indicating whether the two alliance partners were linked by an indirect board interlock at the time the alliance was announced. Indirect interlocks exist when directors of both alliance partners sit on the board of a third firm.	Burt, 1980; Gulati & Westphal, 1999
Moderating variables		
Relaltive_BoardPower	Ratio of one alliance partner's Board Power Index to that of the other alliance partner. The Board Power Index, a composite index that captures the structural and ownership power of the board for each alliance partner, is adapted from Haynes and Hillman (2010). It includes CEO duality (i.e., whether the CEO is also the chairman), the ratio of outside directors to total directors, the ratio of CEO ownership to director ownership, and the ratio of directors	Haynes & Hillman, 2010

	appointed after the CEO. These variables were standardized, inverted, and summed to create an index of board power. Data was obtained from the BoardEx database of Wharton Research Data Services.	
Relative_FirmStatus	Ratio of the higher to the lower Bonacich eigenvector centrality measure for each partner in the alliance network (Bonacich, 1987) Eigenvector centrality is a widely used measure of firm status that captures the extent to which each alliance partner is connected to well-connected others in the overall alliance network (Yang, Lin, & Lin, 2010).	Ahuja, Polidoro, & Mitchell, 2009; Arslan, 2018; Chandler, Haunschild, Rhee, & Beckman, 2013; Gulati & Gargiulo, 1999; Jensen, 2003; Podolny, 1993; Yang et al., 2010
Board-level controls		
Prior_Board_Ties	Total number of private (e.g., educational) and non-private (e.g., former employment) connections of directors of both alliance partners with all other firms in the network. Data is taken from Wharton Research Data Services' BoardEx database.	Gulati & Westphal, 1999; Liu et al., 2020; Polidoro, Ahuja, & Mitchell, 2011
Relative_Board_NetworkSize	Ratio of the total number network connections of board members of both alliance partners at the time of the alliance announcement. The variable is calculated from the BoardEx database of Wharton Research Data Services.	Chandler et al., 2013
Firm Dyad-level controls		
Ln(Total_FirmSize)	Natural logarithm of the sum of sales of the two alliance partners in the year prior to the alliance announcement.	Gulati & Wang, 2003; Kale, Dyer, & Singh, 2002
Relative_FirmSize	Ratio of higher to lower sales of the two alliance partners in the year prior to the alliance announcement. Relative size captures different organizational structures and strategic dependence on the alliance, resulting in different intentions to collaborate (Das, Sen, & Sengupta, 1998).	Gulati & Gargiulo, 1999; Gulati & Wang, 2003; Gulati, Lavie, & Singh, 2009; Oxley, 1997
Relative_FirmPerformance	Following Wang and Zajac (2007), relative firm performance is calculated by first taking the exponential of the return on assets of both alliance partners (one year prior to the alliance announcement) and then calculating the ratio of the absolute value of the difference between the two firms' transformed ROAs to the sum of both firms' transformed ROAs. This process controls for the potential mixing of positive and negative ROA values.	Ahuja et al., 2009; Gulati & Gargiulo, 1999; Gulati & Wang, 2003; Wang & Zajac, 2007
Relative_RDIntensity	Ratio of the absolute value of the difference between the two firms' exponentially	Oxley, 1997; Yang, Zheng, &

	transformed R&D intensities to the sum of the two firms' transformed R&D intensities. This procedure controls for the potential mixing of positive and negative R&D intensity values.	Zaheer, 2015
Relative_AllianceExperience	Ratio of higher to lower number of alliances formed by each partner in the 5 years prior to the alliance announcement (Arslan, 2018).	Gulati & Gargiulo, 1999; Gulati et al., 2009; Kumar, 2011
Alliance-level controls		
Alliance_RelationalEmbeddedness	Relational embeddedness is measured as the sum of prior alliances between two allies, controlling for pre-existing trust and cooperative motives between the two alliance partners (Gulati & Gargiulo, 1999).	Ahuja et al., 2009; Gulati & Singh, 1998; Gulati & Westphal, 1999; Gulati et al., 2009; Oxley, Sampson, & Silverman, 2009; Wang & Zajac, 2007
Alliance_StructuralEmbeddedness	Structural embeddedness is measured as the geometric mean of partners' eigenvector centrality scores divided by the network maximum, and controls for informational advantages with respect to each partner's network status (Arslan, 2018; Gulati & Gargiulo, 1999).	Ahuja et al., 2009; Arslan, 2018; Gulati & Gargiulo, 1999
JV_Indicator	Dichotomous indicator variable that measures whether the alliance is a joint venture.	
Equity_Indicator	Dichotomous indicator variable that measures whether the alliance is an equity alliance.	Mowery, Oxley, & Silverman, 1996
Technology_Indicator	Dichotomous indicator variable measuring whether the alliance is a technology alliance as opposed to a marketing alliance. Alliances were categorized as technology alliances if they were formed to share complementary technology, reduce innovation time, or develop new technology.	Arslan, 2018; Das & Teng, 1998; Gulati & Singh, 1998; Oxley, 1997
ExplorationAlliance_Indicator	Dichotomous indicator variable measuring whether the alliance is an exploration alliance or an exploitation alliance. Alliances were categorized as exploration alliances if they represented cooperation in new business areas, whereas exploitation alliances represented cooperation in the firms' core competencies. The variable was included to control for the likelihood of resource appropriation, which may be greater when firms cooperate in non-core competencies that involve reciprocal interdependence (Gulati & Singh, 1998).	Gulati & Singh, 1998; Gulati et al., 2009
InternationalAlliance_Indicator	Dichotomous indicator variable that measures whether the alliance is an international alliance of two firms incorporated in two different countries.	Mowery et al., 1996; Oxley, 1997; Park & Russo,

		1996
Relatedness_Indicator	Dichotomous indicator variable measuring whether the alliance partner operated in the same primary industry at the 4-digit SIC level.	Arslan, 2018; Gulati et al., 2009; Gulati & Wang, 2003; Mowery et al., 1996; Wang & Zajac, 2007
Industry-level controls		
Industry_RelatedScope	Sum of 3-digit SICs shared by the partners, excluding any overlap in 4-digit SICs. This measure controls for resources close to the core business of the other alliance partner that can be used to generate private benefits.	Arslan, 2018; Khanna, Gulati, & Nohria, 1998
Industry_Complementarity	Ratio of the number of non-shared industries between the partners to the number of all industries in which the partners operate. Complementarity was set to "0" if the alliance partners did not operate in at least one common industry (Mitsuhashi & Greve, 2009).	Arslan, 2018; Mitsuhashi & Greve, 2009
Industry_Growth	Average annual revenue growth of each alliance partner's 2-digit SIC industry five years prior to alliance announcement to one year prior to alliance announcement	Luo, 2007a, 2007b
Year	To control for the possibility that unobserved temporal factors or other unspecified events affected differential benefits, we added dummy variables for each year between 2002 and 2021.	Gulati & Wang, 2003; Gulati et al., 2009
IndustryGroupCombination	To control for the possibility that unobserved industry factors affected differential benefits, we added dummy variables for each 2-digit SIC industry combination.	Gulati & Wang, 2003
Robustness check controls		
Relative_CEODuality	Dichotomous indicator variable measuring whether there is a difference in CEO duality between alliance partners. CEO duality was coded inversely to board power (0 = CEO duality, 1 = no CEO duality). If both alliance partners had high board power, the measure took a value of 0. If both alliance partners had different levels of board power, the measure took a value of 1.	Gupta, Wowak, & Boeker, 2022; Kiel & Nicholson, 2003
Relative_AnalystCoverage	Ratio of the higher to lower standardized residual of analyst coverage for a company at the time of the alliance announcement.	Shen, Tang, and Chen (2014)

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III. MIND THE GAP: THE EFFECT OF CULTURAL DISTANCE ON MERGERS AND ACQUISITIONS - EVIDENCE FROM GLASSDOOR REVIEWS

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This article has been published as:

Brede, M., Gerstel, H., Wöhrmann, A., & Bausch, A. (2024). Mind the gap: the effect of cultural distance on mergers and acquisitions—evidence from glassdoor reviews. *Review of Managerial Science*. 10.1007/s11846-024-00811-8.

MIND THE GAP:

THE EFFECT OF CULTURAL DISTANCE ON MERGERS AND ACQUISITIONS:

EVIDENCE FROM GLASSDOOR REVIEWS

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ABSTRACT

This paper investigates the impact of differences in organizational culture on M&A outcomes during the transaction and post-merger integration phase. Using a state-of-the-art large language model, we construct a novel measure of organizational cultural distance based on employee reviews from Glassdoor.com covering 243 M&A deals from 2008 to 2021. First, we hypothesize and find that organizational cultural distance between acquirer and target firms lead to cultural frictions during the transaction and post-merger integration phases of the deal, which negatively affect short-term capital market reactions and long-term synergy gains. Second, our results suggest that cultural differences are positively related to the acquisition premium paid by the acquirer, supporting the hypothesis that cultural distance reduces the acquirer's ability to accurately assess the true value of the target, leading to an overestimation of the realizable synergy potential. Third, we show that cultural distance is negatively related to the long-term innovativeness of the acquiring firm. Specifically, our results suggest that patent growth and new product development, measured two years after the deal, are significantly lower for firms that acquire a culturally distant target. We then examine the underlying cultural dimensions that drive these effects. Consistent with previous studies, we find that performance effects are driven by differences in market orientation, while innovation effects are driven by differences in hierarchy or adhocracy orientation, depending on whether innovation is measured in terms of tangible or intangible assets. Our findings contribute to the broad M&A literature and have practical relevance for firms engaged in M&A transactions.

Keywords: Organizational Culture; Cultural Distance; Mergers & Acquisitions; M&A Performance; Innovation; Natural Language Processing

JEL-Codes: M14, G34, C45

INTRODUCTION

Mergers and Acquisitions (M&A) have become one of the most significant strategic initiatives for firms, with global transaction volumes reaching $3.7 trillion in 2017 (Cho & Chung, 2022). However, despite their importance, nearly half of all M&A deals fail to meet their objectives (Cartwright & Cooper, 1993). A major factor contributing to this high failure rate is the cultural differences between acquiring and target firms (Stahl & Voigt, 2008). For example, a survey of senior executives found that almost 50% would avoid pursuing an acquisition if the target company's culture did not align with their own. This reluctance to engage with culturally incompatible partners reflects well-documented cases where cultural clashes were cited as reasons for the failure of high-profile deals, such as HP's acquisition of Compaq and Amazon's purchase of Whole Foods (Oberoi, 2020). These findings suggest that cultural misalignment significantly reduces M&A success, underscoring the critical role of cultural fit.

Management literature typically distinguishes between national culture and organizational culture (Rottig, 2017). Both are considered distinct phenomena, each with unique manifestations and different implications for an organization's actions (Kirkman, Lowe, & Gibson, 2006). While numerous studies have empirically examined the impact of national cultural distance on M&A outcomes (e.g., Ahern, Daminelli, & Fracassi, 2015; Lee, 2018; Lim, Makhija, & Shenkar, 2016), research on the impact of organizational culture is scarce and largely inconclusive, primarily due to limitations in measuring organizational culture (Renneboog & Vansteenkiste, 2019; Rottig, 2017).

To fill this gap, we analyze the impact of organizational cultural distance between firms involved in an M&A transaction on economically important outcomes such as M&A success, acquisition premiums, and post-deal innovation of the acquiring firm. We derive our proxy for organizational cultural distance directly from Glassdoor.com, where employees anonymously rate their employers and provide textual feedback about their workplace experiences. This method allows us to overcome some of the limitations of previous studies that often rely on subjective measures such as self-reported surveys, which reduce the comparability and objectivity of the results.

Using this novel approach, we hypothesize that the capital market reacts negatively to announcements of M&A transactions between firms with high organizational cultural distance (H1a) and that organizational cultural distance leads to lower post-merger synergy realization (H1b). Previous research has provided mixed evidence on the impact of cultural differences on M&A success (Rottig, 2017; Stahl & Voigt, 2008). On the one hand, the cultural learning hypothesis suggests that different cultures offer learning potential and opportunities for resource recombination (Pesch & Bouncken, 2017; Sørensen, 2002). On the other hand, the cultural friction hypothesis (Hofstede, 1980) argues that cultural differences between acquirers and targets increase integration and coordination costs, thereby reducing M&A performance (Vaara, 2002; Weber, 1996). We expect that the frictions associated with cultural differences will outweigh the potential learning benefits, leading to lower capital market reactions and reduced post-merger synergies.

Second, we hypothesize that organizational cultural differences lead to higher acquisition premiums (H2). Similar to the relationship between cultural distance and M&A success, the link between organizational cultural distance and acquisition premiums remains underexplored and contradictory (Lim et al., 2016). We argue that differences in processes, structures, and strategies resulting from organizational culture differences hinder the acquirer's ability to accurately assess the target's value, leading to overpayment and higher premiums.

Third, as one of the first studies to examine organizational cultural distance and long-term innovation outcomes in M&A, we hypothesize that cultural differences negatively affect the acquirer's long-term innovativeness. Following the cultural friction hypothesis, we propose that organizational cultural differences hinder knowledge sharing, collaboration, and coordination during the innovation process, ultimately reducing the acquirer's post-acquisition patent growth (H3a) and the rate of new product development (H3b).

Past research, including Rottig's (2017) meta-analysis, has highlighted the complexity of the culture construct and attributed conflicting findings to the methodological weaknesses of previous studies, which often rely on small-scale surveys of high-level employees to assess organizational culture. Other methods, such as analyzing corporate values on company websites, have demonstrated low internal validity (Graham, Grennan, Harvey, & Rajgopal, 2022) and predictive power (Guiso, Sapienza, & Zingales, 2015). To overcome these limitations, we apply deep-learning-based natural language processing to approximately 400,000 employee reviews from 437 firms (243 M&A deals) on Glassdoor, spanning the years 2008 to 2021. This approach leverages individual employee experiences to provide a more granular view of organizational culture (Corritore, Goldberg, & Srivastava, 2020; Ji, Rozenbaum, & Welch, 2022).

In the literature, organizational culture is primarily studied using the Competing Values Framework (CVF; Cameron, Quinn, DeGraff, & Thakor, 2006; Quinn & Rohrbaugh, 1983), which conceptualizes culture along four dimensions: Adhocracy, Clan, Market, and Hierarchy. These dimensions are arranged along two continuums, reflecting the organization's preference for flexibility or control, and its internal or external focus. Using state-of-the-art language models (Bochkay, Brown, Leone, & Tucker, 2023; Vaswani et al., 2017), we apply Culture-BERT (Koch & Pasch, 2022) to Glassdoor reviews to measure the salience of each cultural dimension. We then adapt Kogut and Singh's (1988) popular measure of cultural distance to compute the organizational cultural distance between acquirers and targets. This measure of organizational cultural distance serves as the key variable for explaining M&A outcomes.

Our analyses offer several important insights. First, in line with the cultural friction hypothesis, we find that organizational cultural distance is negatively associated with both capital market reactions and long-term synergies. Further analysis shows that differences in market orientation between acquirers and targets primarily drive this negative performance effect, aligning with previous findings by Deshpandé and Farley (2004) and Eisend, Evanschitzky, and Gilliland (2016) that emphasize market orientation as a key driver of firm performance. Second, our results suggest that organizational cultural distance leads to higher acquisition premiums by impairing the acquirer's ability to accurately value the target and assess synergy potential. Third, we find that cultural differences negatively affect the acquirer's post-deal innovativeness, with reduced patent growth and new product development two years after the acquisition. Additional analyses indicate that this effect is mainly driven by differences in adhocracy and hierarchy orientation for patent growth and new product development. These results suggest that target firms that place significantly less emphasis on values such as innovativeness or agility may hinder the acquirer's post-deal inventiveness, whereas target firms that place greater emphasis on values such as efficiency or timeliness (i.e., hierarchy culture) may hinder new product development. Finally, we perform several robustness checks to validate our results.

To our knowledge, our study is the first to use transformer-based natural language processing on a large sample of Glassdoor reviews to infer the impact of organizational cultural distance on M&A outcomes. In doing so, we contribute to the broader M&A literature in several ways: First, we address a notable criticism of the widespread reliance on small-scale surveys that use subjective measures (e.g., self-reported surveys and interviews) to assess organizational culture and its impact on M&A outcomes (Rottig, 2017; Teerikangas & Very, 2006). To mitigate the risk of methodological bias, increase objectivity, and improve the comparability of results, we derive our cultural distance proxy from thousands of voluntarily written employee reviews. This approach provides a more representative and nuanced understanding of organizational culture (Campbell & Shang, 2021). By doing so, we contribute to the management literature that analyzes organizational culture using rich textual data from sources such as annual reports and employee reviews (e.g., Campbell & Shang, 2021; Corritore, 2018;

Li, Mai, Shen, & Yan, 2021). Additionally, we utilize a state-of-the-art transformer model that has shown up to 28% higher accuracy in inferring organizational culture compared to previous methods (Koch & Pasch, 2022), addressing several limitations of earlier analytical methods.

Second, we address the previously inconclusive findings on the impact of organizational cultural differences on short- and long-term M&A performance (Rottig, 2017; Stahl & Voigt, 2008). Our results indicate that the cultural friction hypothesis outweighs the cultural learning hypothesis, with differences in market orientation between acquirers and targets emerging as the main driver of performance effects. Unlike recent studies examining cultural differences in M&A outcomes (e.g., Alexandridis, Hoepner, Huang, & Oikonomou, 2022; Bereskin, Byun, Officer, & Oh, 2018), our study does not focus on specific aspects of organizational culture (e.g., CSR orientation). Instead, we use a widely accepted framework for assessing corporate culture, drawing insights from a diverse and complex set of employee reviews. Additionally, our methodology avoids subjective third-party assessments, resulting in more nuanced and representative findings.

Third, our study contributes to the literature on acquisition premiums and their role in the success or failure of M&As (King, Wang, Samimi, & Cortes, 2021). To our knowledge, there is limited evidence on the effect of national cultural differences on acquisition premiums (Lim et al., 2016) and no evidence regarding the effect of organizational cultural distance. Our results suggest that organizational cultural distance may contribute to the misvaluation of target firms, providing a possible explanation for the inconsistent empirical findings on M&A success in the existing literature.

Finally, we are among the first to explore the long-term consequences of organizational cultural distance on the acquirer's post-deal innovativeness. Consistent with previous studies on the effects of national cultural distance (e.g., Bauer, Matzler, & Wolf, 2016), we find that organizational cultural distance between the acquirer and the target has a detrimental effect on the acquirer's post-deal innovativeness. This effect holds true for both patent growth and new product development, demonstrating the robustness of our findings across different measures of innovation. However, a more detailed analysis reveals that specific cultural dimensions shape these outcomes: differences in adhocracy culture drive the negative effect on patent growth, while differences in hierarchy culture explain the negative effect on new product development.

In conclusion, our research extends the managerial literature by deepening the understanding of the impact of organizational cultural distance on M&A success.

HYPOTHESES DEVELOPMENT

Organizational cultural distance, capital market reactions, and post-deal synergies

Culture is generally defined as "the collective programming of the mind which distinguishes the member of one group or category of people from another" (Hofstede, 2001: 9). It is often conceptualized as an informal institution that consists primarily of unwritten social rules, values and norms that are shaped by the shared history and experiences of its members (Louis, 1981; Schein, 1985). As such, culture significantly influences social interactions by shaping expectations and determining acceptable social behavior (Hofstede, 1980). Moreover, culture serves as an organizational mechanism for coordinating the activities of a large number of individuals by providing a control system for setting goals, evaluating deviations, and providing feedback to individuals. These social control mechanisms can effectively ensure predictable behavior among organizational members through norms or social expectations (Chatman & O'Reilly, 2016). Culture is generally viewed as a multilevel construct that operates at both the national and firm levels, with variations in organizational culture often reflecting differences in national culture (Chakrabarti, Gupta-Mukherjee, & Jayaraman, 2009; Schneider, 1988). However, Dauber (2012) suggests that because M&A transactions involve firms rather than countries, differences in organizational culture may be a more accurate predictor of M&A performance than differences in national culture. Research generally supports this idea, showing that organizational culture affects various organizational practices, including behavioral norms, decision making, and strategic initiatives such as outsourcing (e.g., Dahlgrün

& Bausch, 2019), CSR (e.g., Chen & Liu, 2022), innovation (e.g., Büschgens, Bausch, & Balkin, 2013) and M&A (e.g., Bhagat & McQuaid, 1982; Kirkman et al., 2006).

Regarding the impact of culture on M&A performance, numerous studies and several meta-analyses conducted over the past decades have failed to reach a consensus on whether cultural differences between the acquirer and target have a positive or negative effect on M&A performance (e.g., King et al., 2021; Rottig, 2017; Stahl & Voigt, 2008). However, there is general agreement that the cultural fit between acquirer and target influences M&A performance, independent of other strategic considerations (Bauer & Matzler, 2014). In an attempt to disentangle the complex dynamics of M&A transactions, the literature often differentiates between short-term performance effects, typically measured by market reactions around deal announcements (Aktas, Bodt, & Cousin, 2011), and long-term performance effects, usually measured using accounting-based metrics (Zollo & Meier, 2008). Following this convention, we separately hypothesize the effects of organizational cultural distance on short-term market reactions (H1a) and long-term synergies (H1b).

Theoretical arguments for the positive impact of cultural differences on M&A performance are primarily based on the theory of interorganizational learning (Sørensen, 2002), according to which M&As involving culturally distant firms provide significant learning opportunities that enable the profitable recombination of resources. Acquiring a firm with a different culture facilitates knowledge transfer and provides access to new practices and techniques (Chakrabarti et al., 2009; Morosini, 1998; Sarala & Vaara, 2010), creating a sustainable source of value creation (Bouwman, 2013; Haspeslagh & Jemison, 1991). This view is shared by the information processing hypothesis, which argues that both acquiring and target firms can benefit from the multiple perspectives associated with greater cultural distance (Kogut & Singh, 1988; Watson, Kumar, & Michaelsen, 1993), leading to enhanced problem solving, creativity, innovation, adaptability, and ultimately improved performance (Chakrabarti et al., 2009; Morosini, 1998). For example, Krishnan, Miller, and Judge (1997) find that differences in the skills and competencies of the acquiring and target management teams positively affect M&A performance, as the weaknesses of one firm can be offset by the strengths of the other.

However, contrary to the cultural learning hypothesis, organizational cultural distance between acquirers and targets may be a source of friction in the post-merger integration phase (Vaara, 2002; Weber, 1996). These frictions can arise from personality clashes among senior executives, incompatible organizational structures and processes, or challenges in transferring core competencies and knowledge between firms (Ahammad, Tarba, Liu, & Glaister, 2016; Rottig, 2017). For example, Datta (1991), in a study of domestic M&A transactions in the United States, shows that incompatible management styles of acquiring and target firms can lead to reduced market performance and realized synergies. Drawing on social identity theory (Tajfel, 1981; Turner, 1982), Stahl and Voigt (2008) further suggest that organizational members are biased towards in-group members and tend to evaluate out-group members negatively in order to enhance the relative status of their own group. This negative impact on the internal cohesion of the workforce can reduce intergroup trust (Sitkin & Stickel, 1996), thereby increasing the potential for conflict (e.g., Ahern et al., 2015; Jehn, Northcraft, & Neale, 1999; Martin, 1992). In addition, internal tensions within the workforce can negatively affect the flow of information between members of the acquirer and the target. As a result, employee and stakeholder resistance can escalate and impede efficient decision-making (Akerlof, 1997; Arrow, 1974; Renneboog & Vansteenkiste, 2019), resulting in higher coordination costs and ultimately reduced firm performance (Barkema, Bell, & Pennings, 1996; Rahahleh & Wei, 2013; Weber & Camerer, 2003).

