Post-M&A Retention of Top Managers: The Role of Structural Knowledge

Tingyu Du UCLA

Ulya Tsolmon* Washington University in St. Louis

Abstract

This study examines how the combination of acquirer firm resource base and target managers' human capital shape managerial retention post-acquisitions. Using mobility data of 1,339 managers in 616 deals, we find that in related acquisitions, the retention rate of target managers post-M&A is higher when the organizational structure between the acquiring and target firms is similar. We propose that structural knowledge of managers—experience in specific organizational structures—matters. We find that the individual managers with structural knowledge more similar to the acquirer are more likely to be retained. Consistent with the notion that managers are critical to post-acquisition integration and success, deals between firms with greater structural similarity, and hence greater retention of target managers, exhibit greater post-acquisition performance, especially in the long run.

Keywords: managerial retention, structural knowledge, M&A, post-acquisition performance, human capital

^{*} Corresponding author: <u>utsolmon@wustl.edu</u>

I. INTRODUCTION

Mergers and acquisitions (M&As) are a major resource reallocation decision point for firms (Anand, 2004; Capron, Dussauge, & Mitchell, 1998; Karim & Capron, 2016; Karim & Mitchell, 2000; McGrath & Singh, 2016). Financial assets, technologies, patents, capabilities, and human capital are frequently reallocated between the target and acquirer post-acquisition (Ahuja & Katila, 2001; Feldman & Hernandez, 2021; Maritan & Lee, 2017; Paruchuri, Nerkar, & Hambrick, 2006; Puranam, Singh, & Zollo, 2006). One key post-acquisition decision concerns the allocation of managers in the target firm (Coff, 2002; Ranft & Lord, 2002). Target managers may be retained, or acquirer managers may be deployed to replace them (e.g., Cannella & Hambrick 1993; Hambrick & Cannella 1993; Walsh, 1988). Although target managers have been argued to be important for post-acquisition integration and coordination (Agarwal et al., 2012; Graebner, 2004; Ranft & Lord, 2002; Krug & Nigh, 1998; Zollo & Singh, 2004), the literature has offered conflicting explanations of how target managers are reallocated post-acquisition and with what effects.

On the one hand, studies have documented significant managerial turnover following M&As, especially in related acquisitions where the target and acquirer are in similar industries (Buchholtz, Ribbens, & Houle, 2003; Datta, 1991; Datta & Grant, 1990; Krishnan, Miller, & Judge, 1997; Zollo & Singh, 2004). The key explanation for this pattern is that acquiring firms are likely to view target managers as redundant when the acquired knowledge is more similar to their own and replacing them improves efficiency (Anand, 2004; Conyon et al., 2002; Krishnan et al., 1997; O'Shaughnessy & Flanagan, 1998; Park, Howard, & Gomulya, 2018). Yet despite this efficiency explanation, executive turnover has been negatively associated with post-acquisition performance (Bilgili et al., 2017; Butler, Perryman, & Ranft, 2012; Cannella & Hambrick, 1993; Krishnan et al., 1997; Ranft & Lord, 2002).

On the other hand, the resource-based view (RBV) and strategic human capital (SHC) literatures would predict that it is more advantageous for acquirers to retain valuable managerial resources, especially if the target managers possess knowledge, capabilities, and routines critical to the post-acquisition integration (Bergh, 2001; Graebner, 2004; Ranft & Lord 2002; Zollo & Singh, 2004). Because human capital is a non-scale-free resource with capacity constraints and opportunity costs in its use, managers cannot be deployed simultaneously across units (Levinthal & Wu, 2010). With target managers departing, the acquiring firm would need to deploy its own managers to the target at non-trivial costs. Thus, under certain conditions, retention of target managers may be important for acquisition performance.

In this study, we aim to reconcile these conflicting streams by examining how target managers are reallocated in acquisitions, under what conditions, and with what outcomes. We ask how the combination of the acquiring firm's resource base and target managers' human capital shapes managerial allocations post-acquisition. Specifically, we draw from the literature that highlights structural knowledge as an important component of managerial human capital to distinguish between the technical knowledge and structural knowledge of managers (Karim, 2012; Karim & Williams, 2012; Nelson & Winter, 1982). Technical knowledge is knowledge of what to do, such as industry and product knowledge transferred in acquisitions (e.g., Ahuja & Katila, 2001; Finkelstein & Haleblian, 2002; Kogut & Zander, 1992). Structural knowledge is knowledge of how to accomplish goals and ways of doing that capture managers' knowledge and ability to function well in a particular organizational structure (Burton, DeSanctis, & Obel, 2006; Karim, 2012; Karim & Williams, 2012; Nelson & Winter, 1982). Because related acquisitions typically require high levels of integration and coordination (Haspeslagh & Jemison, 1991; Larsson & Finkelstein, 1999), we propose that structural knowledge is an important factor in facilitating the integration and coordination needed post-acquisition, especially in related deals where integration needs are greater. Specifically, we predict that in related acquisitions, managers with similar structural knowledge to the acquirer are more likely to be retained by the acquirer than managers with less similar structural knowledge. We also predict that with similar structural knowledge, target managers can leverage their relevant knowhow and facilitate the integration process, and, ultimately, increase the performance of related acquisitions.

To test our hypotheses, we collect data on global M&A deals with multi-unit firms and create a novel data set that incorporates M&A activities, manager movements, and work history, as well as firm characteristics, organizational structure, and performance. Our data consist of 616 deals and the mobility

of 1,339 managers in 2001-2017. We find that in related acquisitions, the retention rate of target managers post-M&A is greater when there is greater structural similarity between the acquiring and target firms. To examine the mechanism more closely, we construct for each manager their level of structural knowledge based on their work history across different organizational structures. We find that target executives with structural knowledge more similar to the acquirer firm structure are more likely to be retained post-acquisition than executives with less similar structural knowledge. Consistent with our expectations that the retention of managers with structural knowledge similarity helps with effective integration, we find that in related deals, greater structural knowledge similarity is associated with greater post-acquisition performance, especially in the long run.

This study contributes to several streams of literature. First, it contributes to the resource reallocation literature by examining in greater depth how managers are reallocated based on the similarity of structural knowledge between the acquired human capital and the firm's existing resource base. By tracking managers across firms and time, we answer the call for more empirical research to explicitly examine the allocation of human resources and knowledge (Folta, Helfat & Karim, 2016). Second, our research contributes to the M&A integration and post-acquisition performance literature by providing a structural knowledge perspective to understanding post-acquisition turnover and performance, as well as emphasizing the role of structural knowledge in facilitating integration in related acquisitions (Feldman & Hernandez, 2021). Lastly, we contribute to the strategic human capital literature by examining how managers' structural knowledge can drive executive mobility and be a source of valuable human capital (Coff, 2002).

II. BACKGROUND AND HYPOTHESES

Managerial allocations post-M&A

M&As offer an important way for companies to grow and acquire resources and capabilities (Ahuja & Katila, 2001; Graebner, 2004; Karim & Mitchell, 2000; Kaul & Wu, 2016; Puranam, Singh, & Chaudhuri, 2009; Ranft & Lord, 2002). M&As involve the allocation and reconfiguration of resources by

adding, redeploying, recombining, or divesting assets and resources to strengthen the resource base (Feldman & Hernandez, 2021; Karim & Capron, 2016). Among different strategic resources, the allocation of managerial resources, including the retention and turnover of target managers and redeployment of acquirer managers, is a central decision for firms that can have significant performance implications (e.g., Barney, 1991; Buchholtz et al., 2003; Coff, 2002; Penrose, 1959; Ranft & Lord, 2002; Walsh, 1988).

Past research has documented a high rate of turnover among target firms' executives after M&As (e.g., Conyon et al., 2002; Datta, 1991; Datta & Grant, 1990; Krishnan, Hitt, & Park, 2007; Krishnan et al., 1997; Zollo & Singh, 2004). For example, 41-45% of the top management teams (TMT) in target firms were found to have been replaced post-acquisition (Hambrick & Cannella, 1993; Krug & Hegarty, 1997). Despite consistent documentation of this phenomenon, the literature on how managers are allocated post-M&As is still fragmented and underdeveloped.

The literature has proposed two types of explanations to elucidate this phenomenon—managerdriven (voluntary) or acquirer-driven (involuntary) turnover. First, target executives may leave voluntarily due to increasing dissatisfaction with a loss or their relative status and autonomy post-M&A, which may increase with higher levels of integration, relative firm size, and performance differences (e.g., Bilgili et al., 2017; Buchholtz et al., 2003; Hambrick & Cannella, 1993; Ranft & Lord, 2002). Second, the acquirers may let managers go due to redundancies in knowledge and positions, or lack of confidence in their ability to perform, especially if the target was not performing well prior to the acquisition (e.g., Capron, 1999; Buchholtz et al., 2003).

Regardless of the drivers of executive turnover, losing target managers was consistently found to be associated with negative implications for post-acquisition performance (Bilgili et al., 2017; Butler et al., 2012; Cannella & Hambrick, 1993; Krishnan et al., 1997). For example, Bergh (2001) found that acquired firms were more likely to be divested five years after acquisitions when the most experienced and longesttenured executives left the firms shortly after the M&A.

The negative effect of executive turnover on post-acquisition performance is consistent with the idea that losing managers with scarce and valuable resources can erode firms' competitive advantage

(Castanias and Helfat, 1991, 2001; Finkelstein, Hambrick, & Cannella, 2009; Penrose, 1959; Wernerfelt, 1984). When target executives leave, industry- and firm-specific knowledge, nontransferable capabilities, and social capital may be lost (Bergh, 2001; Hitt & Ireland, 2002). Executives may possess skills and knowledge key to the realization of synergies post-acquisition (Schweiger & Very, 2003), and they may take with them established relationships with vendors and customers that the acquiring firms find difficult to replicate (Barney, 1991; Hoetker & Agarwal, 2007).

In unrelated acquisitions, in which the acquiring firm and the target's businesses are in different technical areas, target managers' industry- and firm-specific knowledge and capabilities are valuable to the acquiring firm, which may lack expertise in the target's industry and technology. In such cases, retention of target managers for their technical knowledge and capabilities would be very important. In addition, the acquirer may choose to keep the target firm more autonomous (Datta & Grant, 1990), which would make it even more critical to retain the target's managers.

For related acquisitions, in which the acquiring firm and the target's businesses are in similar industries, retaining the target managers for their technical expertise and capabilities is less important (Capron, 1999; Makri, Hitt, & Lane, 2010). Due to knowledge redundancy, the acquiring firm may let target managers go (Buchholtz et al., 2003; Krishnan et al., 1997;). The acquiring firm's management may be well equipped to make major decisions concerning the acquired firm in related industries and less dependent on the target's management team (Datta, 1991; Datta & Grant, 1990). Accordingly, the literature notes, many related acquisitions are made to achieve efficiencies, cost savings, or industry consolidation by eliminating redundant staff and executives (Anand 2004; Conyon et al., 2002; Krishnan et al., 1997; O'Shaughnessy & Flanagan, 1998; Park et al., 2018).

In related acquisitions, post-acquisition integration may be more important than in unrelated acquisitions (Datta, 1991; Datta & Grant, 1990; Larsson & Finkelstein, 1999; Zollo & Singh, 2004). As such, the literature has shown that executives play a central role in managing and implementing the integration strategy and facilitating coordination (Agarwal et al., 2012; Graebner, 2004; Krug & Nigh, 1998; Ranft, 2006; Ranft & Lord, 2002; Schweiger & Weber, 1989; Shrivastava, 1986; Zollo & Singh,

2004). Target executives may hold valuable firm-specific knowledge and social capital for facilitating successful reorganization and integration processes (Krug, Wright, & Kroll, 2014). Hence, losing the acquired firm's executives can create challenges to effectively integrating the target firm and improving firm performance (Cascio, 2002; Krishnan et al., 1997; Krishnan & Park, 2002; Krishnan et al., 2007). Thus, integration needs bring into question whether knowledge redundancy alone shapes the acquirer firm's propensity to retain or let go of the target firm's managers.

Moreover, according to resource allocation theory, managers are valuable non-scale free resources that cannot be allocated contemporaneously across businesses without incurring opportunity costs (Levinthal & Wu, 2010). Specifically, the acquirer would have to redeploy its own manager to the target or hire a new manager if the target manager leaves. Given these tradeoffs, a deeper understanding is needed of how managers are allocated within and across organizational boundaries post-M&A.

In sum, the extant literature offers a fragmented and incomplete explanation of how target managers are allocated post-M&A, under what conditions, and with what outcomes. In this study, we examine the allocation of target managers in related acquisitions, in which technical knowledge may be redundant but integration needs are higher.