For example, Cartwright and Cooper (1993) show that administrative conflicts can arise from the acquisition of a culturally distant firm. Moreover, Buono, Bowditch, and Lewis (1985) show that the acquisition of a culturally distant target can lead to hostilities between employees of the acquirer and the target during the post-merger integration phase.

In addition to studies that measure acquisition performance primarily through accounting metrics, there is evidence that culture affects investor expectations and behavior (Fang, Fiordelisi, Hasan, Leung, & Wong, 2023). Capital markets have been shown to view M&A transactions between firms with high cultural distance negatively, anticipating frictions from low cultural fit. For example, a meta-analysis by King et al. (2021) finds a negative effect of national cultural distance on the acquirer's short-term stock performance. Moreover, studies that analyze the combined stock performance of the acquirer and target, such as Ahern et al. (2015) and Aybar and Ficici (2009), also find a negative effect, as do studies that analyze the effect of organizational cultural distance on stock performance (e.g., Chatterjee, Lubatkin, Schweiger, & Weber, 1992). These findings are further supported by studies that measure organizational culture using alternative measures of organizational cultural distance. For example, Alexandridis et al. (2022) and Bereskin et al. (2018) find that differing CSR orientations of the acquirer and target lead to lower announcement returns and lower long-term operating growth, while culturally similar firms earn higher abnormal returns around the deal announcement date. Taken together, these findings suggest that investors expect the organizational cultural distance between the acquirer and the target to reduce the likelihood of realizing synergies, resulting in negative announcement day returns.

Overall, the empirical evidence on the relationship between cultural distance and M&A performance is mixed. However, cultural differences seem to be a particularly important contributor to social conflict between acquiring and target employees (Vaara, Sarala, Stahl, & Björkman, 2012). Moreover, this effect appears to be stronger than the positive impact on knowledge sharing between the two firms, which is crucial for the positive outcomes predicted by the information processing and interorganizational learning hypotheses, suggesting that cultural frictions may outweigh the benefits of knowledge sharing. Consistent with these findings, the results of numerous studies (e.g., Ahern et al., 2015; Alexandridis et al., 2022; Bereskin et al., 2018; Chatterjee et al., 1992) and meta-analyses examining short- and long-term M&A performance reflect this relationship (King et al., 2021; Rottig, 2017; Stahl & Voigt, 2008). For example, the meta-analysis by Homberg, Rost, and Osterloh (2009) finds that several measures for cultural distance, are negatively associated with synergy realization in both the short and long term. Consequently, we argue that the friction between culturally distant acquirers and targets during the (post-) merger phase outweighs the potential benefits of learning and resource recombination. As a result, we propose a negative impact of organizational culture differences on both short-term stock market reactions and long-term synergy gains. This leads to the following hypotheses:

Hypothesis 1a (H1a): Organizational cultural distance between acquirer and target firms is negatively associated with capital market reactions to M&A announcements.

Hypothesis 1b (H1b): Organizational cultural distance between acquirer and target is negatively associated with long-term synergy gains.

Organizational cultural distance and acquisition premiums

Cultural differences not only affect post-merger outcomes, but also have a significant impact during the pre-transaction and transaction phases (Renneboog & Vansteenkiste, 2019). Specifically, this is reflected in the acquisition premium that the acquirer is willing to pay for the target. The acquisition premium represents the additional amount paid by the acquirer over and above the pre-transaction value of the target. It is the result of negotiations between the acquirer and the target, with the acquirer seeking to minimize the purchase price and the target seeking to maximize it. The premium therefore plays a key role in the success of the transaction, as it is directly related to the synergies that the acquirer must achieve for the transaction to be considered successful (Schweiger, 2002; Sirower, 1997). Therefore, studies suggest that high premiums may negatively affect the post-acquisition performance of acquirers (King et al., 2021).

The acquisition premium is affected not only by tangible valuation factors, but also by various intangible factors (Aktas et al., 2011; Chatterjee & Hambrick, 2011; Jentner &

Lewellen, 2015). For example, increased growth pressure can increase the acquirer's reservation price and positively affect the acquisition premium (Kim, Haleblian, & Finkelstein, 2011). In addition, an overconfident management of the acquirer positively affects the premium (Hayward & Hambrick, 1997). Furthermore, positive CSR involvement of target firms increases the deal premium (Ozdemir, Binesh, & Erkmen, 2022). Conversely, strategies that increase the bargaining power of the acquirer, such as earnings management, negatively affect the premium (Baik, Cho, Choi, & Kang, 2015). Studies also show the influence of the acquirer's network partners in determining the premium (Haunschild, 1994). In addition to these acquirer characteristics, various aspects and behaviors of the target also influence the acquisition premium. For example, resistance from target management or the withholding of negative information can lead to an inflated target price (Akerlof, 1970; Bange & Mazzeo, 2004). Targets may also use certain observable signals to increase their value, such as an increase in alliance activity, the selection of a high-profile investment bank, and the backing of prominent venture capitalists. These strategies may be particularly useful in situations where the target is acquired by firms from different industries or countries (Reuer, Tong, & Wu, 2012). In such cases, acquirers must use all available information to fill the information gap and properly assess target quality and deal synergy potential (Connelly, Certo, Ireland, & Reutzel, 2011).

Culture has been shown to play an important role in shaping the acquisition premium by exerting normative pressure on firms. Rossi and Volpin (2004) find systematic differences in the level of acquisition premiums for UK and US targets. Hope, Thomas, and Vyas (2011) observe that non-US acquirers often bid higher for US targets than US acquirers. Li and Haleblian (2022) find that acquirers with low uncertainty tolerance tend to pay lower premiums, while acquirers from countries with high future orientation tend to pay higher premiums, as managers take a long-term view on synergy realization. Lim et al. (2016) find asymmetric effects between national cultural distance and the size of the acquisition premium, attributing these effects to higher information costs and systematic differences in structural uncertainty across countries. According to the authors, cultural distance hinders the ability to accurately evaluate target firms and properly assess the challenges of target integration, such as acculturative stress and differences in routines, structures, and strategies (Mukherji, Mukherji, Dibrell, & Francis, 2013; Roth & O'Donnell, 1996). Angwin (2001) also argues that national cultural differences influence acquirers' due diligence activities and shape perceptions of the target. Baik et al. (2015) further note that this effect is due to the relatively higher cost of information gathering, while Giannetti and Yafeh (2012) argue that cultural differences increase contracting costs.

We expect that differences in organizational culture will also affect the acquisition premium. This assumption is based on the idea that organizational cultural distance leads to differences in the strategies, structures, and behaviors of the acquirer and the target (Zheng, Yang, & McLean, 2010), which imposes higher information-gathering and contracting costs on the acquirer (Bell, Filatotchev, & Rasheed, 2012; Wang, Hain, Larimo, & Dao, 2020), thereby increasing uncertainty in estimating the true value of the target firm. Uncertainty, in turn, is associated with overpayments and higher acquisition premiums (Moeller, Schlingemann, & Stulz, 2007). Consistent with our argument, empirical research shows that acquiring firms that operate in related industries or that have more information about the target firm are associated with lower levels of overpayment (Carow, Heron, & Saxton, 2004; Martin & Shalev, 2017). For example, premiums are generally significantly lower for acquirers that have reduced existing information asymmetries through a prior relationship with the target (Smeulders, Dekker, & van den Abbeele, 2023). This effect is due to the acquirer's better assessment of the target's true value as a result of prior contact. It is also observed in transactions where the acquirer's and target's management share the same political ideology, which is important for organizational culture as it affects factors such as the openness of the firm (Gupta & Briscoe, 2020). According to these findings, shared political identity increases trust and commitment, improving information sharing and reducing uncertainty (Alnahedh & Alhashel, 2021).

Language is another crucial antecedent of organizational culture (Srivastava, Goldberg, Manian, & Potts, 2018). Pan and Zhang (2022), in their study of M&A transactions between Chinese firms, show that acquirers and targets who speak the same dialect have lower premiums. The authors also attribute this effect to improved information sharing, reduced transaction uncertainty, and greater acceptance by both firms. Based on these observations, we posit that M&A deals characterized by high cultural distance increase uncertainty in target valuation. As a result, we expect acquirers to overestimate the synergy potential of targets with high cultural distance, leading to higher acquisition premiums. We propose the following hypothesis:

Hypothesis 2 (H2): Organizational cultural distance between acquirer and target firms is positively associated with acquisition premiums.

Organizational cultural distance and post-deal innovativeness

One of the primary motivations for M&A transactions is to gain access to the target firm's complementary resources (Grimpe, 2007), thereby enhancing the acquirer's innovation capability, which refers to the firm's ability to develop, produce, market, and drive customer acceptance of new products (Garcia & Calantone, 2002). However, research suggests that certain characteristics of M&A transactions can negatively impact the implementation and performance of the acquiring firm's innovation strategies, such as research and development (R&D) activities (Haucap, Rasch, & Stiebale, 2019; Hitt, Hoskisson, Johnson, & Moesel, 1996; Hitt, Ireland, Harrison, & Hoskisson, 1991) or new product development (Cheng & Yang, 2017; Hitt et al., 1996). First, M&A transactions often consume significant resources, which may otherwise be allocated to R&D (Hitt, Hoskisson, & Ireland, 1990). Second, integrating the target firm can disrupt existing structures and processes within the acquiring firm (Pritchett, 1985). Third, M&A transactions are often executed more quickly and with less uncertainty than internal R&D efforts (Hitt et al., 1991). Based on these observations, some authors argue that internal R&D activities and M&A transactions can serve as complementary strategies

(Burgelman, 1986). This view is supported by the findings of (Blonigen & Taylor, 2000), who found that firms with higher R&D intensities tend to engage in acquisitions less frequently than firms with lower R&D intensities.

Grimpe (2007) points out that the need to integrate the people, structures, and processes of the target firms during the post-merger integration period may also partly explain the negative relationship between M&A and firm innovativeness, highlighting that a shared organizational culture may be a critical success factor for sustaining innovativeness during this period. Moreover, these findings suggest that a heterogeneous organizational culture may be a significant barrier to successful integration and sustained innovation on the part of the acquirer. In support of this idea, the literature shows that the negative impact of national cultural distance on M&As is reduced when the target is only partially integrated (Slangen, 2006). The acceptance of new ideas and the willingness to change vary from one culture to another, as is well known from the existing scientific literature, and have different effects on the ability to innovate, to generate ideas and to create new products (Buck & Shahrim, 2005; Hofstede, 1980). The same is true for organizational culture. Using the CVF, Büschgens et al. (2013) find in their meta-analysis a significant positive relationship between adhocracy culture and innovation capability. At the same time, their results indicate that hierarchy culture has a significant negative relationship with innovation capability, while clan culture and market culture each have a moderately significant positive influence. These results are supported by findings from Corchuelo Martínez-Azúa, Dias, and Sama-Berrocal (2024) (Corchuelo Martínez-Azúa et al., 2024) which indicate that market orientation has a significant positive effect on firm innovativeness. Another meta-analysis by Eisend et al. (2016) on the relationship between organizational culture and NPD shows that different dimensions of CVF affect this relationship differently, with hierarchy having the smallest effect. Based on this evidence, we argue that cultural differences may negatively affect the long-term innovativeness of acquirers by increasing the challenges of successful post-merger integration:

First, cultural distance complicates integration because it increases the required complexity of organizational change. For example, organizations with highly hierarchical cultures tend to be highly formalized, rigidly hierarchical, and standardized (Cameron et al., 2006). Integrating such a culture into a clan culture with loose structures and open knowledge sharing (Long & Fahey, 2000) is likely to require a higher degree of structural adaptation than integration into a firm with an identical culture (Cherchem, 2017). Moreover, rigid structures and high levels of formalization increase the risk of negative long-term effects on the acquirer's innovativeness, as they are negatively correlated with a firm's ability to innovate (Covin & Slevin, 1988).

Second, according to social identity theory (Tajfel, 1981; Turner, 1982), high organizational cultural distance is expected to lead to ingroup bias among members of the acquiring firm, which reduces trust, communication, and knowledge sharing with members of the target firm (Christoffersen, Globerman, & Nielsen, 2013) and negatively affects the discovery of new solutions and innovation (Zaheer, McEvily, & Perrone, 1998).

Third, acquiring a culturally distant target reduces the likelihood of effective coordination of R&D and NPD activities. Organizational practices (Child, Faulkner, & Pitkethly, 2003; Kogut & Singh, 1988), decision-making styles (Schneider & Meyer, 1991), and codes of ethics (Langlois & Schlegelmilch, 1990) are highly culturally specific. This increases the likelihood of tensions in collaboration. It also increases the risk of having different and sometimes incompatible ways of working and different points of view. Consequently, M&A transactions between culturally distant firms are associated with increased management costs (Kogut & Singh, 1988). Based on the above, we propose the following hypotheses:

Hypothesis 3a (H3a): Organizational cultural distance between acquirer and target firms is negatively associated with the acquirer's post-deal innovativeness, as measured by patent growth.

Hypothesis 3b (H3b): Organizational cultural distance between acquirer and target firms is negatively associated with the acquirer's post-deal innovativeness, as measured by NPD.

METHOD

Sample Selection

We obtain deal-specific data from the Securities Data Company (SDC), firm-specific data from Thomson Reuters Refinitiv, and data for our cultural distance measure is inferred from the text sections of firms' Glassdoor.com reviews. Glassdoor enables employees to anonymously review their employers by providing 5-star ratings for the categories *Overall Rating, Career Opportunities, Compensation & Benefits, Work/Life Balance, Diversity & Inclusion, Senior Management, and Culture & Values*. In addition, reviewers are required to provide pros and cons about their employer as text input ("Share some of the best reasons [downsides] to work at …"). To ensure high quality reviews, Glassdoor has a "give to get" policy, requiring new users to provide a review or salary information in order to access other users' reviews. In addition, Glassdoor's 5-star ratings are approximately normally distributed, indicating that reviews are not susceptible to response bias (Chemmanur, Rajaiya, & Sheng, 2019).

To obtain our final deal sample, we first collect an initial sample of 32,330 deals from the SDC. Consistent with recent M&A literature (Ahmed, Chen, Duellman, & Sun, 2023; Bena & Li, 2014; Bereskin et al., 2018), we require that 1) the deal status is closed, 2) the deal value exceeds $1 million, 3) both firms are publicly traded before the deal and the acquirer is publicly traded after the deal, 4) the acquirer owns less than 50% of the target's shares before the deal and more than 90% after the deal, and 5) the acquirer is not in the investment banking and investment services industry. To ensure a sufficient number of English-language reviews on Glassdoor, we also restrict our sample to deals between companies headquartered in the US, Canada, Australia, or the UK. These requirements reduce the initial sample to 4,558 deals.

To determine whether a deal has its acquirer and target listed on Glassdoor, we automatically extract potentially matching Glassdoor links from three search engines. We then match the Glassdoor and SDC deal data using fuzzy string matching between company names in the SDC data and the extracted Glassdoor links. For cosine similarity values below .8, we manually verify that the correct Glassdoor link was extracted by comparing information on the company's industry, year founded, location, name changes, and company website. For our final sample, we require at least 10 Glassdoor reviews for both the acquirer and the target in the years prior to the deal announcement (similar to Campbell & Shang, 2021). After removing observations with missing values, our final sample contains 243 deals with 347,279 acquirer and 68,069 target reviews from 437 unique firms.

Identification Strategy

The following cross-sectional two-way fixed effects regression models test our hypotheses:

$$DealOutcome_m = \alpha + \beta_1 OrgCulturalDistance_{i,j} + \sum \beta_m DealControls_m + \sum \beta_i AcquirerControls_i + \sum \beta_j TargetControls_j + \gamma_i + \delta_t + \varepsilon_m \quad (1)$$

where *DealOutcome*$_m$ represents the respective dependent variable of deal m, *OrgCulturalDistance* between firm i and j represents our main independent variable, and *Controls* are three vectors containing several control variables of deal *m*, acquirer firm *i*, and target firm *j*. All variables are described in detail below, and Appendix B provides a summary of the variables. To reduce potential endogeneity concerns, we introduce acquirer industry fixed effects (γ_i) to control for time-invariant industry characteristics (similar to Bereskin et al., 2018; Suk & Wang, 2021). We also apply time fixed effects (δ_t) to control for merger waves and macroeconomic trends.[1] Standard errors are robust to heteroskedasticity and serial correlations within 2-digit SIC industry clusters.

Organizational cultural distance measure

Previous research has mostly relied on small-scale survey designs to examine the organizational cultural distance between the acquirer and the target (Rottig, 2017). More recently, scholars have begun to use machine learning techniques to measure corporate culture (e.g., Corritore et al., 2020; Li et al., 2021). For example, Latent Dirichlet Allocation (LDA) is often used for unsupervised topic modeling (Blei, Ng, & Jordan, 2001). LDA assigns topic probability scores to each document based on word co-occurrences. However, due to its unsupervised approach, a caveat of using LDA is that the number of topics to be discovered must be set a priori (Bochkay et al., 2023). Thus, topic categories must be determined manually after running the model, leaving leeway for topic overlap and potential misinterpretation. Another (more advanced) approach to measuring organizational culture is based on the word2vec algorithm (Mikolov, Chen, Corrado, & Dean, 2013). Li et al. (2021) use word2vec as a semi-supervised word embedding model to generate a context-specific dictionary to measure corporate culture. Nevertheless, LDA and word2vec underperform in natural language processing tasks compared to state-of-the-art transformer models (Bochkay et al., 2023; Koch & Pasch, 2022; Mosel, Trautsch, & Herbold, 2023). These large language models outperform LDA and word2vec for several reasons. First, transformer models use the principle of attention (Vaswani et al., 2017), which enables transformer models to learn contextual representations. Thus, they better understand short, nuanced, or colloquial expressions because they recognize

[1] In models analyzing effects around the announcement date (e.g., announcement cumulative abnormal returns and acquisition premiums), we use the year when the deal was publicly announced for the first time by an involved party. In all other deal outcome models, the year fixed effects refer to the year in which the entire deal was completed.

the context of whole sentences or statements. In contrast, LDA's bag-of-words approach ignores the immediate context of words. word2vec is also not able to fully reflect the context of a document. Second, transformers can handle ironic expressions. Third, they can handle statements that have opposite meanings, even in the absence of a negation. Due to these advantages, we use the pre-trained CultureBERT large language model developed by (Koch & Pasch, 2022) as the basis for our cultural distance scores. CultureBERT builds on the widely used RoBERTa large language model (Liu et al., 2019). To adequately classify cultural dimensions, CultureBERT was manually fine-tuned for the four culture dimensions of the CVF (Cameron et al., 2006; Quinn & Rohrbaugh, 1983). Fine-tuning involved manually labeling 2,000 Glassdoor reviews on the four culture dimensions (clan, adhocracy, market, hierarchy) that best fit the overall tone of the review (see Appendix A for Glassdoor review examples related to each of the four dimensions).

To determine the organizational culture scores for each CVF dimension for each Glassdoor review, we first merged the pro and con text sections of each review into a single, coherent corpus of text. We then tokenized each corpus. Because RoBERTa's performance declines as token length increases (Koch & Pasch, 2022), we limited the number of tokens per review to 300, with the median length of our reviews being 128 tokens. After tokenization, the CultureBERT transformer model was applied to each corpus, resulting in four probability scores corresponding to each CVF cultural dimension. These scores, which range from 0 to 1, indicate the extent to which a particular review is consistent with each cultural dimension. Then, for each firm involved in a particular M&A deal, we calculated the cumulative mean for each of the four organizational culture scores for all reviews published prior to the announcement of the deal (see online supplement for code examples). Finally, we determine the organizational cultural distance between the acquirer and the target by calculating Kogut and Singh's (1988) cultural distance index. We applied the correction proposed by Konara and Mohr (2019) to address the criticisms of the original measure found in the literature, as follows:

$$CulturalDistance_{i,j} = \sqrt{\sum_{c=1}^{4} \frac{(acq\_dimension\_culture_c - tar\_dimension\_culture_c)^2}{V_c}} \quad (2)$$

Where i is the acquirer, j is the target, c is the cultural dimension of the CVF, and v is the variance of the cultural component c. In addition to using *deal_culturaldistance* as the main independent variable, we also run models with the four absolute differences of the organizational culture dimensions as separate independent variables. This allows us to observe the direct impact of each dimension on the respective M&A outcome.

Dependent measures

Capital market reactions and post-acquisition synergies. Short-term event studies are by far the most popular approach to assess M&A success (Renneboog & Vansteenkiste, 2019). Thus, we use acquirer and combined (market value-weighted acquirer and target) announcement cumulative abnormal returns (CARs) to measure capital market reactions to deal announcements. We follow the established event study methodology to estimate daily abnormal returns using the market model (e.g., Brown & Warner, 1985; Suk & Wang, 2021):

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{M,t}) \quad (3)$$

Where $R_{i,t}$ equals the actual stock return of firm i on day t, and R_m equals the market return on day t. The firm's alpha and beta are estimated using the market model from -250 to -50 days prior to the deal announcement. Market model returns are estimated using the SP500 index. Next, the firm's expected return on day t is predicted using the estimated alpha and beta combined with the return on day t, which is then subtracted from the firm's actual return. Finally, we aggregate acquirers' daily abnormal returns over the [-5, 5] and [-10, 10] days around the announcement date (*acq_car5*, *acq_car10*). Table 1 shows the statistics for daily abnormal returns for the acquirer. Mean abnormal returns are negative and statistically significant (-.54%; Patell z = -3.032; $p < .01$) over the period of [-5, 5] with the lowest mean return on the days of M&A announcement (-.25%, $p < .05$). The mean cumulative abnormal return for the [-10,10] event window is -.65% (Patell z = -3.458; $p < .001$). To calculate the combined CAR of the acquirer and target (*deal_car_weighted*), we first multiply the CAR of both firms by their relative market capitalization and then sum their weighted abnormal returns.

However, as CARs represent the ex-ante expectations of investors and not the ex-post synergies realized, there is no guarantee that they correspond to the actual synergies. Therefore, we use an accounting proxy to measure long-term synergy benefits (Barraclough, Robinson, Smith, & Whaley, 2013; Renneboog & Vansteenkiste, 2019). Consistent with previous studies on post-acquisition performance (e.g., Morosini, 1998; Suk & Wang, 2021; Woo, Willard, & Daellenbach, 1992), we use sales growth (*acq_2yr_sales_growth, acq_4yr_sales_growth*) as a proxy for long-term synergistic gains. We measure long-term performance as the sales growth two and four years after the M&A announcement compared to sales in the year before the announcement. Our choice of two- and four-year intervals is based on the understanding that while most integration efforts are completed within two years (Jemison & Sitkin, 1986), cultural integration in particular can take considerably longer (Homburg & Bucerius, 2006). By including both time frames, we can effectively capture longer-term effects.

Acquisition premiums. As a proxy for transaction phase outcomes, we use acquisition premiums, which we measure as the difference between the acquirer's payment and the target's market value, divided by the target's market value (deal_premium_1day; Lee, Cho, Arthurs, & Lee, 2019). Prior research uses extended time periods to mitigate the potential impact of information leakage immediately prior to the announcement (Reuer et al., 2012). Therefore, we assess the target's market value at three consecutive points in time (one day, one week, one month) prior to the deal announcement.