The role of structural knowledge in managerial allocations

Managerial knowledge is important in acquisitions (Capron et al., 1998; Hambrick & Cannella, 1993; Ranft & Lord, 2002). The extant research has focused on technical expertise and capabilities as the primary motivation for acquiring human capital and knowledge in acquisitions (Ahuja & Katila, 2001; Coff, 2002; Finkelstein & Haleblian, 2002; Younge, Tong, & Fleming, 2015). This type of knowledge reflects *what* to do and includes industry, product, and technological knowledge. However, research also suggests that a target firm's valuable managerial knowledge and skills are distinct from the technical knowledge that typically resides elsewhere in the organization—for instance, with technical staff, engineers, mid- and low-level managers (Ranft & Lord, 2002). This type of knowledge encompasses *how* to do things and can comprise critical organizational competencies embedded in socially complex relationships among different

units, or it can reside in a firm's social fabric and organizational structure, which connect and integrate separate organization members (Barney, 1991; Barton, 1995; Huber, 1991; Karim & Williams, 2012; Kogut & Zander, 1992; Ranft & Lord, 2002). As such, top management may offer a different set of skills and competencies to create value for the acquirer.

We focus on a specific managerial competency by drawing from the literature that highlights *structural knowledge* as an important component of managerial knowledge that facilitates internal coordination. *Structural knowledge* is the structural component of executives' knowledge (Karim, 2012; Karim & Williams, 2012), or *how* they accomplish goals, including the organizational knowledge that encompasses politics and relationships. Structural knowledge is primarily tacit knowledge, social capital, and know-how that resides in specialized relationships among individuals and groups, as well as in ways of making decisions that shape their dealings with each other (Kogut & Zander, 1992; Nelson & Winter 1982; Winter, 1987).

Managers develop structural knowledge from functioning within specific organizational structures. The design of an organizational structure serves as a basis for dividing the labor needed for an organization mission into distinct tasks and then coordinating these tasks to accomplish the mission in a cohesive way (Mintzberg, 1979). These coordination mechanisms "deal with workflows between distinct yet interdependent units" (Nadler and Tushman, 1997: 92). As organizations use coordination mechanisms and processes repeatedly, they become routinized and sticky, forming the organization's memory (Fiedler & Welpe, 2010; Gulati and Puranam, 2009; Nelson & Winter, 1982;) and teaching managers the accepted "ways of doing things" in the organization (Burton et al., 2006).

Managers operating in different organizational structures can develop structural knowledge that varies significantly. For example, managers' performance focus and corresponding activities can vary between centralized and decentralized structures. In decentralized firms (M-form), where there is a greater focus is on financial performance more directly tied to managers' actions, managers develop a strong commitment to profitability and focus on tangible results, which requires them to invest in more transferable skills that help them monitor and improve the performance of their divisions at a more competitive level

(Qian, Roland, & Xu, 2006; Williamson, 1964, 1975). In centralized (U-form) firms, the contribution of each functional department to corporate performance is less directly observable and measurable (Williamson, 1964, 1975). As a result, managers in centralized structures must be good at internal bargaining, investing in political capital, networks, and social relationships to do well internally (Hill, Hitt, & Hoskisson, 1992; Hoskisson, Hill, & Kim, 1993; Williamson, 1970).

Thus, structural knowledge is specific to certain structural compositions and distinct from technical knowledge. As such, it is an important capability that determines managers' ability to function well in a particular organizational structure. We propose that, similarly, structural knowledge is an important managerial competency in related acquisitions that will shape managers' retention by the acquirer firms.

Hypotheses

In related acquisitions, technical knowledge similarity between two businesses gives acquirers the potential for improved acquisition performance through high integration (Finkelstein & Haleblian, 2002; Larsson & Finkelstein, 1999; Pablo, 1994; Puranam et al., 2006; Zollo & Singh, 2004). With greater knowledge about the target firm's industry, acquirers are more likely to impose their own practices and standards on the acquired unit, and initiate greater resource redeployment between firms, which in turn requires more extensive interaction among the managers of the two firms (Coff, 2002; Datta, 1991; Datta & Grant, 1990).

Post-acquisition integration involves interaction, communication, alignment, and standardization activities between two firms (e.g., Graebner et al., 2017; Larsson & Finkelstein, 1999). Target managers play an important role in post-acquisition integration, as they facilitate coordination and communication between the firms (Agarwal et al., 2012; Graebner, 2004; Krug & Nigh, 1998; Ranft & Lord, 2002; Zollo & Singh, 2004). Moreover, post-acquisition integration may be a multistage process (Haspelagh & Jemison, 1991) that involves target managers to differing degrees over time (Birkinshaw, Bresman, & Håkanson, 2000). As such, target managers may be important not only for the initial integration processes but for long-term functioning of the target firm.

Specifically, prior literature suggests that structural knowledge aids integration and coordination by preserving ties and coordination mechanisms (e.g., Karim, 2012; Karim & Williams, 2012). When firms have a similar structural composition, target managers can leverage their relevant structural knowledge and achieve better integration and coordination in related acquisitions. Thus, in related acquisitions, target managers can create value through their structural knowledge. In related acquisitions, the technical knowledge base between firms is similar, making the technical knowledge of target managers less central than in unrelated acquisitions (Buchholtz et al., 2003; Capron et al., 1998; Makri et al., 2010; Krishnan et al., 1997). With greater integration, target managers may play an important role in creating buy-in and facilitating the coordination activities between two firms.

Additionally, managers are a non-scale-free resource that entails capacity constraints and opportunity costs, which means that managers cannot be deployed simultaneously across units (Levinthal & Wu, 2010). With target managers departing, the acquiring firm would need to deploy its own managers to the target at non-trivial costs. Thus, structural similarity may increase the propensity of acquirers to retain target managers.

Moreover, structural knowledge similarity may also increase target managers' willingness to stay, as their skills are valued, and they may play an important role in the acquisition and integration processes (Hitt et al., 2001; Karim, 2012; Kogut & Zander, 1992; Ranft & Lord, 2002). Thus, relevant structural knowledge may moderate the voluntary turnover of target managers.

In sum, we expect that in related acquisitions, acquirers are more likely to retain target managers if there is a structural similarity between the two firms. We illustrate this logic in Figure 1. Stated formally, our first hypothesis is:

Hypothesis (H1): In related acquisitions, target managers are more likely to be retained by the acquirer when the two firms have similar structures.

[Figure 1 about here]

Examining the mechanism more closely, we recognize that not all target managers may have the relevant structural knowledge; some may have more experience in a particular structure than others. Thus, within a given related deal, target managers can have different types of structural knowledge. If structural knowledge is important, we should see target managers with the most relevant structural knowledge being retained over target managers with less relevant structural knowledge. We illustrate this mechanism in Figure 2. Our second hypothesis is:

Hypothesis (H2): In related acquisitions, target managers with more structural knowledge similarity with the acquiring firm are more likely to be retained by the acquiring firm than target managers with less structural knowledge similarity.

[Figure 2 about here]

If the structural knowledge of target managers is important for the post-acquisition integration and performance, we should see better performance in related acquisitions that have structural similarity between firms. Given that the level of integration between the two merged firms enhances performance (Capron, 1999; Zollo & Singh, 2004), and target manager retention is a critical part of acquirers' integration plan (Bilgili et al., 2017; Cannella & Hambrick, 1993; Larsson & Finkelstein, 1999; Zollo & Singh, 2004), we can expect that retention of managers with relevant structural knowledge would enhance organizational performance. Target managers' structural knowledge may create coordination advantages and increase the merged organization's ability for synergy realization, positively affecting M&A outcomes. Thus, we predict that retention of target managers with similar structural knowledge as the acquirer will facilitate integration and coordination in related acquisitions, thereby positively contributing to acquirers' performance. This leads to our third hypothesis:

Hypothesis (H3): *Related acquisitions will have higher performance when the two firms have similar structures than dissimilar structures.*

Figure 3 summarizes all our predictions.

[Figure 3 about here]

III. DATA AND METHODOLOGY

Data and Variables

Sample

We begin building our estimation sample by identifying all M&A deals completed between 2001 and 2017 from the S&P Capital IQ transaction data. We include deals indicated by Capital IQ as a merger or an acquisition of a majority of interest. We also exclude deals classified as a repurchase, recapitalization, restructuring, or joint venture. The M&A transaction data provide deal-level information, such as deal characteristics and (ultimate) acquirer and target firm information.

For each acquirer and target firm in our sample, we collected data on their organizational structure using the Directory of Corporate Affiliations (DCA) offered by LexisNexis. The DCA data provide company profiles and hierarchies for over 228,000 global (U.S. and international) parent companies and their units (e.g., affiliates, subsidiaries, and divisions) down to the seventh level of corporate linkage. The database reports detailed company structure on an annual basis from 2001 to 2017 for firms that have more than 300 employees, exceed \$10 million in revenue, and indicate four-digit SICs for each unit. Capital IQ transaction and the DCA data provide the historical list of parent, ultimate parent, and subsidiary firms of the buyer and seller, which allows us to construct organizational structure measures for a given time in the sample period. The DCA data has been used to study the role of organizational structures on interdependencies and coordination in multi-unit firms, diversification choices, and top management mobility (e.g., Tang & Zhao, 2022; Zhou, 2011, 2013). We follow these studies to construct the organizational structure measures for the acquirer and target firms in our sample. Our sample includes deals involving firms for which organizational structure information is available.

To capture the managerial mobility of target firm managers post-acquisition, we use the Capital IQ Professional database to identify and track managers' career history for all target firms. The database provides profiles of public and private company executives operating in all major markets and across the globe. It maintains a single record for any one person, such that all the former job positions, board relationships, and employment dates on record as associated with that person are retained under one unique ID. We collect manager-level data for all the target firms using the Capital IQ's assigned company ID, which bridges the Capital IQ transaction data. We identify managers in the top management team using their job position and rank the year of the deal announcement and use their employment record to track mobility post-acquisition.

To measure the post-acquisition performance of the acquirer, we obtain financial information on the ultimate acquirer firm from Compustat. The data sets were matched to the DCA by parent company names first using a matching algorithm and then by performing extensive manual checks. The performance estimation data is limited to public firms due to data availability.

Our estimation sample data cover 616 deals involving 562 acquirer firms, 611 target firms, and 1,339 target managers.

Dependent Variables

Firm-level retention rate. Our first dependent variable is the TMT retention rate in the target firm. Following prior work, we measure the retention rate post-acquisition as the ratio of the retained target TMT two years after the transaction completion to the pre-transaction TMT (e.g., Krug & Aguilera, 2004). For example, if a target firm has five people on its TMT in the year prior to the transaction, but only three of the five people remained in the target TMT two years after the transaction, the target firm would have a retention rate of 0.60. The mean TMT retention rate in our sample is 51%, which is comparable with the mean retention rates found in the two empirical studies on post-acquisition turnover: 55% in Hambrick and Cannella (1993), who examined 109 acquisitions during the period 1980-84, and 59.4% in Krug and Hegarty (1997), who examined 207 acquisitions of U.S. firms by both domestic and foreign acquirers from 1986-1988.

Manager-level retention indicator. Our second dependent variable is an indicator variable of whether a target manager was retained by the acquirer firm two years after deal completion. The indicator

equals 1 if a manager identified in the target firm prior to the acquisition is observed in the acquirer firm two years after the acquisition completion date and equals 0 otherwise. Target managers who are retained by the acquirer firm may stay in the acquired unit or are observed in another unit of the acquirer firm. Target managers who are not retained by the acquirer are observed in the seller firm or in a completely different firm. Forty-eight percent of target managers were retained in our sample. The summary figure of all types of post-acquisition managerial mobility is in Appendix I Figure A.

Acquirer firm performance. We use the return on assets (ROA) measure to capture acquirer firms' performance post-acquisition. ROA is a non-biased measure of the company's performance and stakeholder value that has been frequently used in prior studies (Das & Kapil, 2012). ROA is calculated by taking the income before extraordinary items (Compustat annual item IB) scaled by total assets (item AT). However, because better pre-merger performance can partly explain better post-merger performance (Bouraoui & Li, 2014), we aimed to eliminate the pre-merger variation by using the change in post-merger ROA from the pre-merger value. Specifically, we calculate the average ROA of the acquirer firm n years after completion year t minus the average ROA n years before, calculated as follows:

$$\Delta ROA_{tn} = ROA_{averaged over t+1 to t+n} - premerger ROA_{averaged over t-1 to t-n}$$
[1]

With this measure, we focus on the improvements in performance of specific acquirers and eliminate differences in the pre-merger business performance. Past studies have used a time lag from one to six years to evaluate the effect of M&A (Hagedoorn & Duysters, 2002). We use 3-, 5-, and 6-year changes (n = 3, 5, or 6) to examine short- and long-term performance implications.

Independent Variables

Firm-level TK relatedness (TK+/TK-). We measured technical knowledge (TK) relatedness between the target and the acquirer firms following the previous literature that categorized related and unrelated acquisitions based on the primary 2-digit SIC category (Harrison et al., 1991; Krishnan et al., 1997; Robins & Wiersema, 2003). *TK Relatedness* is an indicator variable that equals one if the target and

the ultimate acquirer are in the same two-digit SIC and equals zero otherwise. Of the deals in our sample, 48.5% are TK related (TK+).

Firm-level SK similarity (SK+/SK-). We measured structural knowledge (SK) similarity at the firm-level and construct a binary variable of the whether the target and the buyer come from ultimate parent firms with similar organizational structure.