Post-acquisition innovation. To examine the impact of cultural distance on the post-M&A innovativeness of acquiring firms, we employ two widely accepted measures that have been associated with firms' innovation performance: patenting and new product development (Cordero, 1990). Patents serve as a popular indicator of a firm's inventiveness (Gallini, 2002) and have been extensively used to assess the effect of acquisitions on the subsequent innovation performance of acquirers (e.g., Ahuja & Katila, 2001; Haucap et al., 2019; Hitt et al., 1991), as they reflect the firms' technical knowledge base (Prabhu, Chandy, & Ellis, 2005). Therefore, our first measure is the patent growth, measured as patents filed two years after an M&A announcement compared to the number of patents filed in the year before the announcement (acq_2yr_patent_growth).

However, we recognize that patents may not capture all forms of innovation, as certain innovations may not be patentable, and firms may choose not to patent ideas for strategic reasons (Hall, Jaffe, & Trajtenberg, 2005). Therefore, we consider an alternative measure of firm innovativeness that captures the marketable output of the innovation process and has been used in previous studies examining the effects of M&A on firm innovation (e.g., Grimpe, 2007; Hitt et al., 1996). Our second measure captures product innovation by assessing new product growth by comparing the number of product launches two years after the M&A announcement to the number of product launches in the year before the announcement (*acq_2yr_npd_growth*).

Control variables

Similar to Ahmed et al. (2023), Bereskin et al. (2018), and Suk and Wang (2021), we add a set of control variables to our regression models that capture deal, acquirer, and target characteristics that may affect M&A outcomes (for a detailed variable description, see Appendix B).

Deal controls. Bereskin et al. (2018) find that larger deals are associated with lower acquirer CARs. In addition, larger deal values are associated with higher deal complexity, which increases deal duration (Lawrence, Raithatha, & Rodriguez, 2021). Therefore, we include the natural logarithm (to mitigate skewness) of the deal value (*deal_value_ln*) as a control. Next, we include two dummy variables indicating whether the deal was all cash (*deal_all_cash_dummy*) or all equity financed (*deal_all_stock_dummy*), as Loughran and Vijh (1997) find that equity-financed acquisitions generate lower returns than cash-financed ones. In addition, deal financing affects acquisition premiums (Ghosh & Ruland, 1998). As Chen, Collins, Kravet, and Mergenthaler (2018) find that tender offers are positively associated with acquisition synergies, we control for whether the deal involves a tender offer (*deal_tenderoffer_dummy*). However, tender offers may also lead to higher acquisition premiums as the target may initially resist the offer (Raghavendra & Vermaelen, 1998). Moreover, Schwert (2000) finds that acquirers earn lower abnormal returns in hostile deals. Thus, we include the *deal_friendly_dummy*. The *deal_relatedness_dummy* captures whether the acquirer and the target are active in the same two-digit SIC code. Industry familiarity may reduce deal uncertainty (Morck, Shleifer, & Vishny, 1990). As our sample includes international deals, we control for national cultural differences between the acquirers and the targets (*deal_hofstede_distance*) using the cultural distance measure developed by Kogut and Singh (1988), which is based on Hofstede's (2001) six cultural dimensions of individualism, power distance, uncertainty avoidance, femininity, indulgence, and long-term orientation (Lawrence et al., 2021).

Acquirer and target controls. Moeller, Schlingemann, and Stulz (2004) find that firm size of the acquirer has a negative impact on its announcement returns due to an increased likelihood of engaging in value-destroying mergers induced by managerial entrenchment. Therefore, we control for the natural logarithm of the size of the acquirer (*acq_assets_lastyear_ln)*. Similarly, we also include the target's size (*tar_assets_lastyear_ln)*, which directly affects the target's attractiveness and deal outcomes (Chen et al., 2018; Lee et al., 2019). We also include the operating performance of the acquirer (*acq_roa_lastyear*) because Morck et al. (1990) find that firms with higher operating performance are more successful acquirers. Similarly, we also control for the operating performance of the target (*tar_roa_lastyear*) because of its potential positive impact on post-merger synergies. Higher target profitability also increases the attractiveness of the target, potentially increasing acquisition premiums (Hayward & Hambrick, 1997). We also include the acquirer's R&D intensity (*acq_rd_intensity*), which captures the size of the acquirer's knowledge base as well as its innovativeness. The research literature has shown that there is a direct relationship between the acquirer's R&D intensity and its acquisition intensity (Hitt et al., 1996) as well as its innovative performance (Hitt et al., 1991). To control for the acquirer's general industry performance, we add the acquirer's industry growth in the 12 months prior to the deal announcement (*acq_industrygrowth*) in addition to the industry fixed effects (Ellis, Reus, Lamont, & Ranft, 2011). Additionally, we control for the target's market-to-book ratio (*tar_mbratio*) because a high market valuation makes it more difficult to realize growth opportunities after deal completion (Laamanen, 2007). Finally, Zollo and Singh (2004) find that the acquirer's prior deal experience has a positive impact on M&A performance. Therefore, we include the acquirer's prior deal experience in the last three years as control (*acq_dealexperience*). Since older firms may have more M&A experience, we also include the age of the acquirer and the target as controls (Naranjo-Valencia, Jiménez-Jiménez, & Sanz-Valle, 2011).

EMPIRICAL RESULTS

Descriptive statistics

Table 2 shows the number of deals by year of announcement. Most of the deals in our sample occurred after 2011, as Glassdoor launched in 2008 and firms were slow to receive reviews.

Insert Table 2 about here

Table 3 shows the descriptive statistics for all the variables used in our specified models. The four cultural affiliations of the firms (represented by probability scores between 0 and 1) have their minimum (maximum) values for each dimension below the threshold of .08 (above the threshold of .51). The means of each dimension are comparable for acquirers and targets. However, the standard deviation is lower for the acquirer dimensions because there are approximately five times more acquirer Glassdoor reviews available than target reviews. The average absolute difference between the acquirer's and the target's cultural dimensions is around .08. In 57% of the deals, the dominant culture (the culture with the highest probability value) differs between the acquirer and target. In 34% (41%) of the deals, the acquirers' (targets') most dominant culture is reflected by the market dimension. Our main independent variable *deal_culturaldistance*, which represents the Kogut and Singh (1988) adapted organizational cultural index, ranges from *Min* = .029 to *Max* = .58, with a mean of *M* =.201.

Insert Table 3 about here

Table 4 shows the Pearson product moment correlation coefficients for all dependent and independent variables in our analysis. Since none of our independent or control variables show very high linear dependence (r > .8), we conclude that multicollinearity is unlikely to affect the results of our regression analysis (Sheth, Malhotra, Sheth, & Malhotra, 2011).

Insert Table 4 about here

Results of H1 – Organizational cultural distance, capital market reactions, and post-deal synergies

For H1a, we argue that for acquirers and targets with high organizational cultural distance, the anticipation of cultural frictions leads to negative capital market reactions in the form of lower announcement returns. Models 1-3 of Table 5 use our organizational cultural index adapted from Kogut and Singh (1988) between the acquirer's and target's four CVF culture dimensions (clan, adhocracy, market, hierarchy) as our main independent variable (*deal_culturaldistance*). In Model 1 (2), we center the acquirer's CAR [-10, 10] ([-5, 5]) days around the deal announcement. For both event windows, the results show a significant negative relationship between the cultural distance between the acquirer and the target and the acquirer's respective CAR (t = -2.278, p < .05), indicating that the capital market expects lower synergies for culturally distant firms, lending support to hypothesis H1a. We also use the [-5,5] combined (value-weighted) CAR of the acquirer and target as an additional measure of capital market reactions (Model 3). The coefficient of *deal_car_weighted* (t = -1.718, p < .1) confirms that the capital market expects greater synergy gains from acquirers and targets that are more similar in organizational culture. The coefficients of the control variables are generally consistent with the expected directions suggested by the literature. For example, *deal_value_ln* has a positive coefficient (Suk and Wang 2021), *deal_all_cash_dummy* has a positive coefficient (Alexandridis et al., 2022; Bereskin et al., 2018; Chakrabarti et al., 2009), and *deal_relatedness_dummy* has a positive coefficient (Ahmed et al., 2023; Alexandridis et al., 2022; Conn, Cosh, Guest, & Hughes, 2005).

Insert Table 5 about here

To explain which dimensions of CVF culture drive the expected capital market synergy gains, we conduct additional analyses by replacing the *deal_culturaldistance* variable with four separate variables (Models 4-6). Each variable captures the absolute difference between the acquirer’s and target’s attitude towards the respective CVF culture dimension. Results of Models 4-6 in Table 5 indicate that the expected synergistic losses are caused by acquirers and targets that have large differences in their market orientations (t < -4.346, p < .01). These findings are consistent with previous studies that highlight the relative influence of market culture on firm performance (e.g., Deshpandé & Farley, 2004; Eisend et al., 2016). We reason that differences in firms' attitudes toward market orientation may be more readily observable to investors, as this dimension is reflected in publicly available information such as market share and profitability (Cameron et al., 2006). In contrast, the other three dimensions are more nuanced and thus more difficult for market participants to observe.

For H1b, we analyze whether the synergistic benefits expected by the capital market from culturally similar acquirers and targets are realized by measuring the growth in operating performance following the deal (Table 6). Therefore, we replace the dependent variable CAR with the acquirer's sales growth in the two and four years following the deal. The negative coefficients of *acq_sales_2yr_growth* (t = -1.892, p < .1) and *acq_sales_4yr_growth* (t = -2.972, p < .001) indicate that M&As of culturally distant firms lead to significantly lower sales growth in the two and four years following the deal. This result supports H1b and is consistent with the a priori expectations of the capital market tested in H1a. While the results of Model 3 show no significant effect of individual cultural dimensions, Model 4 attributes differences in market orientation (t = -2.682, p < .01) or the negative impact on post-merger sales growth four years after the transaction (*acq_sales_4yr_growth*).

Insert Table 6 about here

Results of H2 – Organizational cultural distance and acquisition premiums

H2 argues that organizational cultural distance between the acquirer and the target reduces the ability of the acquirer to accurately assess the true value of the target, thereby increasing the likelihood that the acquirer will overpay for the target. Table 7 shows the regression results with acquisition premiums as the dependent variable. Similar to previous research (Lee et al., 2019; Reuer et al., 2012), we use multiple pre-announcement periods to measure the target's market value. By doing so, we increase robustness by mitigating the potential impact of information leakage immediately prior to the announcement. The average premium paid for these periods ranges from 33% to 38%, which is comparable to the figures reported in the literature (Eckbo, 2009). Regardless of whether a 1-day, 1-week, or 1-month pre-announcement period is used, Models 1-3 show a significant positive relationship between organizational cultural distance and acquisition premiums ($t = 2.009$, $p < .05$). Thus, firms that acquire culturally distant targets systematically misjudge the true value of the target and pay higher premiums, supporting hypothesis H2. To determine which cultural dimensions specifically cause these overpayments, we replicate the analysis using the four separate CVF cultural difference variables. Using 1-week and 1-month premiums, Models 4-6 show that acquisition premiums increase significantly for acquirers and targets with different market orientations ($t > 2.94$, $p < .01$).

Insert Table 7 about here

Results of H3 – Organizational cultural distance and post-deal innovativeness

In H3, we propose that cultural differences between the acquirer and the target may harm the acquirer's long-term innovativeness, measured by patents and new product development (NPD). This is because M&A transactions can disrupt the acquirer's R&D and NPD processes due to the necessity to integrate the target firm. The cultural friction hypothesis (Hofstede, 1980) also suggests that acquisitions may lead to reduced communication, collaboration, and trust, further hampering the acquirer's innovation processes.

For Model 1, we find that organizational cultural distance has a significant negative effect on the acquirer's patent activity in the two years following the acquisition, supporting H3a ($t = -2.573$, $p < .05$). This effect is primarily driven by differences in the adhocracy culture dimension, as indicated by the results of Model 3 ($t = -1.959$, $p < .1$). This aligns with the CVF's assertion that adhocracy culture is associated with creativity and the generation of new ideas (Cameron et al., 2006).

For Model 2, we find a significant negative effect of organizational cultural distance on NPD, supporting H3b ($t = -1.827$, $p < .1$). Unlike the effect on patent activity, the negative impact on NPD is driven by differences in hierarchy culture rather than adhocracy culture (t = -3.085, $p < .001$). This may be because product innovation often tends to be more incremental in nature, requiring well-established structures and processes to ensure consistent quality and continuous improvement.

Insert Table 8 about here

ROBUSTNESS CHECKS

To validate our primary analyses, we conducted several additional robustness checks (see the online supplement for detailed code results). First, we replaced our main independent variable, *deal_culturaldistance*, with the Jensen-Shannon (JS) divergence measure used by Corritore et al. (2020) to capture the cultural homogeneity of Glassdoor reviews. JS divergence measures the difference between the probability distributions of the organizational cultural dimensions of the acquirer and the target. The variable *deal_culturaldistance_js* remained statistically significant in all analyses, except for long-term synergies (*acq_sales_4yr_growth*).

Second, our sample includes five observations where the acquirer held between 0% and 50% of the target's shares prior to the deal announcement. We excluded these toehold deals from our main analyses to ensure that the acquirer had not already influenced the target's culture. With the exception of long-term synergy gains (*acq_sales_4yr_growth*) and combined acquirer-target performance (*deal_car_weighted*), the results remained statistically significant across all analyses.

Third, although we controlled for national cultural distance between acquirer and target countries (*deal_hofstede_distance*), we additionally removed 34 cross-border deals from our sample to account for potential international effects, such as regulatory or country-level institutional confounders. The main analyses using *deal_culturaldistance* remained robust, except again for long-term synergies (*acq_sales_4yr_growth*), even after excluding these cross-border deals.

Fourth, we explored the possibility of a nonlinear relationship between *deal_culturaldistance* and our main dependent variables by including a quadratic term (*deal_culturaldistance_quadr*) in all models. After thoroughly examining the results, we found no evidence of a nonlinear relationship, suggesting that the linear model adequately captures the relationship.

Fifth, we included the acquisition premium (*deal_premium_1week*) as a predictor in all models where it was not already included as a dependent variable. This ensured that the observed effects were not driven by an omitted variable not previously included in our analysis.

Sixth, we re-examined the hypothesized negative relationship between organizational cultural distance and long-term synergy gains (H1b) using propensity score matching, a method designed to minimize differences between treatment and control groups based on specific covariates, making inferences about treatment effects more robust and unbiased (Rubin, 2006). Matching ensures that differences in the dependent variable are due to the treatment variable, not to pre-existing sample differences (Connelly, Sackett, & Waters, 2013). Building on previous research on organizational cultural distance and M&A (Bereskin et al., 2018) and following established guidelines (Narita, Tena, & Detotto, 2023; Stuart, 2010), we first operationalized our treatment variable by creating an indicator variable (*deal_high_culturaldistance*), which denotes significant organizational cultural distance between acquirers and targets. M&A pairs with a cultural distance above the 80th percentile were assigned a value of 1, while those below were assigned a value of 0. We then computed relevant covariates for each M&A transaction, drawing on variables known to influence both synergy realization and organizational cultural differences (Andrade, Mitchell, & Stafford, 2001; Arikan & Stulz, 2016; Bauer & Matzler, 2014; Kumar, 1985; Ramaswamy, 1997). These covariates, selected for their stability over time or collected prior to the transaction year

(Rosenbaum & Rubin, 1983, 1984), include *deal_size_difference*, *deal_roa_difference*, *deal_age_difference*, *deal_sic_difference*, and *deal_hofstede_distance* (see Appendix B for detailed descriptions). Propensity scores were derived through logistic regression using absolute differences in size, age, performance, industry, and national cultural distance. Given the significantly larger number of non-high cultural distance deals, a three-to-one nearest neighbor matching approach was applied (Stuart, 2010). This matched all high cultural distance M&A deals (N = 38) with similar non-high cultural distance deals. Standardized mean differences below 0.1 and variance ratios below two after matching confirmed that the propensity scores of the control group closely resembled those of the treatment group.

To measure the effect of high organizational cultural distance on long-term synergies, we conducted a linear regression with *acq_2yr_sales_growth* as the outcome and *deal_high_culturaldistance* as the exposure. Using cluster-robust variance to estimate standard errors, our analysis revealed that high cultural distance reduced long-term synergies by -.089 points (95% CI [-.157, -.021], $p < .05$), consistent with the results of our primary analysis. Notably, the inclusion of additional controls in the regression did not significantly reduce bias or increase significance.

Finally, we conducted a synthetic counterfactual analysis to further support our hypothesis regarding H1b. Following the approach used by Bereskin et al. (2018), we created a synthetic dataset of pseudo-M&A deals by assigning all possible targets to each acquirer for each year. From this, we took a random sample to test our hypothesis on a larger set of unrealized M&A deals, examining whether combined sales growth (*comb_2yr_sales_growth*) is lower for M&A deals with high cultural distance. Using propensity score matching with a one-to-one nearest neighbor matching strategy, we achieved a very high balance between the high and low cultural distance groups (N = 600), with all post-match standardized mean differences below .05. Using linear regression with combined long-term synergies as the outcome and high organizational cultural distance as the exposure, we observed a reduction in long-term synergy gains of -.122 points (95% CI [-.3729, -.0209], $p < .01$) associated with *deal_high_culturaldistance*. As in our previous analyses, the inclusion of additional controls did not significantly reduce bias or increase power. Moreover, the results remained consistent across different sample sizes, further reinforcing the robustness of our findings.

CONCLUSION

Using a novel sample of 243 M&As between 2008 and 2021, this study provides evidence on the impact of organizational cultural differences between acquirers and target firms on M&A outcomes. We applied state-of-the-art deep learning techniques, specifically the large language model Culture-BERT (Koch & Pasch, 2022), to analyze over 400,000 Glassdoor employee reviews and infer an organizational cultural distance score. This approach addresses the methodological weaknesses of prior studies, which often relied on subjective measures to assess organizational cultural distance and M&A success, thus limiting the comparability and objectivity of results (Rottig, 2017).

Our study provides several key insights. First, we confirm that organizational cultural distance negatively affects both announcement day market returns (H1a) and post-merger synergy realization (H1b). These findings align with the cultural friction hypothesis (Hofstede, 1980), which posits that cultural distance increases coordination and integration costs, thereby hindering M&A performance. The negative relationship between organizational cultural distance and short-term market reactions (H1a) remains robust across various alternative explanations and analytical methods, as demonstrated by numerous robustness tests. Consistent with the cultural friction hypothesis, this negative effect is mainly driven by differences in market cultures, which emphasize autonomy, profitability, and key value drivers such as goal attainment and market share (Cameron et al., 2006). Shareholders tend to evaluate M&A transactions based on the compatibility of firms' competitive and performance cultures, responding negatively when the target is unlikely to enhance profitability. Further examination of the relationship between organizational cultural distance and long-term synergies at two- and four-years post-transaction (H1b) supports our initial findings, again showing a negative impact driven by market culture differences. Notably, the results for the four-year period show a slight reduction in robustness, suggesting that cultural differences may diminish after two years, likely due to full cultural integration (Jemison & Sitkin, 1986). However, the two-year post-transaction results remain clear, showing a significant negative effect of organizational cultural distance on long-term synergies. Additionally, a quasi-experiment conducted during robustness tests further supports these conclusions. Using propensity score analysis, we find that deals with high organizational cultural distance yield lower long-term synergies compared to those with lower cultural distance, even when deal partners are randomly assigned. Moreover, these high cultural distance deals show significantly lower combined acquirer-target sales growth (e.g., Bereskin et al., 2018).

Second, our study offers insight into why organizational cultural distance negatively impacts M&A performance. We show that acquirers dealing with targets exhibiting high cultural distance tend to pay a premium for the target (H2). High premiums, widely recognized in the literature as a potential driver of value-destroying acquisitions (King et al., 2021), are primarily influenced by differences in market culture. This suggests that acquirers with specific cultural values, such as those discussed earlier, struggle to accurately value targets that do not share these values. In such cases, acquirers incur additional costs for information gathering and contracting, which increases uncertainty and leads to the mispricing of the target's true value (Giannetti & Yafeh, 2012). High organizational cultural distance during the pre-deal phase may also contribute to an information gap caused by poor communication and lack of trust—factors central to our findings in H1a and H1b. This gap further increases uncertainty and ultimately leads to overpayment and inflated acquisition premiums (e.g., Alnahedh & Alhashel, 2021; Smeulders et al., 2023).

Third, we examine the relationship between organizational cultural distance and the acquirer's post-deal innovativeness. Our findings reveal a negative impact of organizational cultural distance on the acquirer's long-term innovativeness, consistent across various measures of innovation. The cultural differences driving these effects vary: differences in adhocracy culture primarily influence patent growth, while differences in hierarchy culture affect new product development. This distinction stems from the differing nature of innovation processes: patenting requires creativity and vision, traits associated with adhocracy culture, whereas new product development demands coordination, timeliness, and consistency, which are aligned with hierarchy culture (Cameron et al., 2006; Child et al., 2003).

Future research could explore whether the effects of organizational cultural distance between acquirers and targets vary depending on the level of target integration. Previous studies on national cultural differences have shown that integration levels can lead to different outcomes (Slangen, 2006). However, an examination of this relationship in the context of organizational cultural distance is still missing. Therefore, future research should investigate the conditional factors that influence how organizational cultural differences affect M&A outcomes.

Our study contributes to the M&A literature by providing evidence on the relationship between organizational cultural distance, M&A success, acquisition premiums, and innovation. However, certain limitations must be acknowledged. First, our analysis of short-term M&A success assumes near-instantaneous, complete, and unbiased market reactions, which rely on the semi-strong form of the efficient market hypothesis (Fama, 1970). While there is evidence that markets account for cultural differences when evaluating transactions (Aktas et al., 2011), it is possible that this information could be misinterpreted or influenced by other confounding factors. Second, our study focuses on M&A transactions between firms in major English-speaking economies, which limits the generalizability of our findings to other contexts. Future research could address this limitation by expanding the geographic scope and incorporating more representative data sources, such as employee reviews from local platforms. Third, our research is confined to completed transactions. Future studies could explore whether acquirers and targets with high organizational cultural distance are more likely to withdraw from announced deals or examine self-selection issues in the relationship between cultural distance and acquisition outcomes. Lastly, while data from Glassdoor.com provide valuable insights into organizational culture, there are potential shortcomings. Employee reviews are voluntary and may not fully represent the entire workforce, introducing possible biases. Additionally, employees who choose to submit reviews may have particularly strong positive or negative opinions, which could skew the data. Moreover, the textual nature of these reviews may not always capture the full complexity of organizational culture. Future research could consider triangulating these findings with additional data sources to provide a more comprehensive view of organizational culture.

Our findings have significant economic implications for practitioners involved in M&A transactions. First, our analysis underscores the importance of considering both national and organizational cultural differences. These differences can negatively impact M&A performance and reduce the acquiring firm's innovativeness. To mitigate these risks, acquiring firms must thoroughly analyze the target firm's organizational culture and compare it to their own. In particular, our research reveals that differences in market culture can have a detrimental effect on the acquiring firm's performance. Second, our results emphasize that cultural differences should align with the goals of the acquiring firm. Not all cultural differences have the same impact: for instance, market culture discrepancies are linked to negative effects on both short- and long-term performance, while differences in adhocracy culture hinder patent growth, and hierarchy culture disparities impede new product development. Third, our analysis highlights the critical need for a comprehensive evaluation of organizational culture, offering insight into why these effects occur. Acquiring firms often overvalue targets with high cultural distance, resulting in an inflated acquisition premium. To address this, practitioners should focus on closing information gaps between the firms involved in the transaction. These efforts can improve the accuracy of the target firm's valuation and increase the likelihood of realizing positive synergies in the post-acquisition phase.