We distinguish two different organizational structures, which require different types of managerial structural knowledge and capability, by using a standard categorization of organization structure widely applied in the organizational design literature: centralized and decentralized (Chandler, 1986; Mintzberg, 1980; Williamson, 1975, 1985). This literature suggests that managers develop and use different knowledge and skills in centralized and decentralized firms. Specifically, centralized firms feature a highly hierarchical administrative structure in which the contribution of each functional department or an executive to corporate performance is neither directly observable nor measurable (Williamson, 1964, 1975). The key skillsets and capabilities for managers in centralized firms that determine their success are bargaining, investing in political capital, networks, and social relationships (Williamson, 1970).

In a decentralized structure, on the other hand, the responsibility for operating decisions is assigned to functionally self-contained operating divisions, where the operating divisions perform as autonomous profit centers and compete with each other for resources on the basis of differential profit performance (Armour & Teece, 1978; Qian et al., 2006; Williamson, 1964,1975). The contributions of each division to corporate profits are both more directly observable and attributable to their executives, making them more visible based on information on performance and implications on managerial quality, rather than on their political competency (Williamson, 1970, 1975). Thus, managers in decentralized firms are more inclined to invest in more transferable skills that help them obtain superior operating performance for their divisions than managers in centralized firms, who are more likely to invest in bargaining skills to help them navigate bureaucracy and hierarchy (Hill et al.,1992; Hoskisson et al., 1993; Williamson, 1985).

In constructing the measure of organizational centralization, we follow prior studies that systematically quantify organization structure for firms across industries. We measure the degree of centralization as the number of divisions and majority-owned subsidiaries that have no subordinate divisions or subsidiaries (i.e., number of base subsidiaries of the ultimate parent firm) (Zhou, 2013). These base divisions and subsidiaries represent the lowest level of profit-center responsibility and therefore can be compared across firms (Argyres 1996; Rajan & Wulf 2006). The larger the number of divisions, the more divisionalized or decentralized the firm is. Our centralization measure equals one if a firm has less than or equal to a median number of base unit counts (6 for acquirers and 11 for sellers) and equals 0 otherwise. We also use continuous measures of centralization based on the base unit counts, which we use as alternative measures in the robustness checks (see Appendix Table A).

Firm-level SK similarity is a binary variable that equals one if the target and the acquirer are both from firms that are both centralized or both decentralized and equals zero otherwise. SK+ refers to a match, and SK- refers to a non-match. Figure 4 shows an example of different types of organization structures and their corresponding measures.

[Figure 4 about here]

Manager-level SK similarity (SK+/SK-). We construct a measure of a manager-specific SK similarity to exploit the variation of manager SK similarity within a deal. Given a deal, target managers may carry different levels of structural knowledge similarity, depending on their tenure. For each target manager, we create an index of SK based on the percentage of years the target manager has worked in a centralized company in their previous seven years of work. If the manager has more than 50% of time working in a centralized firm, then the target manager is classified as having centralized SK and decentralized SK otherwise. For example, a manager who spent five years working at a centralized firm and two years working at a decentralized firm prior to the acquisition would have a centralization SK index of 71.4%, and the manager would be classified as having centralized SK. The manager-level SK similarity indicator is a binary variable that equals one if the *target manager* and the ultimate buyer have similar structural knowledge—i.e., both centralized or decentralized—and zero otherwise. The correlation between manager-level centralization measure and the firm-level centralization measure of the target is 0.55, which

suggests that there is non-trivial variation in the levels of managerial SK in a firm. That is, not all managers in a target firm have the same SK or SK matching the target firm. We also use a continuous measure of manager-level centralized SK in the robustness checks (see Appendix Table A).

Control Variables

We follow prior studies to include controls that could affect the propensity of the acquirer to retain target managers (Haspeslagh & Jemison, 1991; King et al., 2020; Krug et al., 2014; Netter et al., 2011). Accordingly, our estimations include controls at the deal, firm, manager, and industry levels.

Deal-level controls. We control for whether the deal is *Paid in Cash, Deal value* as the natural logarithms of the amount paid, whether the deal is *Cross-border*, and whether the target unit was a *Divestiture of Related Business* (target unit and their parent seller are in the same industry).

Firm-level controls. These include the *Public Status* of both the target and the ultimate acquirer (since public and private firms may face different governance restrictions on TMT changes), *Target Firm Age* as the natural logarithms of the difference between the completion year and the firm's founding, and ultimate acquirer's *Acquisition Experience* as the natural logarithms of number of acquisitions completed since 2001 to address concerns that prior acquisition experience also affects the decision to retain (Zollo & Singh, 2004). Target and acquirer country were included to account for geographic factors, since national-level cultural aspects might affect the integration intent and outcomes of acquisition (Barkema et al., 1996). *Target Board Size* is defined as the natural logarithms of the number of target managers on board at the time of acquisition completion. Therefore, we include *U.S. target* and *U.S. acquirer* as binary variables for country-level controls. We use a full set of 2-digit SIC indicators of the target to account for industry-specific factors that might influence the propensity of firms to retain managers. We construct completion year fixed effects to take into account the heterogeneity over time.

In our performance estimations, we control for variables that could affect acquirer performance, including *Acquirer Firm Age*, *Relative Size of Target to Acquirer* as the ratio of deal value to acquirer size (sales), whether or not the target is in the *Financial* industry, and *Acquirer Firm Size* by the natural

logarithms of the number of employees of the ultimate acquirer lagged one year before the acquisition completion (King et al., 2020). We account for year fixed effects and use a full set of 2-digit SIC indicators of the acquirer to account for industry-specific factors that might influence the acquirers' performance.

Manager-level controls. The manager-level regressions include individual-level controls that may affect the likelihood of target manager retention. *Board Flag* is an indicator of whether the manager was ever on the board of the target firm; *Manager Tenure* is the natural logarithm of the number of years the manager has worked in the target firm; and *CEO Indicator* is based on whether the target manager is the unit head (CEO, President, etc.). Alternatively, we also used a full position rank variable from the data. The position types are ranked (e.g., President = 1) and then ordered hierarchically. The provided ranking is comparable across all firms in the data: the lower the rank number, the higher the position is.

Summary Statistics

We focus on two main post-acquisition employment patterns of target executives. Managers still employed by the acquirer two years following deal completion were coded as retained, and managers no longer employed by the acquirer two years following deal completion were coded as not retained. In our sample, 48% of target managers are retained, and 52% are not. Detailed employment patterns and summary mobility statistics are in Appendix I Figure A.

Table 1 summarizes the patterns in the raw data: the percentage of target managers retained by the acquirers two years after deal completion by TK and SK types. TK+ and TK- represent firm-level technical knowledge relatedness and unrelatedness respectively; SK+ and SK- represent manager-level structural knowledge similarity and dissimilarity, respectively. The overall average rate of retention is 44.6% when TK is related, compared to 50.7% when TK is unrelated, consistent with the prior literature's finding that target managers are less likely to be retained in related acquisitions than in unrelated acquisitions (e.g., Datta, 1991; Datta & Grant, 1990; Krishnan et al., 1997; Zollo & Singh, 2004). The overall average retention rates of SK+ (47.9%) and SK- (46.9%) do not differ significantly; however, when TK is related, SK+ results in 47.0% manager retention compared to 41.7% in SK-. This implies that SK+ on its own does

not have much effect on manager retention, but in related acquisitions where there may be a higher need for integration and coordination, SK+ seems to play a more significant role in determining target manager retention, consistent with our hypotheses. Tables 2 and 3 present the summary statistics and correlations of all key variables.

[Tables 1, 2 and 3 about here]

Methodology

To examine the relationship between the firm-level retention rate of target managers and SK similarity in related acquisitions (Hypothesis 1), we employ the following empirical specification for an OLS regression.

$$Retention Rate_{jt} = \alpha_0 + \alpha_1 T K_{jt}^+ + \alpha_2 S K_{jt}^+ + \alpha_3 T K_{jt}^+ \times S K_{jt}^+ + \gamma_j + \chi_{mt} + \rho_{lt} + \varphi_k + \tau_t + \varepsilon_{jt} , \qquad [2]$$

where *i* denotes a manager, and *j* denotes the deal that manager *i* is involved in, representing unique pairs of acquirer firm *l* and target firm *m*. *t* denotes year; *k* denotes target industry; γ_j is a vector of deallevel controls; χ is a vector of target *m* firm-level controls; ρ is a vector of acquirer *l* firm-level controls; φ_k and τ_t are complete sets of industry and year dummies, respectively; and ε_{jt} is an independent and identically distributed (i.i.d.) error term. *Retention Rate* is the deal-level retention rate that is the share of target managers retained by the acquirer two years post deal completion. We cluster the standard errors by deal. We expect $\alpha_3 > 0$ if SK similarity has a positive relationship with managerial retention in related acquisitions.

To test Hypothesis 2, we use the following empirical specification to estimate a logistical regression at the manager-level.

$$\Pr\left(Retention_{ijt}\right) = F\left(\beta_0 + \beta_1 T K_{it}^+ + \beta_2 S K_{ilt}^+ + \beta_3 T K_{it}^+ \times S K_{ilt}^+ + \gamma_i + \chi_{mt} + \rho_{lt} + \delta_i + \varphi_k + \tau_t + \varepsilon_{ijt}\right), \quad [3]$$

where *i* denotes a manager, which is the unit of observation, and *j* denotes the deal that manager *i* is involved in, representing unique pairs of acquirer firm *l* and target firm *m*. *t* denotes year; *k* denotes target industry; γ_i is a vector of deal-level controls; χ is a vector of target *m* firm-level controls; ρ is a

vector of acquirer *l* firm-level controls; δ_i is a vector of manager-level controls; φ_k and τ_t are complete sets of industry and year dummies, respectively; and ε_{ijt} is an independent and identically distributed (i.i.d.) error term. *Retention* is the manager-level retention indicator, which equals one if the target manager stays with the acquirer two years post-acquisition and equals zero otherwise. The standard errors are clustered by deal. We expect $\beta_3 > 0$ if SK+ has a positive relationship with the probability that a target manager with SK similarity is retained in related acquisitions.

To test Hypothesis 3, we adopt the following OLS specification to estimate the relationship between SK relatedness and acquirers' performance:

$$\Delta ROA_{ljt} = \theta_0 + \theta_1 T K_{jt}^+ + \theta_2 S K_{jt}^+ + \theta_3 T K_{jt}^+ \times S K_{jt}^+ + \gamma_j + \chi_{mt} + \rho_{lt} + \varphi_k + \tau_t + \varepsilon_{ljt} , \qquad [4]$$

where ΔROA is the change in the ultimate acquirer's post-merger ROA from pre-merger ROA, averaged over 3, 5, or 6 years; *m* denotes targets, and *l* denotes acquirer in deal *j*, the unit of observation; *t* denotes year; and *k* denotes acquirer industry. χ is a vector of target *m* firm-level controls; ρ is a vector of acquirer *l* firm-level controls; γ_j is a vector of deal-level controls; φ_k and τ_t are complete sets of industry and year dummies, respectively; and ε_{ljt} is an independent and identically distributed (i.i.d.) error term. The standard errors are clustered by deal. We expect $\theta_3 > 0$ if SK similarity has a positive relationship with ROA in related acquisitions.

IV. RESULTS

Main Results

Table 4 reports the results of the estimations testing the relationship between the SK similarity and target managers' retention (Hypotheses 1 and 2). We start building the main model by including the SK and TK indicators along with year and industry fixed effects to estimate the relationship with the firm-level retention rate (Column 1, Table 4). The estimated coefficient on TK relatedness is negative and statistically significant (p=0.006), consistent with extant literature showing that with TK relatedness, there is a greater turnover of target managers (e.g., Datta & Grant, 1990; Krishnan et al., 1997). The estimated coefficient on SK is small and not statistically significant, which suggests that SK similarity alone has no effect on

manager retention. In Column 2, we include an interaction term between SK and TK, and the estimated coefficient on the interaction term is positive and statistically significant (p=0.008), which suggests that SK similarity can increase the retention rate in related acquisitions. In Column 3, we report the results from the full model, which includes all the relevant controls. The estimated coefficient on the interaction term is positive and statistically significant (p=0.006), which suggests that in related acquisitions, SK similarity between firms can result in a 10.8% greater share of target managers being retained post-acquisition (the estimated retention rate with covariates at means for TK+ and SK+ is 51.4%, compared to 40.6% for TK+ and SK-).

Next, we present the results from the estimation of the relationship between the probability of an individual manager being retained and their individual SK similarity with the acquirer firm (Hypothesis 2). We note that manager-level results are very similar to firm-level results: managers are less likely to be retained in related acquisitions (column 4), but managers with SK similar to the acquirer are more likely to be retained (the estimated coefficient on the interaction terms are positive and statistically significant in columns 5 and 6). The results suggest that in related acquisitions, SK similarity of managers is associated with a 9.1-percentage point increase in the probability of them being retained by the acquirer (the predicted probability at [TK+, SK+] is 49.8%, and the predicted probability at [TK+, SK-] is 40.7%).