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APPENDIX

TABLE 1

T - III - 1: Daily abnormal returns to M&A announcement

Day	Mean abnormal return	Standardized t-statistic	p-value	Patell Z	p-value
-10	.20%	1.605	.110	.816	.414
-9	.12%	.972	.332	.014	.989
-8	-.11%	-.915	.361	-1.538	.124
-7	-.02%	-.168	.867	-.872	.383
-6	.08%	.672	.502	.109	.913
-5	.09%	.721	.471	.275	.783
-4	-.11%	-.893	.373	-1.322	.186
-3	.15%	1.231	.219	1.234	.217
-2	.07%	.573	.567	-.186	.852
-1	-.10%	-.827	.409	-.884	.377
0	-.25%	-1.984	.049	-2.175	.029
1	-.11%	-.924	.357	-.994	.320
2	-.10%	-.816	.415	-.959	.337
3	.04%	.300	.764	-.279	.780
4	-.11%	-.871	.385	-.217	.829
5	-.07%	-.627	.532	.144	.885
6	.05%	.413	.680	.134	.893
7	-.05%	-.432	.666	-.836	.403
8	.10%	.805	.421	1.076	.282
9	-.12%	-.989	.324	-1.410	.158
10	-.05%	-.390	.697	.378	.705

Note. This table presents the mean abnormal daily returns of acquiring firms for the ten-day event window around the M&A announcement date. The descriptive statistics are based on the daily abnormal returns of 243 deal observations for the years 2008 to 2021.

TABLE 2

T - III - 2: Deals by announcement year

Announcement year	Deals	Percentage	Total percentage
2008	2	0.82	0.82
2009	5	2.06	2.88
2010	3	1.23	4.12
2011	4	1.65	5.76
2012	11	4.53	10.29
2013	10	4.12	14.40
2014	15	6.17	20.58
2015	36	14.81	35.39
2016	36	14.81	50.21
2017	22	9.05	59.26
2018	22	9.05	68.31
2019	23	9.47	77.78
2020	21	8.64	86.42
2021	33	13.58	100.00
Total	**243**	**100.00**	**100.00**

Note. This table presents the number of deals per year. The descriptive statistics are based on 243 deal observations for the years 2008 to 2021.

TABLE 3

T - III - 3: Descriptive statistics

Variable	*N*	*M*	*SD*	Min	Max
Acquiring Firms Culture Affiliation					
acq_clan_culture	243	.259	.084	.036	.511
acq_adhocracy_culture	243	.203	.104	.013	.626
acq_market_culture	243	.276	.098	.077	.580
acq_hierarchy_culture	243	.262	.083	.051	.516
Target Firms Culture Affiliation					
tar_clan_culture	243	.257	.100	.025	.570
tar_adhocracy_culture	243	.220	.117	.036	.691
tar_market_culture	243	.293	.117	.038	.603
tar_hierarchy_culture	243	.230	.097	.027	.570
Deal Cultural Distance					
deal_culturaldistance	243	.201	.103	.029	.580
deal_culturaldistance_js	243	.144	.072	.023	.401
deal_clan_culture_abs	243	.083	.068	.001	.404
deal_adhocracy_culture_abs	243	.079	.075	.0002	.433
deal_market_culture_abs	243	.093	.075	.0001	.419
deal_hierarchy_culture_abs	243	.091	.069	.001	.333
Dependent Variables					
acq_car5	243	-.035	.313	-3.598	.705
acq_car10	243	-.051	.563	-6.463	1.324
deal_car_weighted	243	-.016	.135	-1.634	.318
acq_2yr_sales_growth	182	.227	.298	-.214	1.856
acq_4yr_sales_growth	131	.128	.154	-.117	.653
deal_premium_1day	226	.328	.306	-.312	2.367
deal_premium_1week	226	.356	.313	-.307	2.438
deal_premium_1month	226	.380	.306	-.341	2.625
acq_2yr_patent_growth	189	3.573	8.458	.000	101.187
acq_2yr_npd_growth	154	.136	.153	.000	.913
Deal Controls					
deal_value_ln	243	21.568	1.672	17.272	25.156
deal_hofstede_distance	243	.031	.081	0.000	.345
deal_all_cash_dummy	243	.473	.500	0	1
deal_all_stock_dummy	243	.152	.360	0	1
deal_tenderoffer_dummy	243	.181	.386	0	1
deal_friendly_dummy	243	.992	.091	0	1
deal_relatedness_dummy	243	.687	.465	0	1
Acquirer Controls					
acq_age	243	69.984	49.831	6	232
acq_assets_lastyear_ln	243	23.081	1.773	18.594	27.496
acq_roa_lastyear	243	.419	.946	-.330	10.077
acq_industrygrowth	243	.009	.051	-.037	.551
acq_dealexperience	243	1.535	.937	1	6
acq_rd_intensity	243	.059	.097	0.000	.642
Target Controls					
tar_age	243	52.119	40.360	7	191
tar_assets_lastyear_ln	243	21.209	1.847	16.507	27.386
tar_roa_lastyear	243	.017	.163	-.511	2.028
tar_mbratio	243	2.363	4.503	0.000	59.870

Note. *N* = 243. *M* = Mean. *SD* = Standard Deviation. *Min* = Minimum. *Max* = Maximum. The descriptive statistics are based on 243 deal observations for the years 2008 to 2021. A detailed variable description can be found in Appendix B.

TABLE 4

T - III - 4: Correlation matrix

#	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	deal_culturaldistance	1													
2.	acq_car2	.03	1												
3.	acq_car5	.02	.96	1											
4.	acq_car10	.01	.94	.98	1										
5.	deal_car_weighted	.04	.98	.95	.92	1									
6.	acq_sales_2yr_growth	-.17	-.11	-.09	-.09	-.10	1								
7.	acq_sales_4yr_growth	-.21	-.14	-.13	-.12	-.12	.89	1							
8.	deal_premium_1day	.14	-.07	-.04	-.002	-.08	-.08	-.09	1						
9.	deal_premium_1week	.15	-.09	-.05	-.01	-.11	-.03	-.03	.97	1					
10.	deal_premium_1month	.17	-.06	-.03	-.01	-.08	-.11	-.15	.85	.87	1				
11.	acq_2yr_patent_growth	.04	-.01	-.03	-.03	-.01	.01	.06	.04	.09	.08	1			
12.	acq_2yr_npd_growth	.06	-.11	-.06	-.05	-.10	.04	.02	-.12	-.11	-.11	-.08	1		
13.	deal_value_ln	-.19	.08	.07	.05	.06	.11	.06	-.08	-.08	-.09	.06	-.17	1	
14.	deal_hofstede_distance	-.02	-.02	.05	.06	-.03	.004	-.01	.05	.04	.04	-.05	-.04	-.01	1
15.	deal_all_cash_dummy	.26	.03	.04	.05	.04	-.25	-.20	.28	.30	.30	.12	-.12	-.31	.12
16.	deal_all_stock_dummy	-.21	-.06	-.07	-.08	-.07	.24	.28	-.22	-.22	-.22	-.05	.01	.004	-.12
17.	deal_tenderoffer_dummy	.21	.02	.02	.02	.03	-.13	-.13	.13	.12	.17	-.06	.07	-.14	-.02
18.	deal_friendly_dummy	-.16	.005	.01	.02	-.02	.04	.01	.11	.11	.12	-.04	.05	-.03	.04
19.	deal_relatedness_dummy	-.01	.03	.03	.04	.02	-.07	-.005	.09	.07	.11	-.13	-.06	-.005	-.08
20.	acq_age	-.06	-.03	-.03	-.03	-.05	-.26	-.37	-.01	-.05	-.06	-.08	-.05	.15	.08
21.	acq_assets_lastyear_ln	-.07	.05	.04	.02	.04	-.30	-.39	.03	.02	.04	.08	-.15	.62	-.03
22.	acq_roa_lastyear	.08	-.07	-.06	-.06	-.08	.53	.45	-.06	-.02	-.04	-.04	.02	.10	-.02
23.	acq_industrygrowth	.15	.08	.09	.09	.09	.01	.01	-.06	-.06	-.06	.004	.07	.03	.15
24.	acq_dealexperience	-.06	.13	.10	.10	.13	-.12	-.12	.03	.03	.06	-.06	-.17	.26	-.08
25.	acq_rd_intensity	.04	-.04	-.06	-.05	-.03	.19	.23	.03	.07	.09	.08	-.07	.05	-.09
26.	tar_age	-.17	-.10	-.10	-.09	-.11	-.03	-.02	-.03	-.06	-.05	-.07	-.12	.15	.05
27.	tar_assets_lastyear_ln	-.26	-.05	-.06	-.08	-.07	.14	.10	-.12	-.14	-.17	.04	-.19	.77	-.01
28.	tar_roa_lastyear	-.13	-.05	-.07	-.05	-.06	-.01	-.03	-.14	-.13	-.16	.01	-.02	.13	-.01
29.	tar_mbratio	.10	.04	.05	.04	.04	-.02	-.02	-.02	.001	.01	-.01	.10	.12	-.02

Note. This table presents correlations coefficients for the variables used in the main part of our analysis. A variable description can be found in Appendix B.

TABLE 4 (II)

#	Variable	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1.	deal_culturaldistance															
2.	acq_car2															
3.	acq_car5															
4.	acq_car10															
5.	deal_car_weighted															
6.	acq_sales_2yr_growth															
7.	acq_sales_4yr_growth															
8.	deal_premium_1day															
9.	deal_premium_1week															
10.	deal_premium_1month															
11.	acq_2yr_patent_growth															
12.	acq_2yr_npd_growth															
13.	deal_value_ln															
14.	deal_hofstede_distance															
15.	deal_all_cash_dummy	1														
16.	deal_all_stock_dummy	-.40	1													
17.	deal_tenderoffer_dummy	.35	-.20	1												
18.	deal_friendly_dummy	-.005	.04	.04	1											
19.	deal_relatedness_dummy	-.09	.14	.13	.04	1										
20.	acq_age	-.12	-.002	-.18	-.05	.005	1									
21.	acq_assets_lastyear_ln	.02	.004	-.06	.01	-.09	.27	1								
22.	acq_roa_lastyear	-.17	.05	-.06	.02	-.05	-.13	-.23	1							
23.	acq_industrygrowth	.15	-.06	-.02	.04	-.17	-.08	.18	.001	1						
24.	acq_dealexperience	.16	-.08	.20	.05	.09	-.05	.41	-.12	.22	1					
25.	acq_rd_intensity	.09	.02	.19	.06	.13	-.29	-.21	.24	-.05	.17	1				
26.	tar_age	-.17	-.002	-.22	.07	.05	.39	.13	-.05	.06	.06	-.28	1			
27.	tar_assets_lastyear_ln	-.37	.22	-.28	-.03	.08	.29	.63	-.01	.08	.16	-.21	.36	1		
28.	tar_roa_lastyear	-.08	-.08	-.12	-.05	-.14	.20	.06	-.04	.01	-.03	-.18	.17	.13	1	
29.	tar_mbratio	.11	-.10	.08	.02	.02	-.12	.05	.10	.03	.10	.21	-.16	-.20	-.07	1

Note. This table presents correlations coefficients for the variables used in the main part of our analysis. A variable description can be found in Appendix B.

TABLE 5

T - III - 5: H1a: Capital market reactions (CARs)

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car _weighted [-5,5]	(4) acq_car [-10,10]	(5) acq_car [-5,5]	(6) deal_car _weighted [-5,5]
deal_culturaldistance	-.900**	-.436**	-.138*			
	(-2.278)	(-2.081)	(-1.718)			
deal_clan_culture_abs				-0.380	-0.199	-0.033
				(-0.687)	(-0.715)	(-0.300)
deal_adhocracy_culture_abs				0.195	0.029	-0.006
				(0.516)	(0.138)	(-0.069)
deal_market_culture_abs				-1.536***	-0.796***	-0.342***
				(-4.346)	(-3.947)	(-3.684)
deal_hierarchy_culture_abs				0.037	0.172	0.178
				(0.088)	(0.796)	(1.577)
deal_value_ln	.139**	.079**	.034**	0.153***	0.086**	0.037**
	(2.425)	(2.406)	(2.116)	(2.654)	(2.626	(2.338)
deal_hofstede_distance	.221	.051	-.042	0.169	0.032	-0.045
	(.619)	(.293)	(-.467)	(0.539)	(0.220	(-0.606)
deal_all_cash_dummy	.030	.029	.007	0.012	0.018	0.001
	(.336)	(.548)	(.326)	(0.141)	(0.356	(0.064)
deal_all_stock_dummy	-.121	-.068	-.028	-0.113	-0.061	-0.024
	(-.991)	(-1.098)	(-1.114)	(-0.911)	(-0.971	(-0.934)
deal_tenderoffer_dummy	-.071	-.033	-.018	-0.069	-0.031	-0.017
	(-.866)	(-.672)	(-.798)	(-0.785)	(-0.605	(-0.717)
deal_friendly_dummy	-.186	-.081	-.028	-0.099	0.0002	0.027
	(-.926)	(-.672)	(-.597)	(-0.483)	(0.002	(0.539)
deal_relatedness_dummy	.020	.001	-.003	0.037	0.010	0.001
	(.240)	(.023)	(-.167)	(0.442)	(0.224	(0.073)
acq_age	.001	.001	.0003	0.001	0.001	0.0003
	(1.371)	(1.421)	(1.507)	(1.257)	(1.343	(1.442)
acq_assets_lastyear_ln	-.001	-.001	-.005	-0.006	-0.003	-0.006
	(-.031)	(-.044)	(-.748)	(-0.230)	(-0.220	(-0.997)
acq_roa_lastyear	-.078	-.043	-.020	-0.078	-0.042	-0.018
	(-1.366)	(-1.307)	(-1.343)	(-1.336)	(-1.241	(-1.253)
acq_industrygrowth	2.717**	1.623**	.729**	2.838**	1.710***	0.764***
	(2.330)	(2.632)	(2.644)	(2.370)	(2.743	(2.815)
acq_dealexperience	-.0003	-.006	.005	-0.008	-0.012	0.002
	(-.008)	(-.252)	(.524)	(-0.206)	(-0.483	(0.262)
acq_rd_intensity	-.580*	-.336**	-.149***	-0.835***	-0.485***	-0.225***
	(-1.783)	(-2.188)	(-2.875)	(-3.093)	(-3.706	(-4.164)
tar_age	-.002*	-.001**	-.001**	-0.002*	-0.001**	-0.001**
	(-1.912)	(-2.012)	(-2.036)	(-1.841)	(-2.017	(-2.148)
tar_assets_lastyear_ln	-.148*	-.079*	-.031	-0.147*	-0.079*	-0.031
	(-1.786)	(-1.708)	(-1.436)	(-1.764)	(-1.708	(-1.442)
tar_roa_lastyear	-.377	-.245	-.108	-0.336	-0.229	-0.105
	(-1.216)	(-1.376)	(-1.425)	(-1.110)	(-1.332	(-1.452)
tar_mbratio	-.008	-.005	-.002	-0.011	-0.006	-0.003
	(-1.376)	(-1.237)	(-1.239)	(-1.567)	(-1.461	(-1.529)
Observations	243	243	243	243	243	243
Adj R2	.179	.191	.207	.187	.199	.222
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1, 2, 4 and 5 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Models 3 and 6 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. The main independent variables in Model 4-6 are the absolute cultural differences (in the four Competing Values Framework categories clan, adhocracy, market, hierarchy) between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics s are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

TABLE 6

T - III - 6: H1b: Long-term operating synergies

	(1) acq_sales_2 yr_growth	(2) acq_sales_4 yr_growth	(3) acq_sales_2 yr_growth	(4) acq_sales_4 yr_growth
deal_culturaldistance	-.321*	-.349***		
	(-1.892)	(-2.972)		
deal_clan_culture_abs			-.092	-.053
			(-.296)	(-.221)
deal_adhocracy_culture_abs			.245	.050
			(.938)	(.228)
deal_market_culture_abs			-.254	-.424**
			(-1.014)	(-2.682)
deal_hierarchy_culture_abs			-.482	-.251
			(-1.464)	(-1.370)
deal_value_ln	-.037	-.017	-.041	-.015
	(-1.052)	(-.716)	(-1.094)	(-.646)
deal_hofstede_distance	-.065	-.152	-.128	-.157
	(-.305)	(-.657)	(-.574)	(-.655)
deal_all_cash_dummy	-.019	-.069**	-.020	-.072*
	(-.360)	(-2.042)	(-.394)	(-1.968)
deal_all_stock_dummy	.009	-.010	.006	-.008
	(.071)	(-.131)	(.046)	(-.105)
deal_tenderoffer_dummy	-.037	.007	-.043	.006
	(-.625)	(.188)	(-.679)	(.154)
deal_friendly_dummy	.174*	.000	.082	.000
	(1.886)	(.000)	(.578)	(.000)
deal_relatedness_dummy	-.168***	-.090**	-.173***	-.089**
	(-2.879)	(-2.243)	(-2.846)	(-2.073)
acq_age	-.001**	-.001*	-.001**	-.001*
	(-2.317)	(-1.756)	(-2.318)	(-1.719)
acq_assets_lastyear_ln	-.078***	-.051***	-.082***	-.053***
	(-3.355)	(-2.756)	(-3.306)	(-2.796)
acq_roa_lastyear	.091	.004	.084	.001
	(1.313)	(.109)	(1.231)	(.025)
acq_industrygrowth	.823**	.711**	.792*	.695*
	(2.025)	(2.216)	(1.676)	(1.778)
acq_dealexperience	-.001	-.002	.005	.0003
	(-.028)	(-.122)	(.184)	(.015)
acq_rd_intensity	.439**	.073	.453**	.080
	(2.054)	(.253)	(2.548)	(.264)
tar_age	-.0002	-.0002	-.0002	-.0002
	(-.326)	(-.284)	(-.224)	(-.266)
tar_assets_lastyear_ln	.100***	.049*	.108***	.053*
	(2.853)	(1.821)	(2.837)	(1.938)
tar_roa_lastyear	-.018	-.049	.007	-.026
	(-.341)	(-1.276)	(.108)	(-.605)
tar_mbratio	.005	.002*	.005	.002*
	(1.563)	(1.859)	(1.628)	(1.787)
Observations	182	131	182	131
Adj R2	.411	.255	.402	.226
Industry FE	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Models 1 and 3 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Models 2 and 4 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. The main independent variables in Models 3 and 4 are the absolute cultural differences (in the four Competing Values Framework categories clan, adhocracy, market, hierarchy) between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

TABLE 7

T - III - 7: H2: Acquisition premiums

	(1)	(2)	(3)	(4)	(5)	(6)
	deal_premium_1 day	**deal_premium_1 week**	**deal_premium_1 month**	**deal_premium_1 day**	**deal_premium_1 week**	**deal_premium_1 month**
deal_culturaldistance	.465**	.491**	.503*			
	(2.009)	(2.012)	(1.983)			
deal_clan_culture_abs				.003	-.010	.022
				(.007)	(-.021)	(.046)
deal_adhocracy_culture_abs				.337	.243	.106
				(.980)	(.681)	(.342)
deal_market_culture_abs				.844***	.959***	.906***
				(2.944)	(3.497)	(2.992)
deal_hierarchy_culture_abs				-.264	-.267	-.077
				(-.674)	(-.709)	(-.205)
deal_value_ln	-.012	-.025	-.010	-.007	-.021	-.007
	(-.482)	(-1.050)	(-.479)	(-.263)	(-.813)	(-.271)
deal_hofstede_distance	.175	-.060	.071	.151	-.079	.068
	(1.083)	(-.293)	(.286)	(.836)	(-.361)	(.299)
deal_all_cash_dummy	.090*	.111*	.088	.108*	.131**	.105*
	(1.657)	(1.975)	(1.527)	(1.944)	(2.362)	(1.871)
deal_all_stock_dummy	-.119*	-.122*	-.109	-.117	-.119*	-.104
	(-1.711)	(-1.900)	(-1.551)	(-1.553)	(-1.755)	(-1.361)
deal_tenderoffer_dummy	-.057	-.088	-.084	-.059	-.089	-.085
	(-.881)	(-1.257)	(-1.212)	(-.823)	(-1.152)	(-1.100)
deal_friendly_dummy	.387***	.349**	.352***	.280*	.245	.294*
	(3.039)	(2.430)	(2.888)	(1.701)	(1.425)	(1.917)
deal_relatedness_dummy	.084	.074	.120**	.080	.067	.114**
	(1.340)	(1.249)	(2.145)	(1.335)	(1.213)	(2.129)
acq_age	-.0001	-.0004	-.0003	-.0001	-.0003	-.0003
	(-.259)	(-.766)	(-.707)	(-.174)	(-.694)	(-.647)
acq_assets_lastyear_ln	.017	.024	.045	.015	.023	.044
	(.497)	(.772)	(1.203)	(.402)	(.665)	(1.100)
acq_roa_lastyear	.015	.030*	.030*	.011	.026	.029
	(.715)	(1.847)	(1.919)	(.582)	(1.572)	(1.592)
acq_industrygrowth	-1.608**	-1.686***	-1.912***	-1.751**	-1.861***	-2.062***
	(-2.430)	(-2.735)	(-2.770)	(-2.433)	(-2.810)	(-2.718)
acq_dealexperience	-.038	-.039	-.037	-.033	-.034	-.033
	(-.907)	(-1.076)	(-.987)	(-.871)	(-1.034)	(-.991)
acq_rd_intensity	-.532***	-.422***	-.365	-.375***	-.248**	-.223
	(-7.378)	(-4.094)	(-1.155)	(-3.772)	(-2.016)	(-.620)
tar_age	-.00001	-.0001	.0002	.00004	-.00004	.0002
	(-.008)	(-.072)	(.343)	(.046)	(-.056)	(.350)
tar_assets_lastyear_ln	.027	.035	-.015	.019	.026	-.023
	(.676)	(.894)	(-.476)	(.544)	(.759)	(-.754)
tar_roa_lastyear	-.488*	-.397	-.245	-.433*	-.351	-.225
	(-1.907)	(-1.594)	(-1.016)	(-1.685)	(-1.371)	(-.856)
tar_mbratio	-.007***	-.006***	-.006***	-.006***	-.004***	-.005***
	(-5.446)	(-4.164)	(-3.431)	(-4.872)	(-3.431)	(-3.268)

Observations	226	226	226	226	226	226
Adj R^2	.070	.080	.066	.077	.090	.069
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on acquisition premiums. The dependent variable for all Models is the acquisition premium paid in relation to the target's market value, which is measured 1 day, 1 week and 1-month prior deal announcement. The main independent variable in Models 1-3 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. The main independent variables in Models 4-6 are the absolute cultural differences (in the four Competing Values Framework categories clan, adhocracy, market, hierarchy) between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

TABLE 8

T - III - 8: H3: Innovation

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd _growth	(3) acq_2yr_patent_growth	(4) acq_2yr_npd _growth
deal_culturaldistance	-.051**	-.028*		
	(-2.573)	(-1.827)		
deal_clan_culture_abs			-1.117	.218
			(-.967)	(.184)
deal_adhocracy_culture_abs			-5.036*	-.621
			(-1.959)	(-.782)
deal_market_culture_abs			-.100	-1.128
			(-.085)	(-1.526)
deal_hierarchy_culture_abs			-.232	-2.008***
			(-.192)	(-3.085)
deal_value_ln	-.057	.034	-.102	.021
	(-.508)	(.261)	(-.830)	(.157)
deal_hofstede_distance	-.109	-.679	.468	-.627
	(-.082)	(-1.267)	(.368)	(-1.330)
deal_all_cash_dummy	.099	-.253*	.045	-.258
	(.400)	(-1.666)	(.250)	(-1.590)
deal_all_stock_dummy	-.159	-.178	-.136	-.182
	(-.413)	(-.642)	(-.381)	(-.681)
deal_tenderoffer_dummy	-.081	.480***	-.048	.472***
	(-.288)	(2.812)	(-.185)	(2.623)
deal_friendly_dummy	-4.371***	.000	-3.844***	.000
	(-5.665)	(.000)	(-5.098)	(.000)
deal_relatedness_dummy	-.115	-.133	-.206	-.143
	(-.570)	(-.907)	(-1.031)	(-.930)
acq_age	.001	-.001	.002	-.001
	(.429)	(-.789)	(.864)	(-.777)
acq_assets_lastyear_ln	.182*	-.021	.231**	-.017
	(1.859)	(-.369)	(2.364)	(-.284)
acq_roa_lastyear	.319***	.010	.351***	.007
	(3.096)	(.217)	(3.437)	(.146)
acq_industrygrowth	-29.689**	8.346	-37.101***	8.285
	(-2.281)	(1.241)	(-3.068)	(1.329)
acq_dealexperience	-.251*	.055	-.304**	.078*
	(-1.929)	(1.598)	(-2.176)	(1.953)
acq_rd_intensity	.460	-1.163	.548	-1.042
	(.445)	(-1.181)	(.419)	(-1.163)
tar_age	-.001	-.003	-.003	-.002
	(-.314)	(-1.225)	(-1.139)	(-1.083)
tar_assets_lastyear_ln	.036	.006	.008	.002
	(.330)	(.067)	(.069)	(.022)
tar_roa_lastyear	-.110	.165	-.388	.153
	(-.345)	(.488)	(-1.072)	(.444)
tar_mbratio	.019***	-.010**	.027***	-.010**
	(2.733)	(-2.115)	(5.762)	(-2.174)
Observations	187	148	.185	.072
Adj R2	.176	.069	.231	.142
Industry FE	Yes	Yes	Yes	Yes

Year FE	Yes	Yes	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on innovation. The dependent variable for Models 1 and 3 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Models 2 and 4 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. The main independent variables in Model 3 and 4 are the absolute cultural differences (in the four Competing Values Framework categories clan, adhocracy, market, hierarchy) between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

APPENDIX A

T - III - 9: Glassdoor review examples associated with the four dimensions of the Competing Values Framework

Culture	Score	Sample Review Text
Adhocracy (create)	An adhocracy culture focuses on adaptability and flexibility to achieve growth and innovation within the organization.	
	0.0003	this review is for the office 365/outlook team.. * great people and management. * family friendly (great work-life balance). * great benefits. * great facilities (medical facilities, sports fields, i hear they even have a treehouse now). * free drinks cooler i've heard nightmares in certain teams, so ymmv depending on the team.. no free food.
	0.9956	fast paced, new products and technology, exciting opportunities and ability to try new and different things, support from management and colleagues constant re orgs . inconsistent messaging at times. travel. difficult/laborious to get someone promoted . too many systems and logins . holiday schedule
Clan (collaborate)	The clan culture emphasizes collaboration, teamwork, and employee development.	
	0.0003	discounts on services. decent pay. the company has changed a lot, they are only interested in pushing sales and not disclosing the proper information to the customer. providing good customer service is not a concern for them anymore. the information the call center gives customers is not the same as the stores. they are eliminating the need for full time employees. they are eliminating many jobs in the united states. sadly, you deal with a lot of angry and frustrated people. retail hours.
	0.9979	amazing work life balance, 1 on 1 sales training, friendly work environment, and opportunity to move up. the people here are very nice and the ages of everyone varies from mid twenties and up in a balanced matter. everyone here wants to succeed and that energy is passed on to all employees. The

		only thing i wish we had were nicer bathrooms, but i can deal with that! commission structure could be better as well. not the best, but modest.
Market (compete)	A market culture tries to maximize business or production performance by focusing on task completion and goal achievement.	
	0.0003	culture management good learning compensation and benefits policies flexibility cafe vaccination drive well equipped gym inhouse doctors, nurses, nutrition, gym coach and clinic nothing major i can think of. enjoyed working in the company and a great place to learn. inter-department teams work together.
	0.9970	nothing is worth the stress and aggregation they put you through. stay away if you can. salary is competitive. 401k is ok. large company so easy to stay close to home if they permit. Overworked as if they are legally breaking labor laws. horrible management too down. management pushes you to fake numbers to improve metrics. questionable patient safety practices in pharmacy. hazardous work conditions many times on the sale floor as there is not enough hours/work ratio to finish work.
Hierarchy (control)	The hierarchical culture emphasizes clear rules, explicit instructions, and strict controls.	
	0.0005	the managers are great people, and very kind. i love all of my coworkers, and i love the work. copy center is fast paced and always different. love getting to know the products and learning as i went. the company makes cuts in the wrong places. cutting part time hours to under 25 a week, to save $4 million a year. but sending the higher ups on vacations. not enough hours. obviously, no benefits.

	0.9931	great benefits for full time employees. it's corporate retail, so long periods of standing, and micro managing everything you do. but the biggest problem is stagnant wages, and when you do get a yearly raise it's in the 1-3% range. not somewhere for a career, unless you want to give up most of your personal time and become a salary slave. then your still going to get small raises, your able to compensate somewhat with the store bonus, depending on your store sales.

Note. Score represents the probability score inferred from the CultureBERT transformer model, which was manually pre-trained on 2,000 Glassdoor reviews (Koch and Pasch 2022). Higher values indicate a high affiliation to the respective Competing Values Framework (Cameron et al. 2006) culture dimension. Since the dimensions are not mutually exclusive, a firm's review can have high affiliations with multiple dimensions.

APPENDIX B

T - III - 10: Variable definitions

Variable	Definition
Independent variables	
acq_clan_culture	Probability score is determined by applying the CultureBERT transformer (Koch & Pasch, 2022) to firms' Glassdoor textual reviews. Bound between 0 and 1, with values close to 1 indicating a high clan affiliation. Firms' culture scores are first averaged by year and then averaged over all years until deal announcement. Analogously for the other three competing value framework dimensions (adhocracy, market, hierarchy). Examples for the four dimensions are provided in Appendix A
deal_clan_culture_abs	Absolute difference between the acquirer's and target's clan culture. Analogously for the other three competing value framework dimensions (adhocracy, market, hierarchy)
deal_culturaldistance	Organizational cultural index, adapted from Kogut and Singh (1988) and corrected for quadratic influences according to recommendations from Konara and Mohr (2019). It measures the distance between the acquirer's and target's four cultural Competing Values Framework dimensions. Higher values indicate a higher organizational cultural distance between the acquirer and target.
deal_culturaldistance_js	Jensen–Shannon (JS) divergence between the acquirers and targets CVF probability distributions. The measure was adapted from Corritore et al. (2020). Higher values indicate a higher cultural divergence between the acquirer and target.

deal_culturaldistance_eucl	Euclidean distance between the acquirers and targets. It is defined as $deal\_culturaldistance\_eucl_{i,j} = \sqrt{\sum_{i=1}^{k}(a_i - a_j)^2}$ and measures the distance between the four cultural dimensions of the CFV of the acquirer and target. Higher values indicate greater organizational cultural distance between the acquirer and the target.
deal_culturaldistance_maha	Mahanalobis distance measures the distance between the four cultural dimensions of the Competing Values Framework of the acquirer and the target. It was introduced to the cultural distance literature by Berry et al. (2010) and corrects for potential correlation among the CVF dimensions. Higher values indicate greater organizational cultural distance between the acquirer and the target.
deal_culturaldistance_quadr	This variable is the squared value of the *deal_culturaldistance* variable. It is used to test for nonlinear relationships in our robustness checks.
deal_high_culturaldistance	This binary indicator variable indicates whether the organizational cultural distance between acquirer and target is greater than the 0.8 percentile as measured by *deal_culturaldistance*.
Dependent variables	
acq_car5, acq_car10	Acquirer's cumulative abnormal returns based on market-adjusted returns measured over 10 (20) days around the acquisition announcement. The daily abnormal return is calculated as: $$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{M,t})$$

	where R equals the actual stock return of firm *i* on day *t* and R_m equals the market value-weighted return on day *t*. The firm's alpha and beta are estimated using the market model from -250 to -50 days before deal announcement. Next, the firm's expected return on day *t* is predicted using the estimated alpha and beta in combination with the remarket turn on day *t*, which is then subtracted from the firm's actual return. Lastly, the daily abnormal returns are aggregated over [-5, 5] and [-10, 10] days around the announcement date. Information on stock market reactions was obtained from S&P Global Inc.'s Capital IQ database
deal_car_weighted	Market value-weighted combination of the cumulative abnormal returns of the acquirer and the target [-5, 5] days around the announcement date, using relative market values as weights
deal_premium_1day, deal_premium_1week, deal_premium_1month	Difference between the acquirer's payment and the target's market value, divided by the target's market value, measured one day (one week; one month) prior to the deal announcement. Information on M&A payments was obtained from S&P Global Inc.'s Capital IQ database
acq_2yr_sales_growth, acq_4yr_sales_growth	Growth rate of sales two years after an M&A announcement compared to sales in the year before the announcement. Financial information was obtained from S&P Global Inc.'s Capital IQ database
comb_2yr_sales_growth,	Growth rate of average sales two years after an M&A announcement compared to average sales of acquirer and target in the year before the announcement. Financial information was obtained from S&P Global Inc.'s Capital IQ database.

acq_2yr_patent_growth	Growth rate of patents filed two years after an M&A announcement compared to the number of patents filed in the year before the announcement. Patent filing data were obtained from the USPTO, the Canadian Intellectual Property Office, AusPat, and the UK Patent Document and Information Service
acq_2yr_npd_growth	Growth rate of new product launches two years after an M&A announcement versus the number of product launches in the year prior to the announcement. Information on new product launches by the acquirer was obtained from S&P Global Inc.'s Capital IQ database
Deal controls	
deal_value_ln	Natural logarithm of the total value of consideration paid by the acquirer, excluding fees and reported expenses
deal_all_cash_dummy	Dummy variable that equals one if the deal was fully paid in cash
deal_all_stock_dummy	Dummy variable that equals one if the deal was fully paid in stocks
deal_tenderoffer_dummy	Dummy variable that equals one when a tender offer is launched for the target
deal_friendly_dummy	Dummy variable that equals one if the deal is marked as friendly
deal_hofstede_distance	National cultural distance between the acquirer's and target's nations, computed as the Euclidean distance of Hofstede's six cultural dimensions (Individualism, Power Distance, Uncertainty Avoidance, Femininity, Indulgence, Long-term orientation). Each distance is bound between 0 and 1
deal_age_difference	Absolute difference of *firm_age* between acquirer and target.

deal_size_difference	Absolute difference of *firm_assets_lastyear_ln* between acquirer and target.
deal_roa_difference	Absolute difference of *firm_roa_lastyear* between acquirer and target.
deal_sic_difference	Absolute difference in 4-digit SIC industry codes between acquirer and target.
Acquirer/target controls (*acq_ / tar_ prefixes*)	
firm_age	Difference between the year when the transaction was completed and the year when the firm was founded
firm_assets_lastyear_ln	Logarithm of the total assets of the firm in the last 12 months before the deal announcement
firm_roa_lastyear	Ratio of the firm’s net income to total assets, measured 12 months before the deal announcement
firm_mbratio	Ratio of firm’s market capitalization to book value of total assets at the end of the fiscal year prior to deal announcement
acq_industrygrowth	Average percentage change in revenue for the acquirer’s 2-digit SIC industry sector, divided by the revenue reported in the year prior to deal announcement
acq_dealexperience	Number of deals successfully completed by the acquirer in the last three years prior to the announcement date, including the current deal
acq_rd_intensity	Ratio of the firm's research and development (R&D) expenditures to revenues in the year of the deal announcement

ONLINE SUPPLEMENT 1

T - III - 11: H1a: Capital market reactions (CARs) - Jensen-Shannon (JS) divergence

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]
deal_culturaldistance_js	-1.526**	-.753**	-.245*
	(-2.540)	(-2.363)	(-1.913)
deal_value_ln	.140**	.079**	.034**
	(2.414)	(2.402)	(2.113)
deal_hofstede_distance	.183	.032	-.048
	(.503)	(.179)	(-.528)
deal_all_cash_dummy	.038	.033	.009
	(.422)	(.619)	(.387)
deal_all_stock_dummy	-.127	-.071	-.029
	(-1.017)	(-1.123)	(-1.128)
deal_tenderoffer_dummy	-.064	-.029	-.017
	(-.803)	(-.614)	(-.760)
deal_friendly_dummy	-.186	-.083	-.029
	(-.941)	(-.691)	(-.623)
deal_relatedness_dummy	.014	-.002	-.004
	(.175)	(-.034)	(-.210)
acq_age	.001	.001	.0003
	(1.397)	(1.434)	(1.517)
acq_assets_lastyear_ln	-.001	-.001	-.005
	(-.043)	(-.051)	(-.762)
acq_roa_lastyear	-.076	-.042	-.019
	(-1.365)	(-1.302)	(-1.339)
acq_industrygrowth	2.830**	1.684***	.751***
	(2.391)	(2.683)	(2.683)
acq_dealexperience	-.003	-.008	.005
	(-.084)	(-.326)	(.482)
acq_rd_intensity	-.577*	-.335**	-.149***
	(-1.735)	(-2.117)	(-2.764)
tar_age	-.002*	-.001*	-.001**
	(-1.903)	(-2.000)	(-2.027)
tar_assets_lastyear_ln	-.154*	-.082*	-.033
	(-1.807)	(-1.729)	(-1.446)
tar_roa_lastyear	-.385	-.250	-.110
	(-1.251)	(-1.407)	(-1.457)
tar_mbratio	-.008	-.005	-.002
	(-1.414)	(-1.265)	(-1.262)
Observations	243	243	243
Adj R2	.187	.198	.212
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Model 3 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance_js*, measured with the Jensen-Shannon (JS) divergence measure developed by Corritore et al. (2020) with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 2

T - III - 12: H1b: Long-term operating synergies - Jensen-Shannon (JS) divergence

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth
deal_culturaldistance_js	-.590*	-.040
	(-1.833)	(-.136)
deal_value_ln	.013	.011
	(.711)	(.310)
deal_hofstede_distance	.023	.137
	(.093)	(.379)
deal_all_cash_dummy	.069	-.00005
	(1.159)	(-.001)
deal_all_stock_dummy	-.106	-.150**
	(-1.632)	(-2.283)
deal_tenderoffer_dummy	-.075	-.123
	(-1.662)	(-1.562)
deal_friendly_dummy	-.965***	-.564***
	(-4.261)	(-3.516)
deal_relatedness_dummy	-.023	-.144*
	(-.368)	(-1.845)
acq_age	-.0001	-0.00000
	(-.211)	(-.015)
acq_assets_lastyear_ln	.032*	.017
	(1.694)	(.691)
acq_roa_lastyear	.094*	-.123***
	(1.825)	(-2.733)
acq_industrygrowth	-1.111***	-1.140***
	(-3.979)	(-2.864)
acq_dealexperience	-.046**	-.061***
	(-2.657)	(-2.713)
acq_rd_intensity	.164	.601**
	(.828)	(2.554)
tar_age	-.0001	-.001
	(-.202)	(-1.651)
tar_assets_lastyear_ln	-.014	.034
	(-.585)	(.803)
tar_roa_lastyear	-.044	-.048
	(-.797)	(-.751)
tar_mbratio	.002	.002
	(1.274)	(1.522)
Observations	182	131
Adj R2	.218	.148
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Model 1 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Model 2 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Models 1 and 2 *deal_culturaldistance_js*, measured with the Jensen-Shannon (JS) divergence measure developed by Corritore et al. (2020) with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the

2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 3

T - III - 13: H2: Acquisition premiums - Jensen-Shannon (JS) divergence

	(1) deal_premium _1day	(2) deal_premium _1week	(3) deal_premium _1month
deal_culturaldistance_js	.663*	.719*	.503*
	(1.805)	(1.883)	(1.983)
deal_value_ln	-.012	-.026	-.010
	(-.506)	(-1.081)	(-.479)
deal_hofstede_distance	.192	-.042	.071
	(1.187)	(-.206)	(.286)
deal_all_cash_dummy	.088*	.109*	.088
	(1.652)	(1.967)	(1.527)
deal_all_stock_dummy	-.119*	-.122*	-.109
	(-1.714)	(-1.891)	(-1.551)
deal_tenderoffer_dummy	-.059	-.090	-.084
	(-.938)	(-1.317)	(-1.212)
deal_friendly_dummy	.373***	.337**	.352***
	(2.925)	(2.358)	(2.888)
deal_relatedness_dummy	.086	.075	.120**
	(1.368)	(1.277)	(2.145)
acq_age	-.0001	-.0004	-.0003
	(-.235)	(-.746)	(-.707)
acq_assets_lastyear_ln	.017	.025	.045
	(.522)	(.802)	(1.203)
acq_roa_lastyear	.015	.030*	.030*
	(.704)	(1.821)	(1.919)
acq_industrygrowth	-1.600**	-1.691**	-1.912***
	(-2.376)	(-2.672)	(-2.770)
acq_dealexperience	-.038	-.039	-.037
	(-.901)	(-1.067)	(-.987)
acq_rd_intensity	-.542***	-.433***	-.365
	(-7.419)	(-4.041)	(-1.155)
tar_age	0.00000	-.00005	.0002
	(.005)	(-.055)	(.343)
tar_assets_lastyear_ln	.028	.037	-.015
	(.700)	(.926)	(-.476)
tar_roa_lastyear	-.500*	-.408	-.245
	(-1.947)	(-1.636)	(-1.016)
tar_mbratio	-.007***	-.006***	-.006***
	(-5.537)	(-4.236)	(-3.431)

Observations	226	226	226
Adj R^2	.069	.080	.066
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on acquisition premiums. The dependent variable for all Models is the acquisition premium paid in relation to the target's market value, which is measured 1 day and 1 week prior deal announcement. The main independent variable in Models 1 and 2 is *deal_culturaldistance_js*, measured with the Jensen-Shannon (JS) divergence measure developed by Corritore et al. (2020) with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 4

T - III - 14: H3: Innovation - Jensen-Shannon (JS) divergence

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth
deal_culturaldistance_js	-2.612**	-2.259**
	(-1.987)	(-2.453)
deal_value_ln	-.063	.092
	(-.560)	(.697)
deal_hofstede_distance	-.060	-.861*
	(-.046)	(-1.659)
deal_all_cash_dummy	.123	-.165
	(.496)	(-1.145)
deal_all_stock_dummy	-.137	.001
	(-.361)	(.005)
deal_tenderoffer_dummy	-.097	.526***
	(-.327)	(2.704)
deal_friendly_dummy	-4.207***	.000
	(-5.635)	(.000)
deal_relatedness_dummy	-.131	-.111
	(-.647)	(-.729)
acq_age	.001	-.001
	(.411)	(-.677)
acq_assets_lastyear_ln	.175*	-.058
	(1.823)	(-.890)
acq_roa_lastyear	.320***	.031
	(2.960)	(.801)
acq_industrygrowth	-29.874**	11.673*
	(-2.200)	(1.882)
acq_dealexperience	-.249*	.090***
	(-1.919)	(2.654)
acq_rd_intensity	.421	-1.446
	(.416)	(-1.542)
tar_age	-.001	-.003
	(-.269)	(-1.309)
tar_assets_lastyear_ln	.042	-.049
	(.350)	(-.539)
tar_roa_lastyear	-.095	.298
	(-.286)	(.889)
tar_mbratio	.020***	-.001
	(2.734)	(-.145)
Observations	187	152
Adj R^2	.175	.069
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on firm innovation. The dependent variable for Model 1 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Model 2 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Model 1 and 2 is *deal_culturaldistance_js*, measured with the Jensen-Shannon (JS) divergence measure developed by Corritore et al. (2020) with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 5

T - III - 15: H1a: Capital market reactions (CARs) – No toehold deals

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]
deal_culturaldistance	-.019*	-.009*	-.002
	(-1.927)	(-1.693)	(-1.009)
deal_value_ln	.165**	.094**	.042**
	(2.233)	(2.245)	(2.091)
deal_hofstede_distance	.111	-.018	-.073
	(.286)	(-.094)	(-.758)
deal_all_cash_dummy	.033	.034	.010
	(.347)	(.609)	(.459)
deal_all_stock_dummy	-.100	-.054	-.022
	(-.869)	(-.969)	(-1.003)
deal_tenderoffer_dummy	-.083	-.038	-.021
	(-.966)	(-.748)	(-.908)
deal_friendly_dummy	-.139	-.049	-.009
	(-.697)	(-.418)	(-.198)
deal_relatedness_dummy	.015	-.002	-.004
	(.161)	(-.044)	(-.181)
acq_age	.001	.0005	.0003
	(1.195)	(1.255)	(1.370)
acq_assets_lastyear_ln	-.013	-.007	-.008
	(-.396)	(-.416)	(-1.037)
acq_roa_lastyear	-.086	-.049	-.023
	(-1.368)	(-1.356)	(-1.447)
acq_industrygrowth	3.325**	2.038***	.965***
	(2.308)	(2.689)	(2.791)
acq_dealexperience	.007	-.003	.006
	(.163)	(-.133)	(.592)
acq_rd_intensity	-.703**	-.376**	-.165***
	(-1.989)	(-2.111)	(-2.768)
tar_age	-.002**	-.001**	-.001**
	(-2.048)	(-2.111)	(-2.121)
tar_assets_lastyear_ln	-.162*	-.087*	-.036
	(-1.750)	(-1.690)	(-1.473)
tar_roa_lastyear	-.382	-.246	-.107
	(-1.263)	(-1.411)	(-1.421)
tar_mbratio	-.010	-.006	-.003
	(-1.383)	(-1.273)	(-1.277)
Observations	238	238	238
Adj R2	.184	.198	.217
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Model 3 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Toehold deals, where the acquirer held shares in the target prior to the announcement of the deal, are excluded from the analysis. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 6

T - III - 16: H1b: Long-term operating synergies - No toehold deals

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth
deal_culturaldistance	-.004**	-.004
	(-2.290)	(-1.552)
deal_value_ln	-.035	-.013
	(-.992)	(-.560)
deal_hofstede_distance	-.068	-.143
	(-.294)	(-.484)
deal_all_cash_dummy	-.021	-.065**
	(-.379)	(-2.153)
deal_all_stock_dummy	.011	-.032
	(.093)	(-.474)
deal_tenderoffer_dummy	-.044	-.014
	(-.726)	(-.320)
deal_friendly_dummy	.203**	.000
	(2.110)	(.000)
deal_relatedness_dummy	-.160***	-.060
	(-2.674)	(-1.678)
acq_age	-.001**	-.001**
	(-2.305)	(-2.419)
acq_assets_lastyear_ln	-.080***	-.057***
	(-3.311)	(-3.216)
acq_roa_lastyear	.091	.005
	(1.316)	(.167)
acq_industrygrowth	3.434	5.236***
	(1.590)	(3.759)
acq_dealexperience	.003	.007
	(.104)	(.386)
acq_rd_intensity	.440**	.106
	(2.306)	(.415)
tar_age	-.0002	-.0002
	(-.221)	(-.241)
tar_assets_lastyear_ln	.103***	.049*
	(2.881)	(1.951)
tar_roa_lastyear	-.005	-.018
	(-.101)	(-.477)
tar_mbratio	.003	-.0003
	(1.022)	(-.221)
Observations	179	129
Adj R2	.414	.322
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Model 1 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Model 2 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Toehold deals, where the acquirer held shares in the target prior to the announcement of the deal, are excluded from the analysis. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models.