[Table 4 about here]

Heterogeneity of the results

Next, to probe the proposed mechanism of the importance of structural knowledge for managerial allocation in related acquisitions, we examine the heterogeneity of effects by geographic distance. Our theory assumes that related acquisitions generally require greater integration and coordination (Larsson and Finkelstein, 1999; Puranam et al., 2009; Zollo and Singh, 2004), and that there are opportunity costs for acquirers to deploy their own managers to the target if target managers are replaced (Capron & Mitchell, 1998; Levinthal & Wu, 2010). We examine whether the main effect of SK similarity is larger with greater geographic distance. The key logic in this thought experiment is that with greater geographic distance between the acquirer and target, it is more difficult for the acquirer to send their own managers and thus

more likely for the acquirer to retain the target managers with SK similarity. In line with this reasoning, previous research indicates that acquiring firms strongly prefer geographically close targets (Chakrabarti & Mitchell, 2013; Ragozzino & Reuer, 2011; Testoni, Sakakibara, & Chen, 2022), because geographic proximity between firms allows for higher information flow and reduces the cost associated with relocation and transportation required to move between the two companies. Also, research shows that individuals are more likely to leave the firm if they are required to relocate due to an involuntary transfer to another division, because there are high personal costs of moving away from the communities with which they are familiar (Lee et al. 2017; Smith, Holtom, & Mitchell, 2011). Accordingly, acquiring firms often pursue "light touch" integration after cross-border acquisitions by preserving the entire top management team of the target firms (Tang & Zhao, 2022). Therefore, with greater distance between the acquiring and target firms, the acquiring firm has a higher opportunity cost of deploying its existing managers to the target unit. Building on these works, we posit that the effect of SK+ on manager retention in related acquisitions varies by geographical distance between the two firms. We should see a larger positive effect of SK+ on manager retention in related acquisitions with greater distance between the acquiring and target firms.

Table 5 presents the results by distance. Columns 1 and 2 split the sample by the cross-border nature of the deal and compare the differences between the coefficients on the interaction term. The acquiring and target firms are assumed to be more distant from each other if they are in different countries. The deal is *Cross-border* if the headquarters of the acquiring firm and the location of the target unit differ by country (Column 1), whereas the deals between firms located in the same country are classified as *Non Cross-border*. The estimated coefficient on the interaction term is larger in the cross-border sub-sample estimation (1.464) compared to the non-cross border sub-sample estimation (0.651). In cross-border deals, managers have a 25.8 percentage point greater probability of being retained if the firms have SK similarity in related acquisitions compared to firms with less SK similarity. Conversely, in non-cross border deals, managers have 7 percentage points greater probability of being retained if the firms have similar SK. The results suggest the positive effect of SK+ on target manager retention in related acquisitions is greater when the distance between the acquiring and target firms is greater.

Next, we examine the distance between target and acquirer firms located within the United States (columns 3 and 4). We derive the geographical coordinates (longitude and latitude) of the cities in which firms are located. We calculate geographical distances between firms by measuring the length of the shortest path between two coordinates along the surface of a mathematical model of the earth (Vincenty, 1975). We split the sample by the threshold of 166 miles, which corresponds to the definition of megacommuting distance by the U.S. Census Bureau (Rapino & Fields, 2013). We assume that any distance greater than mega-commuting distance would increase the propensity of retaining target managers with similar SK. Column 3 presents the results from the sub-sample of firms with greater than 166 miles between the acquiring and target firms. The results suggest a 20.7 percentage point higher likelihood for managers to be retained if the firms have similar SK and related TK, compared to those with dissimilar SK. Column 4 presents the results from the sub-sample of firms within the mega-commuting distance between thee acquiring and target firms. The estimated coefficient on the interaction term is negative and not statistically significant. The results are also robust to different commuting distances, such as extreme commuting, which is 71 miles. Taken together, these results provide additional support to our main proposition that SK matters for related acquisitions because there are greater opportunity costs for the acquiring firm to allocate its own managers, which increases with geographic distance.

[Table 5 about here]

Performance results

Table 6 reports the result from OLS regressions estimating the relationship between acquirer performance and SK similarity for related acquisitions. We use different time windows to examine the effect of SK similarity on the change in the ultimate acquirer's post-merger ROA from pre-merger ROA. Columns 1-3 present the estimation results with the dependent variable of ROA change averaged over three years. We build the full model by first including the TK relatedness and SK similarity indicators separately with year and fixed effects (column 1). Next, we include the interaction term between TK and SK indicators (column 2). Then, we add a set of deal- and firm-level controls in the full model (column 3). The estimated coefficient on the interaction term in the full model is positive but not statistically significant (p=0.196). In

columns 4-6, we present the results from using the change in ROA over five years as the dependent variable. The estimated coefficient on the interaction term is positive and statistically significant (p=0.044) in the estimation of the full model (column 6). Finally, we use the change in ROA over six years as the dependent variable in columns 7-9. The estimated coefficient on the interaction term is positive and statistically significant (p=0.027) (column 9). The results suggest that related acquisitions that have SK similarity between the target and the acquirer are likely to have greater ROA than related acquisitions with less SK similarity, especially in the long term. For a change in ROA over a six-year period, this difference represents about a 69% greater ROA (over the sample average ROA) for firms with more SK similarity.

[Table 6 about here]

Additional Analysis

For a robustness check, we split the SK similarity measure into acquirer centralization and manager centralization continuous variables to perform a three-way interaction. We used a continuous measure for the *acquirer centralization* measure using the count of base units. Generally, the greater the number of base units of the firm, the more decentralized the firm is. So, we reversed this order so that the greater the centralization measure, the more centralized the firm is. We used the natural log of the transformed index to create a continuous measure of centralization. Next, we constructed a manager-level centralization measure using the percentage of years the manager has worked at a centralized company during the previous seven years before the acquisition completion year. The greater the index, the more centralized the manager SK is. The average percentage of years of a manager working at a centralized firm is 50.6%, which indicates large variation in managerial SK within a given organizational structure.

We use a logit model with a three-way interaction between firm-level TK relatedness, managerlevel centralization index, and acquirer centralization index. The empirical specification is outlined in Appendix II. The results are consistent with our main results (Table A in Appendix II).

V. DISCUSSION AND CONCLUSION

This study tracks the allocation of target managers in related acquisitions. We highlight the importance of managers' structural knowledge—experience in specific organizational structures—in shaping managerial allocation patterns. We find that in related acquisitions, managers with structural knowledge similar to that found in the acquiring firm are about 10% more likely to be retained by the acquirer compared to managers with less similar structural knowledge. Consistent with the notion that retention of target managers' structural knowledge is key to post-acquisition integration and performance, we find that the long-term performance of the acquirer is greater when the acquisition is between firms with similar structures.