We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 7

T - III - 17: H2: Acquisition premiums - No toehold deals

	(1) deal_premium _1day	(2) deal_premium _1week	(3) deal_premium _1month
deal_culturaldistance	.011**	.011*	.503*
	(1.981)	(1.814)	(1.983)
deal_value_ln	-.006	-.022	-.010
	(-.260)	(-.848)	(-.479)
deal_hofstede_distance	.278*	.029	.071
	(1.657)	(.144)	(.286)
deal_all_cash_dummy	.088*	.111**	.088
	(1.700)	(2.017)	(1.527)
deal_all_stock_dummy	-.092	-.096	-.109
	(-1.284)	(-1.407)	(-1.551)
deal_tenderoffer_dummy	-.072	-.098	-.084
	(-1.150)	(-1.444)	(-1.212)
deal_friendly_dummy	.384***	.342**	.352***
	(2.944)	(2.350)	(2.888)
deal_relatedness_dummy	.049	.039	.120**
	(.866)	(.735)	(2.145)
acq_age	-.0001	-.0003	-.0003
	(-.098)	(-.585)	(-.707)
acq_assets_lastyear_ln	.016	.024	.045
	(.463)	(.767)	(1.203)
acq_roa_lastyear	.018	.032*	.030*
	(.789)	(1.768)	(1.919)
acq_industrygrowth	-6.211**	-5.650**	-1.912***
	(-2.324)	(-2.332)	(-2.770)
acq_dealexperience	-.040	-.042	-.037
	(-.981)	(-1.200)	(-.987)
acq_rd_intensity	-.716***	-.568***	-.365
	(-4.271)	(-3.439)	(-1.155)
tar_age	-.0002	-.0002	.0002
	(-.229)	(-.265)	(.343)
tar_assets_lastyear_ln	.018	.027	-.015
	(.456)	(.694)	(-.476)
tar_roa_lastyear	-.530*	-.442	-.245
	(-1.953)	(-1.622)	(-1.016)
tar_mbratio	-.005***	-.004**	-.006***
	(-3.342)	(-2.606)	(-3.431)
Observations	221	221	226
Adj R2	.099	.094	.066
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on acquisition premiums. The dependent variable for all Models is the acquisition premium paid in relation to the target's market value, which is measured 1 day and 1 week prior deal announcement. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Toehold deals, where the acquirer held shares in the target prior to the announcement of the deal, are excluded from the analysis. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 8

T - III - 18: H3: Innovation – No Toehold Deals

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth
deal_culturaldistance	-0.051**	-0.027*
	(-2.514)	(-1.798)
deal_value_ln	-0.061	0.108
	(-0.545)	(0.806)
deal_hofstede_distance	-0.059	-0.505
	(-0.044)	(-0.478)
deal_all_cash_dummy	0.090	0.078
	(0.371)	(0.363)
deal_all_stock_dummy	-0.163	0.008
	(-0.416)	(0.032)
deal_tenderoffer_dummy	-0.102	0.330
	(-0.373)	(1.549)
deal_friendly_dummy	-4.387***	.000
	(-5.684)	(0.000)
deal_relatedness_dummy	-0.114	-0.192
	(-0.556)	(-1.443)
acq_age	0.001	-0.001
	(0.464)	(-0.486)
acq_assets_lastyear_ln	0.178*	-0.072
	(1.777)	(-0.891)
acq_roa_lastyear	0.328***	-0.012
	(3.203)	(-0.256)
acq_industrygrowth	-30.860**	5.247
	(-2.394)	(0.915)
acq_dealexperience	-0.243*	0.067*
	(-1.858)	(1.696)
acq_rd_intensity	0.265	-0.949
	(0.265)	(-0.977)
tar_age	-0.001	-0.003
	(-0.316)	(-1.171)
tar_assets_lastyear_ln	0.040	-0.076
	(0.372)	(-0.953)
tar_roa_lastyear	-0.116	0.316
	(-0.374)	(1.229)
tar_mbratio	0.019***	0.005
	(2.803)	(0.478)
Observations	183	150
Adj R2	0.176	0.069
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on innovation. The dependent variable for Model 1 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Model 2 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Toehold deals, where the acquirer held shares in the target prior to the announcement of the deal, are excluded from the analysis. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 9

T - III - 19: H1a: Capital market reactions (CARs) - No international deals

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]
deal_culturaldistance	-.026**	-.013*	-.005*
	(-2.092)	(-1.905)	(-1.807)
deal_value_ln	.186**	.109**	.049**
	(2.197)	(2.331)	(2.142)
deal_hofstede_distance	.000	.000	.000
	(.000)	(.000)	(.000)
deal_all_cash_dummy	.012	.021	-.003
	(.119)	(.373)	(-.107)
deal_all_stock_dummy	-.158	-.089	-.042
	(-1.157)	(-1.279)	(-1.420)
	-.040	-.031	-.024
deal_tenderoffer_dummy			
	(-.449)	(-.608)	(-.990)
deal_friendly_dummy	-.218	-.095	-.048
	(-1.123)	(-.814)	(-1.152)
	.013	.001	-.002
deal_relatedness_dummy			
	(.155)	(.021)	(-.099)
acq_age	.001	.0004	.0002
	(1.131)	(1.058)	(.955)
acq_assets_lastyear_ln	-.002	-.003	-.004
	(-.075)	(-.228)	(-.851)
acq_roa_lastyear	-.094	-.053	-.021
	(-1.604)	(-1.588)	(-1.549)
acq_industrygrowth	3.504**	1.958**	.763**
	(2.395)	(2.470)	(2.354)
acq_dealexperience	-.002	-.008	.004
	(-.054)	(-.398)	(.561)
acq_rd_intensity	-.779**	-.462***	-.194***
	(-2.370)	(-2.959)	(-3.651)
tar_age	-.002***	-.001**	-.0005**
	(-2.841)	(-2.593)	(-2.054)
tar_assets_lastyear_ln	-.207*	-.115*	-.054*
	(-1.729)	(-1.732)	(-1.776)
tar_roa_lastyear	-.416	-.274*	-.133**
	(-1.480)	(-1.772)	(-2.122)
tar_mbratio	-.011	-.006	-.003
	(-1.365)	(-1.247)	(-1.171)
Observations	209	209	209
Adj R2	.196	.210	.255
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Model 3 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Excluded from the analysis were international deals where the acquirer and the target are located in different countries. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 10

T - III - 20: H1b: Long-term operating synergies - No international deals

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth
deal_culturaldistance	-.006*	-.005
	(-2.001)	(-1.267)
deal_value_ln	-.051	-.016
	(-1.399)	(-.656)
deal_hofstede_distance	.000	.000
	(.000)	(.000)
deal_all_cash_dummy	-.162**	-.105***
	(-2.517)	(-3.302)
deal_all_stock_dummy	-.019	.018
	(-.160)	(.244)
deal_tenderoffer_dummy	-.017	-.011
	(-.316)	(-.218)
deal_friendly_dummy	.067	.000
	(.539)	(.000)
deal_relatedness_dummy	-.171**	-.112**
	(-2.396)	(-2.429)
acq_age	-.001**	-.001**
	(-2.310)	(-2.077)
acq_assets_lastyear_ln	-.061**	-.038**
	(-2.404)	(-2.135)
acq_roa_lastyear	.108	-.001
	(1.537)	(-.027)
acq_industrygrowth	.813*	.446*
	(1.848)	(1.733)
acq_dealexperience	-.004	-.007
	(-.166)	(-.378)
acq_rd_intensity	.172	.111
	(.533)	(.410)
tar_age	-.0001	.0003
	(-.103)	(.536)
tar_assets_lastyear_ln	.088**	.036
	(2.447)	(1.303)
tar_roa_lastyear	-.118**	-.081*
	(-2.127)	(-1.876)
tar_mbratio	.005	.002*
	(1.527)	(2.009)
Observations	162	118
Adj R2	.419	.291
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Model 1 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Model 2 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Excluded from the analysis were international deals where the acquirer and the target are located in different countries. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 11

T - III - 21: H2: Acquisition premiums - No international deals

	(1) deal_premium _1day	(2) deal_premium _1week	(3) deal_premium _1month
deal_culturaldistance	.017***	.017***	.503*
	(3.123)	(2.951)	(1.983)
deal_value_ln	-.008	-.022	-.010
	(-.292)	(-.662)	(-.479)
deal_hofstede_distance	.000	.000	.071
	(.000)	(.000)	(.286)
deal_all_cash_dummy	.092	.107	.088
	(1.049)	(1.193)	(1.527)
deal_all_stock_dummy	-.138	-.133	-.109
	(-1.565)	(-1.554)	(-1.551)
deal_tenderoffer_dummy	-.083	-.103	-.084
	(-1.063)	(-1.269)	(-1.212)
deal_friendly_dummy	.463***	.403**	.352***
	(3.175)	(2.463)	(2.888)
deal_relatedness_dummy	.040	.052	.120**
	(.556)	(.772)	(2.145)
acq_age	0.00000	-.0002	-.0003
	(.0003)	(-.334)	(-.707)
acq_assets_lastyear_ln	.004	.017	.045
	(.093)	(.414)	(1.203)
acq_roa_lastyear	.001	.018	.030*
	(.037)	(1.033)	(1.919)
acq_industrygrowth	-1.916***	-1.927***	-1.912***
	(-3.195)	(-3.196)	(-2.770)
acq_dealexperience	-.039	-.045	-.037
	(-.674)	(-.873)	(-.987)
acq_rd_intensity	-.567***	-.456***	-.365
	(-4.666)	(-3.203)	(-1.155)
tar_age	-.0004	-.0003	.0002
	(-.431)	(-.342)	(.343)
tar_assets_lastyear_ln	.042	.047	-.015
	(.898)	(1.030)	(-.476)
tar_roa_lastyear	-.524**	-.385*	-.245
	(-2.453)	(-1.745)	(-1.016)
tar_mbratio	-.006***	-.004***	-.006***
	(-5.159)	(-3.419)	(-3.431)
Observations	194	194	226
Adj R2	.080	.085	.066
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on acquisition premiums. The dependent variable for all Models is the acquisition premium paid in relation to the target's market value, which is measured 1 day and 1 week prior deal announcement. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Excluded from the analysis were international deals where the acquirer and the target are located in different countries. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 12

T - III - 22: H3: Innovation - No international deals

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth
deal_culturaldistance	-.052**	-.028*
	(-2.012)	(-1.919)
deal_value_ln	-.038	.018
	(-.341)	(.115)
deal_hofstede_distance	.354	-.246
	(1.072)	(-1.300)
deal_all_cash_dummy	-.320	-.081
	(-.762)	(-.315)
deal_all_stock_dummy	-.445	.423**
	(-1.621)	(2.187)
deal_tenderoffer_dummy	-3.674***	.000
	(-6.102)	(.000)
deal_friendly_dummy	-.168	-.083
	(-.773)	(-.479)
deal_relatedness_dummy	.000	.000
	(-.018)	(.144)
acq_age	.204*	-.035
	(1.703)	(-.532)
acq_assets_lastyear_ln	.330***	.012
	(4.470)	(.210)
acq_roa_lastyear	-26.875**	11.130
	(-2.253)	(1.335)
acq_industrygrowth	-.300**	.069
	(-2.123)	(1.609)
acq_dealexperience	1.558	-1.095
	(1.632)	(-1.031)
acq_rd_intensity	-.001	-.002
	(-.447)	(-1.245)
tar_age	.052	.007
	(.406)	(.062)
tar_assets_lastyear_ln	-.021	.094
	(-.070)	(.326)
tar_roa_lastyear	.014**	-.009
	(2.009)	(-1.619)
tar_mbratio	-.052**	-.028*
	(-2.012)	(-1.919)
Observations	164	131
Adj R2	.194	.064
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on innovation. The dependent variable for Model 1 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Model 2 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B Excluded from the analysis were international deals where the acquirer and the target are located in different countries. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 13

T - III - 23: H1a: Capital market reactions (CARs) – Nonlinear relationship

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]
deal_culturaldistance	-.023	-.011	-.002
	(-1.311)	(-1.019)	(-.510)
deal_culturaldistance_quadr	.0001	.00001	-.00005
	(.098)	(.029)	(-.206)
deal_value_ln	.144**	.081**	.035**
	(2.320)	(2.293)	(2.017)
deal_hofstede_distance	.147	.013	-.057
	(.378)	(.068)	(-.586)
deal_all_cash_dummy	.029	.028	.007
	(.315)	(.523)	(.293)
deal_all_stock_dummy	-.128	-.071	-.029
	(-1.036)	(-1.140)	(-1.133)
deal_tenderoffer_dummy	-.071	-.033	-.018
	(-.869)	(-.674)	(-.798)
deal_friendly_dummy	-.177	-.076	-.023
	(-.878)	(-.626)	(-.492)
deal_relatedness_dummy	.025	.004	-.002
	(.306)	(.080)	(-.113)
acq_age	.001	.001	.0003
	(1.301)	(1.365)	(1.457)
acq_assets_lastyear_ln	-.004	-.002	-.006
	(-.143)	(-.148)	(-.801)
acq_roa_lastyear	-.078	-.043	-.020
	(-1.344)	(-1.283)	(-1.335)
acq_industrygrowth	2.867**	1.701**	.762**
	(2.258)	(2.522)	(2.557)
acq_dealexperience	.004	-.004	.006
	(.087)	(-.165)	(.586)
acq_rd_intensity	-.605*	-.349**	-.156***
	(-1.918)	(-2.352)	(-3.098)
tar_age	-.002**	-.001**	-.001**
	(-1.993)	(-2.058)	(-2.065)
tar_assets_lastyear_ln	-.149*	-.080	-.032
	(-1.743)	(-1.665)	(-1.394)
tar_roa_lastyear	-.374	-.244	-.108
	(-1.204)	(-1.361)	(-1.408)
tar_mbratio	-.009	-.005	-.002
	(-1.334)	(-1.213)	(-1.207)
Observations	243	243	243
Adj R2	.174	.186	.202
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Model 3 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. We also included the quadratic term *deal_culturaldistance_quadr* to test for non-linear relationships. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 14

T - III - 24: H1b: Long-term operating synergies - Nonlinear relationship

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth
deal_culturaldistance	-.022*	-.018*
	(-1.688)	(-1.865)
deal_culturaldistance_quadr	6.179	4.461
	(1.359)	(1.335)
deal_value_ln	-.035	-.015
	(-.978)	(-.633)
deal_hofstede_distance	-.038	-.143
	(-.174)	(-.631)
deal_all_cash_dummy	-.015	-.065*
	(-.297)	(-1.976)
deal_all_stock_dummy	.007	-.012
	(.056)	(-.151)
deal_tenderoffer_dummy	-.041	.002
	(-.734)	(.054)
deal_friendly_dummy	.161*	.000
	(1.686)	(.000)
deal_relatedness_dummy	-.172***	-.092**
	(-2.899)	(-2.204)
acq_age	-.001**	-.001*
	(-2.388)	(-1.750)
acq_assets_lastyear_ln	-.080***	-.053***
	(-3.490)	(-3.004)
acq_roa_lastyear	.088	.002
	(1.239)	(.048)
acq_industrygrowth	.240	.304
	(.338)	(.610)
acq_dealexperience	-.0003	-.002
	(-.014)	(-.131)
acq_rd_intensity	.437**	.068
	(2.001)	(.236)
tar_age	-.0002	-.0002
	(-.326)	(-.266)
tar_assets_lastyear_ln	.100***	.049*
	(2.749)	(1.737)
tar_roa_lastyear	-.016	-.047
	(-.274)	(-1.311)
tar_mbratio	.005*	.003**
	(1.868)	(2.188)
Observations	182	131
Adj R2	.409	.239
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Model 1 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Model 2 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. We also included the quadratic term *deal_culturaldistance_quadr* to test for non-linear relationships. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 15

T - III - 25: H2: Acquisition premiums - Nonlinear relationship

	(1) deal_premium_1day	(2) deal_premium_1week	(3) deal_premium_1month
deal_culturaldistance	-.002 (-.092)	.005 (.236)	.503* (1.983)
deal_culturaldistance_quadr	.001 (.753)	.0004 (.390)	
deal_value_ln	-.009 (-.382)	-.024 (-.955)	-.010 (-.479)
deal_hofstede_distance	.259 (1.452)	.002 (.009)	.071 (.286)
deal_all_cash_dummy	.105** (2.063)	.121** (2.336)	.088 (1.527)
deal_all_stock_dummy	-.109 (-1.586)	-.114* (-1.772)	-.109 (-1.551)
deal_tenderoffer_dummy	-.065 (-.943)	-.091 (-1.265)	-.084 (-1.212)
deal_friendly_dummy	.386*** (3.044)	.349** (2.367)	.352*** (2.888)
deal_relatedness_dummy	.076 (1.198)	.068 (1.114)	.120** (2.145)
acq_age	-.0001 (-.114)	-.0003 (-.628)	-.0003 (-.707)
acq_assets_lastyear_ln	.019 (.573)	.026 (.843)	.045 (1.203)
acq_roa_lastyear	.013 (.661)	.028* (1.753)	.030* (1.919)
acq_industrygrowth	-2.268*** (-3.574)	-2.099*** (-3.346)	-1.912*** (-2.770)
acq_dealexperience	-.043 (-1.000)	-.043 (-1.177)	-.037 (-.987)
acq_rd_intensity	-.457*** (-4.575)	-.374*** (-2.947)	-.365 (-1.155)
tar_age	.0001 (.113)	.00001 (.015)	.0002 (.343)
tar_assets_lastyear_ln	.021 (.471)	.031 (.709)	-.015 (-.476)
tar_roa_lastyear	-.435 (-1.516)	-.366 (-1.277)	-.245 (-1.016)
tar_mbratio	-.006*** (-4.382)	-.005*** (-3.529)	-.006*** (-3.431)

Observations	226	226	226
Adj R2	.078	.078	.066
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on acquisition premiums. The dependent variable for all Models is the acquisition premium paid in relation to the target's market value, which is measured 1 day and 1 week prior deal announcement. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. We also included the quadratic term *deal_culturaldistance_quadr* to test for non-linear relationships. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 16

T - III - 26: H3: Innovation - Nonlinear relationship

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth
deal_culturaldistance	-.030	.039
	(-.510)	(.590)
deal_culturaldistance_quadr	.000	-.003
	(.067)	(-.672)
deal_value_ln	.042	.016
	(.365)	(.076)
deal_hofstede_distance	-.035	-2.615**
	(-.025)	(-2.094)
deal_all_cash_dummy	-.063	-.110
	(-.212)	(-.291)
deal_all_stock_dummy	-.204	-.232
	(-.563)	(-.629)
deal_tenderoffer_dummy	-.029	.315
	(-.098)	(1.016)
deal_friendly_dummy	-3.093***	.000
	(-4.150)	(.000)
deal_relatedness_dummy	.183	.155
	(.937)	(.807)
acq_age	.003	-.003*
	(1.151)	(-1.842)
acq_assets_lastyear_ln	.117	-.108
	(1.106)	(-.973)
acq_roa_lastyear	.216**	-.121*
	(2.209)	(-1.675)
acq_industrygrowth	-2.685	19.774**
	(-1.590)	(2.007)
acq_dealexperience	-.215**	-.103
	(-2.137)	(-.526)
acq_rd_intensity	.531	.751
	(.504)	(.406)
tar_age	.000	-.005
	(.012)	(-1.320)
tar_assets_lastyear_ln	-.066	-.063
	(-.594)	(-.406)
tar_roa_lastyear	-.094	.948***
	(-.288)	(2.754)
tar_mbratio	.015**	.025
	(2.214)	(1.616)
Observations	207	151
Adj R2	0.136	0.099
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on innovation. The dependent variable for Model 1 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Model 2 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. We also included the quadratic term *deal_culturaldistance_quadr* to test for non-linear relationships. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 17

T - III - 27: H1a: Capital market reactions (CARs) – Acquisition premium

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]
deal_culturaldistance	-.033*	-.022**	-.012***
	(-1.956)	(-2.125)	(-2.713)
deal_premium_1week	-.036	-.026	-.030
	(-.366)	(-.545)	(-1.254)
deal_value_ln	.071*	.041*	.016*
	(1.829)	(1.827)	(1.787)
deal_hofstede_distance	.197	.056	-.025
	(.691)	(.383)	(-.314)
deal_all_cash_dummy	.078	.054	.019
	(.982)	(1.192)	(.929)
deal_all_stock_dummy	.070	.043	.019
	(.648)	(.751)	(1.043)
	.058	.042	.011
deal_tenderoffer_dummy			
	(1.202)	(1.554)	(.905)
deal_friendly_dummy	-.186	-.070	-.019
	(-.694)	(-.448)	(-.345)
	.081	.031	.012
deal_relatedness_dummy			
	(.998)	(.692)	(.643)
acq_age	.0004	.0003	.0001
	(.434)	(.569)	(.741)
acq_assets_lastyear_ln	.059***	.033***	.011***
	(2.814)	(2.835)	(2.883)
acq_roa_lastyear	-.018	-.011	-.004
	(-.765)	(-.732)	(-.516)
acq_industrygrowth	1.978	1.025	.332
	(1.626)	(1.592)	(1.124)
acq_dealexperience	-.040*	-.029**	-.006
	(-1.784)	(-2.058)	(-1.088)
acq_rd_intensity	.102	.043	-.018
	(.466)	(.406)	(-.378)
tar_age	.0001	-.0001	-.0001
	(.082)	(-.281)	(-.329)
tar_assets_lastyear_ln	-.107***	-.056**	-.020*
	(-3.101)	(-2.613)	(-2.002)
tar_roa_lastyear	.944***	.503***	.180**
	(3.650)	(3.754)	(2.376)
tar_mbratio	-.006***	-.003**	-.001**
	(-2.879)	(-2.567)	(-2.497)
Observations	226	226	226
Adj R2	.109	.119	.124
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Model 3 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 18

T - III - 28: H1b: Long-term operating synergies – Acquisition premium

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth
deal_culturaldistance	-.010**	-.008***
	(-2.086)	(-4.137)
deal_premium_1week	.160**	.066
	(2.546)	(1.129)
deal_value_ln	-.029	.004
	(-.811)	(.144)
deal_hofstede_distance	-.201	-.140
	(-.856)	(-.565)
deal_all_cash_dummy	-.031	-.104***
	(-.537)	(-3.539)
deal_all_stock_dummy	.016	.001
	(.109)	(.013)
deal_tenderoffer_dummy	-.049	-.006
	(-.809)	(-.148)
deal_friendly_dummy	.102	.000
	(1.127)	(.000)
deal_relatedness_dummy	-.170***	-.105***
	(-2.904)	(-3.445)
acq_age	-.001**	-.001**
	(-2.087)	(-2.296)
acq_assets_lastyear_ln	-.085***	-.057***
	(-3.445)	(-3.231)
acq_roa_lastyear	.091	.007
	(1.171)	(.207)
acq_industrygrowth	1.031**	.688**
	(2.030)	(2.407)
acq_dealexperience	.005	.002
	(.184)	(.101)
acq_rd_intensity	.396	-.179
	(1.377)	(-.697)
tar_age	-.001	-.0004
	(-.740)	(-.447)
tar_assets_lastyear_ln	.098**	.039
	(2.369)	(1.371)
tar_roa_lastyear	-.073	-.527***
	(-.177)	(-3.888)
tar_mbratio	.004**	.003***
	(2.147)	(2.865)
Observations	170	122
Adj R2	.418	.289
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Model 1 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Model 2 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Model 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 19

T - III - 29: H3: Innovation – Acquisition premium

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth
deal_culturaldistance	-.047***	-.052**
	(-2.674)	(-2.078)
deal_premium_1week	-.209	.062
	(-.800)	(.109)
deal_value_ln	-.074	.048
	(-.731)	(.217)
deal_hofstede_distance	-.456	-3.063**
	(-.366)	(-2.210)
deal_all_cash_dummy	.017	-.273
	(.067)	(-.982)
deal_all_stock_dummy	-.329	-.157
	(-.884)	(-.412)
deal_tenderoffer_dummy	-.133	.685***
	(-.570)	(3.251)
deal_friendly_dummy	-4.601***	.000
	(-4.891)	(.000)
deal_relatedness_dummy	-.131	.321*
	(-.697)	(1.709)
acq_age	-.001	-.001
	(-.337)	(-.344)
acq_assets_lastyear_ln	.136	-.140
	(1.231)	(-1.000)
acq_roa_lastyear	.347***	-.116
	(3.249)	(-1.505)
acq_industrygrowth	-29.657**	26.455**
	(-2.091)	(2.392)
acq_dealexperience	-.258*	-.119
	-.047***	-.052**
acq_rd_intensity	-1.269	.987
	(-.851)	(.556)
tar_age	-.002	-.004
	(-.576)	(-1.374)
tar_assets_lastyear_ln	.127	-.028
	(.944)	(-.171)
tar_roa_lastyear	-2.239	.413
	(-1.571)	(.352)
tar_mbratio	.022**	.019
	(2.449)	(1.461)
Observations	175	146
Adj R2	.179	.101
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on innovation. The dependent variable for Model 1 is the acquirer's patent growth two years after deal completion compared to one year prior the deal. The dependent variable for Model 2 is the acquirer's new product development growth two years after deal completion compared to one year prior the deal. The main independent variable in Models 1 and 2 is *deal_culturaldistance*, with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 20

T - III - 30: H1a: Capital market reactions (CARs) - Alternative distance measures

	(1) acq_car [-10,10]	(2) acq_car [-5,5]	(3) deal_car_weighted [-5,5]	(4) acq_car [-10,10]	(5) acq_car [-5,5]	(6) deal_car_weighted [-5,5]
deal_culturaldistance_eucl	-.900**	-.436**	-.138*			
	(-2.278)	(-2.081)	(-1.718)			
deal_culturaldistance_maha				-.361**	-.186**	-.068**
				(-2.385)	(-2.367)	(-2.055)
deal_value_ln	.139**	.079**	.034**	.152***	.085***	.036**
	(2.425)	(2.406)	(2.116)	(2.810)	(2.769)	(2.333)
deal_hofstede_distance	.221	.051	-.042	.290	.085	-.030
	(.619)	(.293)	(-.467)	(.802)	(.489)	(-.338)
deal_all_cash_dummy	.030	.029	.007	-.010	.009	.0003
	(.336)	(.548)	(.326)	(-.107)	(.156)	(.011)
deal_all_stock_dummy	-.121	-.068	-.028	-.064	-.039	-.018
	(-.991)	(-1.098)	(-1.114)	(-.536)	(-.621)	(-.711)
deal_tenderoffer_dummy	-.071	-.033	-.018	-.077	-.035	-.018
	(-.866)	(-.672)	(-.798)	(-.895)	(-.690)	(-.762)
deal_friendly_dummy	-.186	-.081	-.028	-.190	-.089	-.035
	(-.926)	(-.672)	(-.597)	(-1.090)	(-.835)	(-.840)
deal_relatedness_dummy	.020	.001	-.003	.035	.009	-.001
	(.240)	(.023)	(-.167)	(.474)	(.210)	(-.031)
acq_age	.001	.001	.0003	.001	.0005	.0003
	(1.371)	(1.421)	(1.507)	(1.121)	(1.239)	(1.385)
acq_assets_lastyear_ln	-.001	-.001	-.005	-.004	-.002	-.005
	(-.031)	(-.044)	(-.748)	(-.144)	(-.143)	(-.785)
acq_roa_lastyear	-.078	-.043	-.020	-.080	-.044	-.019
	(-1.366)	(-1.307)	(-1.343)	(-1.397)	(-1.331)	(-1.351)
acq_industrygrowth	2.717**	1.623**	.729**	2.657**	1.609***	.738**
	(2.330)	(2.632)	(2.644)	(2.399)	(2.754)	(2.661)
acq_dealexperience	-.0003	-.006	.005	.007	-.003	.006
	(-.008)	(-.252)	(.524)	(.155)	(-.103)	(.593)
acq_rd_intensity	-.580*	-.336**	-.149***	-.473	-.282**	-.130***
	(-1.783)	(-2.188)	(-2.875)	(-1.536)	(-2.022)	(-2.796)
tar_age	-.002*	-.001**	-.001**	-.002*	-.001*	-.001*
	(-1.912)	(-2.012)	(-2.036)	(-1.760)	(-1.918)	(-1.988)
tar_assets_lastyear_ln	-.148*	-.079*	-.031	-.164**	-.088*	-.035
	(-1.786)	(-1.708)	(-1.436)	(-2.093)	(-1.997)	(-1.627)
tar_roa_lastyear	-.377	-.245	-.108	-.398	-.258	-.115
	(-1.216)	(-1.376)	(-1.425)	(-1.329)	(-1.490)	(-1.582)
tar_mbratio	-.008	-.005	-.002	-.009	-.005	-.002
	(-1.376)	(-1.237)	(-1.239)	(-1.572)	(-1.406)	(-1.373)
Observations	243	243	243	243	243	243
Adj R2	.179	.191	.207	.176	.191	.210

Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The dependent variable for Models 1, 2, 4, and 5 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The dependent variable for Models 3 and 6 is the market value-weighted cumulative abnormal return of the acquirer and target. The main independent variable in Models 1-3 is *deal_culturaldistance_eucl*, measured as the Euclidian distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. The main independent variable in Models 4-6 is *deal_culturaldistance_maha*, measured as the Mahalanobis distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 21

T - III - 31: H1b: Long-term operating synergies - Alternative distance measures

	(1) acq_sales_2yr_growth	(2) acq_sales_4yr_growth	(3) acq_sales_2yr_growth	(4) acq_sales_4yr_growth
deal_culturaldistance_eucl	-.321*	-.349***		
	(-1.892)	(-2.972		
deal_culturaldistance_maha			-.102	-.118
			(-1.003)	(-1.551)
deal_value_ln	-.037	-.017	-.031	-.009
	(-1.052)	(-.716)	(-.852)	(-.415)
deal_hofstede_distance	-.065	-.152	-.049	-.109
	(-.305)	(-.657)	(-.232)	(-.481)
deal_all_cash_dummy	-.019	-.069**	-.031	-.067*
	(-.360)	(-2.042)	(-.563)	(-2.006)
deal_all_stock_dummy	.009	-.010	.025	.020
	(.071)	(-.131)	(.209)	(.285)
deal_tenderoffer_dummy	-.037	.007	-.042	-.007
	(-.625)	(.188)	(-.715)	(-.189)
deal_friendly_dummy	.174*	.000	.179*	.000
	(1.886)	(.000)	(1.807)	(.000)
deal_relatedness_dummy	-.168***	-.090**	-.162***	-.084**
	(-2.879)	(-2.243)	(-2.789)	(-2.246)
acq_age	-.001**	-.001*	-.001**	-.001**
	(-2.317)	(-1.756)	(-2.492)	(-2.044)
acq_assets_lastyear_ln	-.078***	-.051***	-.078***	-.052**
	(-3.355)	(-2.756)	(-3.346)	(-2.604)
acq_roa_lastyear	.091	.004	.096	.015
	(1.313)	(.109)	(1.369)	(.480)
acq_industrygrowth	.823**	.711**	.718*	.620*
	(2.025)	(2.216)	(1.652)	(1.805)
acq_dealexperience	-.001	-.002	0.00000	.001
	(-.028)	(-.122)	(.0002)	(.029)
acq_rd_intensity	.439**	.073	.473**	.038

	(2.054)	(.253)	(2.263)	(.136)
tar_age	-.0002	-.0002	-.0001	-.0002
	(-.326)	(-.284)	(-.178)	(-.202)
tar_assets_lastyear_ln	.100***	.049*	.094***	.040
	(2.853)	(1.821)	(2.601)	(1.581)
tar_roa_lastyear	-.018	-.049	-.022	-.047
	(-.341)	(-1.276)	(-.368)	(-1.285)
tar_mbratio	.005	.002*	.004	.002
	(1.563)	(1.859)	(1.482)	(1.413)
Observations	182	131	182	131
Adj R2	.411	.255	.407	.238
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Models 1 and 3 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Models 2 and 4 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Models 1-2 is *deal_culturaldistance_eucl*, measured as the Euclidian distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. The main independent variable in Models 3-4 is *deal_culturaldistance_maha*, measured as the Mahalanobis distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 22

T - III - 32: H2: Acquisition premiums - Alternative distance measures

	(1) deal_premium_1day	(2) deal_premium_1week	(3) deal_premium_1day	(4) deal_premium_1week
deal_culturaldistance_eucl	.465**	.491**		
	(2.009)	(2.012)		
deal_culturaldistance_maha			.306***	.293***
			(4.153)	(4.064)
deal_value_ln	-.012	-.025	-.023	-.037
	(-.482)	(-1.050)	(-1.001)	(-1.618)
deal_hofstede_distance	.175	-.060	.111	-.124
	(1.083)	(-.293)	(.698)	(-.606)
deal_all_cash_dummy	.090*	.111*	.122**	.142**
	(1.657)	(1.975)	(2.003)	(2.235)
deal_all_stock_dummy	-.119*	-.122*	-.150**	-.153**
	(-1.711)	(-1.900)	(-2.390)	(-2.550)
deal_tenderoffer_dummy	-.057	-.088	-.059	-.087
	(-.881)	(-1.257)	(-.899)	(-1.233)
deal_friendly_dummy	.387***	.349**	.462***	.411***
	(3.039)	(2.430)	(3.928)	(3.136)
deal_relatedness_dummy	.084	.074	.072	.061
	(1.340)	(1.249)	(1.183)	(1.101)
acq_age	-.0001	-.0004	-.00005	-.0003
	(-.259)	(-.766)	(-.089)	(-.569)
acq_assets_lastyear_ln	.017	.024	.020	.028
	(.497)	(.772)	(.581)	(.873)
acq_roa_lastyear	.015	.030*	.010	.026*
	(.715)	(1.847)	(.468)	(1.949)
acq_industrygrowth	-1.608**	-1.686***	-1.613***	-1.646***
	(-2.430)	(-2.735)	(-2.646)	(-2.858)
acq_dealexperience	-.038	-.039	-.041	-.042
	(-.907)	(-1.076)	(-1.133)	(-1.375)
acq_rd_intensity	-.532***	-.422***	-.537***	-.428***
	(-7.378)	(-4.094)	(-7.068)	(-4.502)
tar_age	-.00001	-.0001	-.00004	-.0001
	(-.008)	(-.072)	(-.041)	(-.115)
tar_assets_lastyear_ln	.027	.035	.040	.047
	(.676)	(.894)	(1.067)	(1.258)
tar_roa_lastyear	-.488*	-.397	-.306	-.229
	(-1.907)	(-1.594)	(-1.233)	(-.915)
tar_mbratio	-.007***	-.006***	-.006***	-.005***
	(-5.446)	(-4.164)	(-3.891)	(-2.966)
Observations	226	226	226	226
Adj R2	.070	.080	.096	.099
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Models 1 and 3 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Models 2 and 4 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Models 1-2 is *deal_culturaldistance_eucl*, measured as the Euclidian distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. The main independent variable in Models 3-4 is *deal_culturaldistance_maha*, measured as the Mahalanobis distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 23

T - III - 33: H3: Innovation - Alternative distance measures

	(1) acq_2yr_patent_growth	(2) acq_2yr_npd_growth	(3) acq_2yr_patent_growth	(4) acq_2yr_npd_growth
deal_culturaldistance_eucl	-2.205***	-1.242***		
	(-2.757)	(-2.782)		
deal_culturaldistance_maha			-.477*	-.449*
			(-1.822)	(-1.691)
deal_value_ln	-.067	.019	-.068	.058
	(-.594)	(.126)	(-.580)	(.403)
deal_hofstede_distance	-.009	-.715	.206	-.589
	(-.007)	(-1.332)	(.168)	(-1.036)
deal_all_cash_dummy	.111	-.204	-.097	-.341**
	(.437)	(-1.111)	(-.696)	(-2.110)
deal_all_stock_dummy	-.129	-.174	-.206	-.142
	(-.337)	(-.633)	(-.482)	(-.511)
deal_tenderoffer_dummy	-.076	.331*	-.123	.441**
	(-.270)	(1.890)	(-.601)	(2.435)
deal_friendly_dummy	-4.357***	.000	-4.018***	.000
	(-5.805)	(.000)	(-4.985)	(.000)
deal_relatedness_dummy	-.123	-.189	-.187	-.149
	(-.605)	(-1.186)	(-.984)	(-.982)
acq_age	.001	-.001	.000	-.002
	(.493)	(-.719)	(-.272)	(-1.277)
acq_assets_lastyear_ln	.187**	-.050	.188*	-.010
	(1.997)	(-.841)	(1.879)	(-.177)
acq_roa_lastyear	.327***	.028	.361***	.023
	(3.077)	(.764)	(3.723)	(.567)
acq_industrygrowth	-3.346**	11.982*	-3.919***	11.418
	(-2.305)	(1.953)	(-2.922)	(1.594)
acq_dealexperience	-.257**	.103**	-.258***	.070*
	(-2.009)	(2.433)	(-2.850)	(1.944)
acq_rd_intensity	.432	-1.490	1.136	-1.169
	(.421)	(-1.487)	(.790)	(-1.175)
tar_age	-.001	-.003	.000	-.002
	(-.235)	(-1.481)	(.160)	(-1.012)
tar_assets_lastyear_ln	.039	-.018	.022	-.038
	(.356)	(-.174)	(.213)	(-.337)

tar_roa_lastyear	-.115	.145	-.145	.137
	(-.358)	(.371)	(-.471)	(.340)
tar_mbratio	.020***	-.001	.021***	-.010*
	(2.884)	(-0.074)	(3.852)	(-1.919)
Observations	187	152	207	152
Adj R2	.176	.073	.186	.066
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Note. This table reports fixed effects negative binomial regression results predicting the effect of organizational cultural distance between acquirers and targets on long-term synergy gains. The dependent variable for Models 1 and 3 is the acquirer's growth in return on sales two years after deal completion. The dependent variable for Models 2 and 4 is the acquirer's growth in return on sales four years after deal completion. The main independent variable in Models 1-2 is *deal_culturaldistance_eucl*, measured as the Euclidian distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. The main independent variable in Models 3-4 is *deal_culturaldistance_maha*, measured as the Mahalanobis distance between the acquirer and the target organizational cultural distance, with higher values indicating higher cultural dissimilarities between the acquirer and the target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 24

T - III - 34: H1a: Capital market reactions (CARs) - Alternative time frame

	(1) acq_car [-10,10]	(2) acq_car [-5,5]
deal_culturaldistance	-.019***	-.046**
	(-3.168)	(-2.602)
deal_value_ln	.017	.041
	(.490)	(.589)
deal_hofstede_distance	.150	.359
	(.343)	(.365)
deal_all_cash_dummy	.114	.283
	(1.339)	(1.640)
deal_all_stock_dummy	-.095	-.348
	(-.812)	(-1.471)
deal_tenderoffer_dummy	-.144***	-.455***
	(-3.340)	(-3.581)
deal_friendly_dummy	-.244**	-.196
	(-2.407)	(-.898)
deal_relatedness_dummy	.040	.003
	(.489)	(.021)
acq_age	.00004	-.0005
	(.069)	(-.456)
acq_assets_lastyear_ln	-.069**	-.029
	(-2.597)	(-.587)
acq_roa_lastyear	-.114***	-.239***
	(-4.148)	(-3.242)
acq_industrygrowth	1.227**	2.292*
	(2.243)	(1.754)
acq_dealexperience	.051**	.012
	(2.133)	(.290)
acq_rd_intensity	.207	1.493***
	(.504)	(3.206)
tar_age	-.001*	-.001
	(-1.731)	(-.661)
tar_assets_lastyear_ln	-.036	-.069
	(-1.029)	(-1.385)
tar_roa_lastyear	-.023	.243
	(-.226)	(.926)
tar_mbratio	.007**	.008**
	(2.499)	(2.508)
Observations	243	243
Adj R2	.075	.060
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). Returns are measured as weekly returns. The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The main independent variable in Models 1 and 2 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 25

T - III - 35: H1a: Capital market reactions (CARs) - Alternative market portfolio (Russel 3000)

	(1) acq_car [-10,10]	(2) acq_car [-5,5]
deal_culturaldistance	-.004***	-.003**
	(-2.695)	(-2.099)
deal_value_ln	.005	-.008
	(.542)	(-.878)
deal_hofstede_distance	.019	.064
	(.187)	(.675)
deal_all_cash_dummy	.028	.003
	(1.005)	(.110)
deal_all_stock_dummy	-.048	-.018
	(-1.215)	(-.532)
deal_tenderoffer_dummy	-.047***	-.023**
	(-3.674)	(-2.569)
deal_friendly_dummy	-.030	-.092***
	(-.840)	(-3.099)
deal_relatedness_dummy	.008	-.008
	(.321)	(-.421)
acq_age	-.0002	.00003
	(-.986)	(.186)
acq_assets_lastyear_ln	-.009	-.007
	(-1.182)	(-1.293)
acq_roa_lastyear	-.037***	-.023**
	(-3.414)	(-2.104)
acq_industrygrowth	.145	.079
	(.639)	(.504)
acq_dealexperience	.002	.011**
	(.301)	(2.454)
acq_rd_intensity	.107	.057
	(1.206)	(.743)
tar_age	-.0003	-.0004
	(-.952)	(-1.399)
tar_assets_lastyear_ln	-.006	.005
	(-.743)	(.601)
tar_roa_lastyear	.007	.004
	(.211)	(.209)
tar_mbratio	.001	.002***
	(1.472)	(5.045)
Observations	243	243
Adj R2	.003	.042
Industry FE	Yes	Yes
Year FE	Yes	Yes

Note. This table reports fixed effects linear OLS regression results predicting the effect of organizational cultural distance between acquirers and targets on deal announcement cumulative abnormal returns (CARs). The market portfolio was created using the Russell 3000 Index, a broadly diversified index that seeks to represent the overall U.S. equity market. The dependent variable for Models 1 and 2 is the acquirer's cumulative abnormal return, with the day range being centered around announcement given in brackets. The main independent variable in Models 1 and 2 is *deal_culturaldistance* with higher values indicating higher cultural dissimilarities between the acquirer and target. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. We include the acquirer's industry and year fixed effects in all models. We cluster standard errors at the 2-digit SIC industry level. t-statistics are reported in parentheses below the coefficients. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

ONLINE SUPPLEMENT 26

T - III - 36: Summary statistics for actual and pseudo deals

	Actual Deals (N = 135)			Pseudo Deals (N = 1200)		
	Control (N = 97) Mean	Treatment (N = 38) Mean	Diff	Control (N = 600) Mean	Treatment (N = 600) Mean	Diff
acq_2yr_sales_growth	.254	.163	-.091			
comb_2yr_sales_growth				.259	.138	-.121
deal_age_difference	37.804	38.895	1.091	52.343	51.288	-1.055
deal_size_difference	1.812	1.959	.147	1.884	1.885	-.001
deal_hofstede_distance	.020	.020	-.00004	.263	.253	-.010
deal_roa_difference	.412	.495	.083	.590	.560	-.030
deal_sic_difference	533.959	599.079	65.120	2332.827	2251.220	-81.607

Note. This table reports summary statistics for the treatment and control groups among actual and pseudo deals. Actual deals consist of the same deals analyzed as in our main analysis. The control and treatment groups for actual deals were matched using three-to-one matching. Following Bena and Li (2014) and Bereskin et al. (2018), we also generate a control sample of pseudo acquirer-target pairs by randomly drawing a sample from all possible acquirer-target combinations of our main sample. The treatment groups consist of all deals with an organizational cultural distance above the 0.8 percentile, representing high cultural distance deals (*deal_high_culturaldistance*). The control groups consist of all deals with an organizational cultural distance below the 0.8 percentile in both the actual deals and the dummy control deals. The control and treatment groups for pseudo deals were matched using one-to-one matching. The matching criteria used to construct the control sample controlled for differences in firm age (*deal_age_difference*), size (*deal_size_difference*), performance (*deal_roa_difference*), industry (*deal_sic_difference*), and national cultural distance (*deal_hofstede_distance*), which have been shown to drive M&A deals (e.g., Andrade et al. 2001; Arikan and Stulz 2016; Bauer and Matzler 2014; Kumar 1985; Ramas-wamy 1997). A detailed variable description can be found in Appendix B.

ONLINE SUPPLEMENT 27

T - III - 37: H1b: Long-term operating synergies – Matched actual and pseudo deals

	Actual Deals		Pseudo Deals	
	(1)	(2)	(3)	(4)
	acq_2yr_sales_growth	acq_2yr_sales_growth	comb_2yr_sales_growth	comb_2yr_sales_growth
deal_high_culturaldistance	-.089**	-.100**	-.122***	-.115***
	(-2.588)	(-2.578)	(-3.006)	(-3.013)
deal_age_difference		-.0002		-.002
		(-.369)		(-1.126)
deal_size_difference		-.065***		-.00000**
		(-3.500)		(-4.276)
deal_hofstede_distance		-.435**		-.0001
		(-2.589)		(-.001)
deal_roa_difference		.158**		0.607***
		(2.421)		(3.144)
deal_sic_difference		.00002		.00001
		(1.555)		(.167)
Observations	135	135	1200	1200
Adj R2	.001	.036	.007	.056

Note. This table reports the results of linear OLS regressions predicting the effect of high organizational cultural distance (*deal_high_culturaldistance*) between acquirers and targets on long-term synergy gains. The dependent variable for the actual deals in models 1 and 2 is the acquirer's sales growth two years after the acquisition compared to the year before the acquisition. The dependent variable for the pseudo deals in models 3 and 4 is the combined sales growth of the acquirer and the target two years after the pseudo deal compared to one year before the deal. A detailed variable description can be found in Appendix B. Constant terms are estimated but not reported. *, **, *** denote statistical significance at the .10, .05, and .01 levels (using two-tailed tests).

CONCLUSION

This doctoral thesis set out to examine how firms navigate the complexities of modern competition through the dual lenses of organizational networks and organizational culture. The introduction emphasized the increasing importance of these intangible and contextual influences in shaping firm performance (Barczak, Kafel, & Magliocca, 2021; Hoskisson, Hitt, Wan, & Yiu, 1999). In an increasingly interconnected environment, the ability to effectively exploit opportunities arising from the external environment has emerged as a critical determinant of sustainable competitive advantage. Therefore, this thesis sought to provide a nuanced understanding of how these organizational factors influence firm success, both independently and in combination.

Taken together, the three studies presented in this thesis provide insight into the significant role that inter-firm networks and cultural differences play in determining firm performance. Study 1 demonstrates the complex dynamics through which board interlocks influence firm outcomes, emphasizing both their role in providing access to valuable resources and the governance challenges they pose (Mizruchi, 1996). It also highlighted the role of board power relations and the institutional environment in shaping the effects of board interlocks. Study 2 extended this understanding by examining board interlocks within strategic alliances, showing that these ties inherently represent a competitive mechanism that allows one firm to generate private benefits at the expense of the other. Study 3 shifted the focus to mergers and acquisitions, illustrating how organizational cultural distance shapes post-acquisition outcomes by affecting synergy realization and innovation potential.

Collectively, these studies confirm that successful firms are those that can effectively navigate and leverage both their external networks and internal cultural attributes. By synthesizing perspectives from resource dependence theory (Pfeffer & Salancik, 1978), agency theory (Jensen & Meckling, 1976), organizational learning (Crossan, Lane, & White, 1999), and cultural frameworks such as the competing values framework (Quinn & Rohrbaugh, 1981), this dissertation contributes to the emerging network paradigm within strategic management research, which posits that firm performance is co-created through interactions with the broader social and cultural environment (Barczak et al., 2021). Ultimately, organizational success depends on the ability to effectively integrate and leverage these intangible assets (Gulati, Nohria, & Zaheer, 2000).

Summary of theoretical contributions

Each of the studies presented in this dissertation makes important contributions and provides specific theoretical insights. Study 1 conducted a comprehensive meta-analysis to examine the multifaceted role of board interlocks in shaping firm performance. The results show that board interlocks serve a dual purpose: they provide access to valuable external resources such as information, expertise, and strategic opportunities, but they also increase agency costs when directors are overcommitted or when internal power dynamics prevent effective monitoring. This duality highlights the need for firms to carefully balance the benefits and risks associated with interlocks to determine their net effect on firm outcomes. A key theoretical contribution of this study is the identification and empirical testing of two distinct mechanisms through which board interlocks affect firm performance - resource provision and agency costs. Our results suggest that board interlocks enhance firm performance by facilitating the access to critical resources, thereby improving strategic decision-making and resource integration. Conversely, they can lead to increased agency costs, particularly when interlocked directors lack the capacity to effectively monitor management. This duality underscores the importance of understanding the trade-offs associated with board interlocks and suggests that their impact on firm performance is not universally positive or negative, but rather context-dependent.

The study also provides nuanced insights into important contingencies that moderate the effects of board interlocks. At the board level, the findings emphasize the crucial role of internal power dynamics, particularly the relationship between the CEO and the board. Our results suggest that when CEOs wield substantial power, the benefits of resource provision from board interlocks tend to diminish, while agency costs are exacerbated. In contrast, in contexts where the CEO holds less power, boards can better leverage interlocks to influence firm strategy and performance through external knowledge and expertise. This suggests that the relationship between board interlocks and firm performance is significantly shaped by internal governance structures.

At the institutional level, the study's subgroup analyses show that the effectiveness of board interlocks is not simply a function of geographic boundaries but is influenced by the broader institutional environment. In environments with strong formal institutions - characterized by robust regulations and high governance standards - board interlocks are more likely to produce positive outcomes by enhancing the board's resource provision role and mitigating agency risks. Informal institutions, such as cultural norms and societal openness, further shape the impact of board interlocks. For example, in societies with an open culture that encourages knowledge sharing, board interlocks are more effective in promoting firm success. These findings highlight that the true impact of board interlocks is shaped by the broader cultural and institutional environment in which firms operate.

The theoretical contributions of Study 1 are threefold. First, by integrating resource dependence theory (Pfeffer & Salancik, 1978) and agency theory (Jensen & Meckling, 1976), the study provides a more holistic explanation of how board interlocks affect firm performance. Resource dependence theory emphasizes how interlocks facilitate access to external resources, while agency theory highlights the risks associated with conflicting interests and weakened monitoring. This integration allows for a balanced view of board interlocks, suggesting that firms must carefully manage these relationships to maximize benefits while minimizing risks. Second, the study identifies the multilevel nature of the factors that shape the impact of board interlocks. At the board level, internal power dynamics and the CEO-board relationship are key determinants of how interlocks affect firm outcomes. At the institutional level, both formal and informal institutions significantly affect the effectiveness of board interlocks, with informal norms and cultural openness playing a critical role in shaping their influence on firm performance. Finally, the study contextualizes the effectiveness of board interlocks by demonstrating that their impact is highly dependent on the broader organizational and environmental context.

Study 2 builds on the findings of Study 1 by shifting the focus from a single-firm analysis of board interlocks to a dyadic perspective on inter-firm relationships within strategic alliances. While Study 1 examined how board interlocks affect the performance of individual firms (ego perspective), it did not address whether these interlocks facilitate cooperative gains for both alliance partners or function as a competitive mechanism that disproportionately benefits one firm. Study 2 fills this gap in the literature by examining the role of board interlocks in strategic alliances, highlighting their ability to enable resource appropriation and the generation of private benefits.

The results show that board interlocks can function as competitive mechanisms, allowing one firm to capture a disproportionate share of alliance benefits rather than fostering equitable resource sharing, knowledge transfer, and mutual learning. This competitive dynamic is particularly pronounced when one firm is more receptive to its partner's resources, as indicated by differences in board power or firm status (Shropshire, 2010). Consequently, board interlocks can create imbalances that undermine the collaborative nature of alliances and generate competitive tensions. These findings deepen our understanding of how network relationships operate within strategic alliances and underscore the need for firms to carefully manage their organizational ties to balance cooperation and competition.

Study 2 makes several theoretical contributions by conceptualizing board interlocks as one of many simultaneous network relationships in which firms are embedded. Unlike Study 1, which exclusively focused on board interlocks from a single-firm perspective, this study adopts a dyadic approach to examine how interlocks influence alliance outcomes by affecting both partners. By integrating resource dependence theory and organizational learning theory, the study examines how resource flows within alliances shape firm performance in complex interorganizational settings. In addition, Study 2 contributes to the literature on relational pluralism (Shipilov, Gulati, Kilduff, Li, & Tsai, 2014), which typically views multiple simultaneous relationships between economic actors as indicators of trust and close cooperation, often associated with positive firm outcomes. Contrary to this view, our findings suggest that not all inter-firm relationships are equally beneficial; some may function as mechanisms of coopetition, where one partner gains more than the other. Another important contribution is the examination of firms' receptiveness to external information within alliances. The results suggest that firms are not uniformly receptive to their partners' resources. Rather, they exhibit different levels of receptiveness, similar to the concept of absorptive capacity in other fields of the strategic management literature. Firms with high receptivity to external network information tend to gain more from their connections than firms with low receptivity. These differences in receptivity can influence power asymmetries, affect the distribution of value, and affect the sustainability of collaboration between partners.

Study 3 explores the complex role of organizational cultural distance in shaping M&A outcomes, providing new insights into how cultural differences between acquiring and target firms influence both short-term and long-term post-acquisition performance. The results show that organizational cultural distance negatively affects announcement day market returns and post-merger synergy realization, aligning with the cultural friction hypothesis. This hypothesis suggests that differences in organizational culture increase coordination and integration costs, thereby hindering the realization of synergistic gains and reducing overall M&A performance. Specifically, the study finds that cultural distance leads to lower post-deal performance, as evidenced by reduced long-term sales growth and profitability of the combined entity. This effect is particularly pronounced when acquiring and target firms have conflicting market-oriented cultures, which prioritize distinct strategic objectives and management practices. Such misalignment creates friction during integration, resulting in misunderstandings, strategic missteps, and inefficient resource allocation. The study also shows that organizational cultural distance has a significant impact on acquisition premiums, suggesting that acquiring firms tend to overpay for targets with vastly different cultural profiles, as cultural misalignment complicates the accurate assessment of the target's value and integration costs. This overpayment reflects a failure to consider the risks associated with cultural integration, leading to reduced long-term performance and diminished post-acquisition synergy realization. Furthermore, the study finds that cultural distance negatively influences post-M&A innovation outcomes. Acquiring firms experience lower growth in patent filings and reduced new product development when the target's culture significantly differs from their own. This detrimental effect is especially pronounced in cases where there is a misalignment between adhocracy and hierarchy cultures. While adhocracy-oriented cultures emphasize flexibility and innovation, hierarchy-oriented cultures focus on stability and control. When these two orientations clash, the integration process disrupts knowledge sharing, hinders creative collaboration, and reduces the combined entity's ability to innovate effectively.

The contributions of Study 3 are multifaceted. First, by leveraging the Competing Values Framework (Quinn & Rohrbaugh, 1981) to assess cultural distance, the study provides a robust measure of organizational culture that overcomes the methodological limitations of prior research. The use of large-scale text analysis on employee reviews offers an objective and comprehensive view of organizational culture, enabling a more nuanced understanding of how specific cultural attributes influence M&A outcomes. This approach addresses the common reliance on subjective survey data and small sample sizes, providing a more reliable and sophisticated measure of cultural distance (Rottig, 2017).

Second, the study contributes methodologically by employing advanced natural language processing (NLP) techniques to objectively measure cultural distance. By analyzing employee reviews, the study captures subtle yet critical aspects of organizational culture that are difficult to quantify through conventional surveys. This methodological innovation enhances the precision of cultural assessments and provides a scalable solution for measuring cultural attributes across large and diverse samples. This approach sets a new standard for cultural research in strategic management and paves the way for future studies to explore cultural dynamics in a more data-driven and comprehensive manner.

Finally, the study extends the discourse on cultural distance by elucidating its impact on post-M&A innovation outcomes, an area that has been relatively underexplored in the existing literature. The results show that cultural misalignment, particularly between adhocracy and hierarchy cultures, can stifle creativity and reduce innovation capabilities within the merged firm. By linking cultural distance to innovation outcomes, the study provides new insights into how cultural integration affects not only the operational and strategic aspects of M&A, but also the innovative potential and long-term growth trajectory of the combined entity. This contribution encourages future research to delve deeper into the interplay between specific cultural dimensions and innovation capabilities in post-M&A contexts.

Limitations and future research avenues

The limitations of Study 1 highlight several methodological and theoretical challenges that should be addressed in future research to provide a more nuanced understanding of the relationship between board interlocks and firm performance.

First, the meta-analysis relied exclusively on degree centrality as a measure of board interlocks, which focuses on the number of direct connections a firm has through its board members. Although degree centrality is widely used and provides a simple measure of board interlocks, it does not capture other potentially important dimensions of network centrality. Including measures such as betweenness or eigenvector centrality could have provided additional insights by taking into account the quality and strategic positioning of these connections. Betweenness centrality, for example, could reflect the extent to which a firm acts as a bridge between otherwise unrelated firms, providing access to unique resources and information. Similarly, eigenvector centrality could indicate a firm's influence within a broader network by taking into account the connectivity of the firms to which it is linked. These alternative measures could reveal different dynamics in how board connections contribute to firm performance and help distinguish between beneficial and detrimental connections. Second, the availability of complete data across industries and geographic regions was a limitation in terms of sample heterogeneity. Therefore, the results of the study may not be fully generalizable across all different institutional settings or industry contexts. Although the meta-analysis controlled for most important moderating factors, such as firm-specific characteristics and broader economic conditions, it could not account for all possible influences. Future studies could use longitudinal designs and more comprehensive datasets that capture industry- and country-specific variables to better contextualize the findings and explore the role of additional moderators. Third, the theoretical scope of the study was somewhat limited by its exclusive focus on resource dependence and agency theory. Although these theories are the most prominent perspectives in the board interlocks literature and provide valuable insights into the dual effects of board interlocks as both a resource access mechanism and a source of agency costs, they do not take into account other relevant theoretical perspectives. For example, social capital theory could provide a more relational view of board interlocks, emphasizing the role of trust, reciprocity, and shared norms within interlocking networks. Future research should integrate these additional theoretical lenses to capture the full complexity of board interlocks and their impact on firm performance. Finally, the study did not address the dynamic nature of board interlocks over time. Board interlocks are not static; their influence may change as the interorganizational network evolves. For example, shifts in network positions, changes in board composition, or the emergence of new competitors could alter the effects of interlocks on firm performance. Incorporating temporal dynamics through longitudinal analyses would provide a more complete understanding of how the role of board interlocks changes over time and how firms can strategically manage these connections to optimize performance. Addressing these limitations in future research could significantly improve the robustness and generalizability of findings on the impact of board interlocks on firm outcomes.

Study 2 has several limitations that merit attention. First, the sample selection process poses a constraint. Out of a general population of 89,241 alliances formed during the observation period, the study considers only a small subset due to limited data availability. The requirement that both alliance partners be publicly listed companies further narrows the sample, potentially introducing biases that could undermine the generalizability of the findings. Second, the measures used in this study may not fully capture the complexity of alliance performance. Relying on abnormal returns around the announcement date as a basis for measuring differential benefits may oversimplify the multifaceted nature of resource appropriation and cooperative behavior in alliances. Future research should consider incorporating more nuanced metrics that better reflect the diverse aspects of board interlocks and alliance dynamics. Third, the study's reliance on cross-sectional data limits its ability to capture the dynamic nature of board interlocks and their evolving impact on alliance performance. Changes in board composition and the progression of alliance relationships over time can significantly influence the role and effectiveness of interlocks. To address this limitation, future research should adopt longitudinal designs that track these changes, providing deeper insights into how board interlocks evolve and affect value creation and appropriation in alliances. Lastly, the study is subject to potential endogeneity issues. The relationship between board interlocks and alliance performance may be influenced by unobserved variables, such as firm strategy, prior relationships, or director motivations, which could bias the results. Addressing endogeneity through advanced statistical techniques, such as instrumental variable approaches or panel data methods, would help mitigate this issue and provide more reliable insights into causality.

Study 3, which examines the impact of organizational cultural distance on M&A outcomes, also has several notable limitations that should be considered when interpreting its results. First, the study relies on employee reviews from Glassdoor.com as its primary data source for measuring organizational culture. While these reviews offer detailed insights, their voluntary nature may introduce biases. Employees who choose to submit reviews may have particularly strong positive or negative opinions, potentially leading to skewed results and limiting the generalizability of the findings. Second, the study is confined to M&A transactions involving firms in major English-speaking economies, which restricts its applicability to other geographical contexts. The cultural and institutional environments in these regions may not reflect those of non-English-speaking countries or emerging markets, where cultural differences could have varying effects on M&A outcomes. Future research could address this limitation by expanding the geographic scope to include a more diverse set of countries and incorporating reviews from local platforms to provide a more comprehensive analysis. Third, the study assumes that capital markets react efficiently to M&A announcements, incorporating all relevant information, including cultural differences, into share prices. If, however, market participants do not fully account for these differences or misinterpret them, the observed market reactions may not accurately reflect the long-term implications of these deals. Consequently, the findings on short-term market reactions could be influenced by external factors such as market sentiment or unrelated economic events. Fourth, the study only includes completed M&A transactions, which introduces potential sample selection bias. Deals that were withdrawn due to high cultural distance or perceived integration risks are excluded from the analysis. As a result, the study may underestimate the true impact of cultural distance on M&A outcomes by focusing only on transactions that reached completion. Future research could investigate whether firms with high cultural distance are more likely to abandon announced deals, as well as explore potential self-selection issues in the relationship between cultural distance and acquisition outcomes. Finally, the study does not account for varying levels of post-merger integration, despite prior research showing that the degree of integration significantly influences the effect of cultural distance on M&A performance. Deals with high levels of integration are likely to face greater cultural friction, while those with lower levels may experience fewer cultural challenges. By not considering these differences, the study is limited in its ability to fully capture how cultural distance affects M&A success. Future research should examine the moderating role of integration levels to provide a more nuanced understanding of the cultural dynamics in M&A transactions.

Practical Implications

The findings of this doctoral thesis have several practical implications for managers and practitioners in the field of strategic management.

Study 1, which examines the effects of board interlocks on firm performance through a meta-analytic approach, provides important insights for practitioners and policymakers involved in corporate governance. The results suggest that board interlocks can enhance firm performance by providing access to external resources, but they can also increase agency costs due to potential conflicts of interest and weakened monitoring. For firms, this underscores the need for careful selection and composition of their boards. While board interlocks can be important in providing access to new resources, networks and strategic opportunities, they should be managed to prevent directors from becoming over-committed. Firms should consider limiting the number of board mandates held by individual directors to maintain effective oversight and ensure that directors do not compromise their governance role through excessive commitments. In addition, firms can use interlocks strategically to gain access to valuable external resources such as industry expertise, strategic partnerships and market intelligence - benefits that are particularly beneficial in complex environments or when entering new markets. However, the potential benefits of interlocks should outweigh any governance-related costs. Regular evaluation of interlocking directorate contributions and alignment with the company's strategic objectives can help maintain this balance.

The study also highlights the importance of monitoring CEO power and internal board dynamics. A dominant CEO may undermine the board’s ability to utilize external resources obtained through interlocks, thereby exacerbating agency costs and diminishing the board’s oversight capacity. To mitigate these risks, firms should implement governance practices that balance power within the board, such as maintaining a higher proportion of independent directors, establishing strong board committees, or separating the roles of CEO and board chair.

The study further emphasizes that the institutional environment—both formal (e.g., regulations and legal frameworks) and informal (e.g., cultural norms)—significantly influences the effects of board interlocks. In regions with strong formal institutions, the positive resource-provision effects of interlocks are enhanced, while agency costs are minimized. Conversely, in environments with weaker governance standards, firms should implement additional safeguards, such as stricter internal controls and enhanced board monitoring, to ensure that board interlocks do not undermine governance quality.

For policymakers and regulators, the study suggests that a robust regulatory framework with clear guidelines on board composition and interlocks can help mitigate the risks of director overcommitment. Policies that limit the number of board seats a director can hold may reduce negative outcomes such as weakened monitoring and increased agency costs. Additionally, enhancing transparency and reporting requirements can further strengthen the governance function of boards, particularly in contexts with limited regulatory oversight. Policymakers should consider encouraging firms to disclose detailed information on the nature and extent of board interlocks, providing greater transparency to investors and stakeholders about how these connections may influence governance and performance.

The findings also hold important implications for investors. When evaluating potential investments, investors should recognize the dual nature of board interlocks. While they can signal valuable access to resources and industry connections, they may also indicate governance risks. A thorough examination of a firm’s board composition and the potential influence of interlocks on strategic decision-making can enable investors to make more informed decisions and better assess corporate governance quality.

Overall, the practical implications of this study underscore the need for a nuanced approach to the use of board interlocks. While interlocks can provide significant strategic benefits, they must be carefully managed to avoid governance pitfalls. Companies, policymakers, and investors should consider the complex trade-offs highlighted in this study when evaluating the role of board interlocks in enhancing corporate performance and governance effectiveness.

The practical implications of Study 2, which examines the role of board interlocks in strategic alliances, are relevant to both corporate practitioners and policy makers. First, the study underscores the importance of carefully managing board interlocks within alliances to balance cooperation and competition. Since board interlocks can function as competitive mechanisms that enable resource appropriation, firms need to establish governance structures that guard against opportunistic behavior, especially in the presence of power asymmetries. This means that alliance partners should not only assess the potential benefits of resource sharing through board interlocks, but also implement controls that mitigate the risk of one firm benefiting disproportionately at the expense of the other.

One way to achieve this balance is by establishing clear contractual agreements that delineate the roles, responsibilities, and boundaries of interlocked directors. By doing so, firms can enhance transparency and reduce ambiguity in decision-making processes, thereby minimizing the chances of board interlocks being used for opportunistic purposes. Additionally, firms should invest in building relational quality and trust between alliance partners. High levels of trust can reduce the likelihood of opportunistic behavior and enable a more collaborative approach to managing the alliance, maximizing the potential for joint value creation. Therefore, firms should not solely focus on formal governance structures but also emphasize the development of strong relational ties to support cooperative behavior.

Furthermore, the study's findings suggest that firms should consider the broader institutional environment when forming alliances. In contexts where formal governance mechanisms are weak, the risks associated with board interlocks may be exacerbated, making it crucial for firms to rely more on relational governance mechanisms, such as trust and social embeddedness, to counterbalance these risks. Firms operating in countries with robust legal frameworks and regulatory standards, on the other hand, may experience fewer governance-related issues due to the external enforcement of norms and expectations. Therefore, the strategic use of board interlocks should be adapted to the specific institutional environment to ensure that the intended benefits are realized while minimizing potential drawbacks.

The practical implications of Study 3, which examines organizational culture and mergers and acquisitions, are particularly relevant to practitioners involved in M&A activities. The findings suggest several actionable strategies to enhance M&A success, mitigate cultural risks, and optimize post-deal integration.

First, the study highlights the critical role of cultural fit in determining both short- and long-term M&A outcomes. Firms should evaluate not only a target's strategic and financial fit, but also its cultural fit. This comprehensive assessment should include an in-depth analysis of the target's organizational culture to identify areas of potential synergy or conflict. For example, the study shows that differences in market culture have a particularly negative impact on M&A success, affecting both the acquisition premium and post-deal performance. As a result, acquirers should focus on ensuring that cultural differences do not impede the achievement of strategic goals and value creation during the integration phase.

Second, the findings underscore the importance of accurate target valuation. The study shows that cultural distance can hinder an acquirer's ability to accurately assess a target's true value, leading to overpayment and inflated acquisition premiums. This suggests that acquiring firms need to adopt more sophisticated valuation techniques that include organizational culture as a key consideration to avoid overestimating synergy potential and mispricing the acquisition. Incorporating qualitative data, such as employee evaluations, can provide a more nuanced understanding of the target's cultural characteristics, reduce information gaps, and facilitate a more accurate valuation.

Third, the study provides insights into the impact of cultural distance on post-deal innovation. We find that high levels of cultural distance, especially in terms of the dimensions of adhocracy and hierarchy, negatively affect the acquiring firm's long-term innovation capabilities. To mitigate these effects, acquiring firms should establish integration teams that focus on bridging cultural differences and fostering collaborative innovation efforts. These teams should include members from both firms and be empowered to create a shared cultural framework that facilitates innovation and knowledge sharing.

Forth, the study advises firms to adopt a tailored integration strategy based on the specific cultural dimensions in which the acquirer and target differ. For example, when integrating a target with a significantly different market culture, firms should emphasize alignment in strategic priorities and goal setting to reduce friction. On the other hand, when there are differences in hierarchy culture, integration efforts should focus on creating compatible structures and decision-making processes to avoid conflicts and disruptions in operations.

Finally, the study suggests that effective leadership and communication are critical to managing cultural integration in M&A. Leaders should proactively communicate the vision, goals and cultural values of the combined entity to employees at all levels to foster a shared identity and reduce uncertainty. By engaging employees from both organizations and encouraging open dialogue, leaders can build trust and facilitate cultural alignment, ultimately enhancing the success of the integration process.

Finally, the study also highlights the importance of post-merger integration monitoring. Firms should implement mechanisms to track the progress of cultural integration, identify emerging cultural conflicts, and take corrective action as needed. Regular assessments and feedback loops can help companies stay on track with their integration goals and ensure that cultural alignment is effectively achieved.

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Gießen, 28. Oktober 2024

(Marius Brede)

I. Brede, M., Kraft, P. S., & Bausch, A. (2024). Board Interlocks and Firm Performance: A Meta-Analysis. *Working Paper*

II. Brede, M., & Bausch, A. (2024). Resource Appropriation in Strategic Alliances: The Impact of Board Interlocks on Differential Benefits. *Working Paper*

III. Brede, M., Gerstel, H., Wöhrmann, A., & Bausch, A. (2024). Mind the gap: the effect of cultural distance on mergers and acquisitions—evidence from glassdoor reviews. *Review of Managerial Science*. 10.1007/s11846-024-00811-8.