Our study contributes to three streams of literature. First, we answer the call in the resource allocation literature for more empirical work on non-financial resource allocation, including human resources and knowledge (Folta et al., 2016). The main obstacle in this line of work has been the difficulty of observing resource allocation within and between firms. In this study, we directly track individual managerial movements to unpack firms' allocation decisions for resources that span internal and external organizational boundaries. We explore the conditions under which the acquirer retains the target manager or redeploys its own manager, as well as the tradeoffs associated with these allocation decisions. We also examine how firms manage the joint allocation of multiple types of resources (Feldman & Hernandez, 2021) and the combination of technical and structural knowledge. We examine how the combination of an acquiring firm's resource base, target managers' human capital, and features of organization design shape managerial allocations post-acquisition.

Second, we contribute to the M&A integration and post-acquisition performance literature. One of the most fundamental issues in the M&A literature is to understand what types of acquisitions create value for acquiring firms (Hitt, Harrison, & Ireland, 2001). Although the literature agrees that retention of managers is important for post-acquisition performance (e.g., Bilgili et al., 2017; Butler et al., 2012; Cannella & Hambrick, 1993), the specific mechanisms through which managers can create value are still underexplored and consequently result in conflicting accounts. Our study aims to contribute to this literature by highlighting one mechanism through which target managers may influence acquisition performance. Our results suggest the importance of managerial structural knowledge in facilitating integration and improving performance.

Finally, our study contributes to the strategic human capital literature by highlighting the importance of organizational design in shaping managerial human capital (Fiedler & Welpe, 2010; Karim, 2012; Karim & Williams, 2012; Nelson & Winter, 1982). We suggest that in addition to technical knowledge and expertise, managerial structural knowledge can be a source of valuable human capital that can affect executive mobility and subsequent performance outcomes (Coff, 2002). We provide evidence for the importance of structural knowledge for firm allocation decisions and performance (Karim, 2012; Karim & Williams, 2012).

Our study has several limitations that invite future work. First, like previous studies, we are not able to distinguish between voluntary and involuntary turnover. Whether managerial departure is due to manager or firm choice, the patterns we observe in the data are consistent with what our theory predicts. Future work could use richer data to further disentangle the nature of managerial turnover.

Second, while this study examines centralization and decentralization dimensions of organizational design, future work could explore other dimensions of organizational structure that make up managerial structural knowledge, such as modularity and hierarchies (e.g., Feldman & McGrath, 2016; Karim, 2006; Zhou, 2013).

Third, we invite future work to examine the interaction between organizational structure and culture in the post-acquisition allocation of managers. The concepts of culture and structure are distinct and have been studied separately and independently (e.g., Janićijević, 2013; Marchetti, 2019). Organizational culture refers to mutual assumptions, beliefs, norms, and attitudes shared by an organization's members (Giorgi, Lockwood, & Glynn, 2015), while organizational structure influences an individual's behavior through formal limitations set by the division of labor, grouping of units, authority distribution, and coordination (Chandler, 1962; Galbraith & Kazanjian, 1986; Mintzberg, 1979; Nadler & Tushman, 1997). Studying the interaction between the two may yield interesting results.

Despite its limitations, this study offers much-needed insights into the allocation of managerial resources by highlighting how a combination of the acquiring firm's resource base and target managers' human capital shapes managerial allocations post-acquisition.

References:

- Agarwal, R., Anand, J., Bercovitz, J., & Croson, R. (2012). Spillovers across organizational architectures: The role of prior resource allocation and communication in post-acquisition coordination outcomes. *Strategic Management Journal*, 33(6), 710-733.
- Ahuja, G., & Katila, R. (2001). Technological acquisitions and the innovation performance of acquiring firms: A longitudinal study. *Strategic Management Journal*, 22(3), 197-220.
- Anand, J. (2004). Redeployment of corporate resources: A study of acquisition strategies in the US defense industries, 1978–1996. *Managerial and Decision Economics*, 25(6-7), 383-400.
- Argyres, N. (1996). Capabilities, technological diversification and divisionalization. Strategic Management Journal 17(5), 395-410.
- Armour, H. O., & Teece, D. J. (1978). Organizational structure and economic performance: A test of the multidivisional hypothesis. *The Bell Journal of Economics*, 106-122.
- Barkema, H. G., Bell, J. H., & Pennings, J. M. (1996). Foreign entry, cultural barriers, and learning. Strategic Management Journal, 17(2), 151-166.
- Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.
- Barton DL. (1995). Wellsprings of knowledge: Building and sustaining the sources of innovation. Boston, MA: Harvard Business School Press.
- Bergh, D. D. (2001). Executive retention and acquisition outcomes: A test of opposing views on the influence of organizational tenure. *Journal of Management*, 27(5), 603-622.
- Bilgili, T. V., Calderon, C. J., Allen, D. G., & Kedia, B. L. (2017). Gone with the wind: A meta-analytic review of executive turnover, its antecedents, and postacquisition performance. *Journal of Management*, 43(6), 1966-1997.
- Birkinshaw, J., Bresman, H., & Håkanson, L. (2000). Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation. *Journal of Management Studies*, *37*(3), 395-425.
- Bouraoui, T., & Li, T. (2014). The impact of adjustment in capital structure in mergers & acquisitions on US acquirers business performance. *Journal of Applied Business Research*, 30(1), 27-42.
- Buchholtz, A. K., Ribbens, B. A., & Houle, I. T. (2003). The role of human capital in postacquisition CEO departure. *Academy of Management Journal*, 46(4), 506-514.

- Burton, R. M., DeSanctis, G., & Obel, B. (2006). *Organizational Design: A Step-by-Step Approach*. Cambridge. New York, NY: Cambridge University Press.
- Butler, F. C., Perryman, A. A., & Ranft, A. L. (2012). Examining the effects of acquired top management team turnover on firm performance post-acquisition: A meta-analysis. *Journal of Managerial Issues*, 47-60.
- Cannella, A. A., & Hambrick, D. C. (1993). Effects of executive departures on the performance of acquired firms. *Strategic Management Journal*, *14*(S1), 137-152.
- Capron, L. (1999). The long-term performance of horizontal acquisitions. *Strategic Management Journal*, 20(11), 987-1018.
- Capron, L., Dussauge, P., & Mitchell, W. (1998). Resource redeployment following horizontal acquisitions in Europe and North America, 1988–1992. *Strategic Management Journal*, *19*(7), 631-661.
- Capron, L., & Mitchell, W. (1998). Bilateral resource redeployment and capabilities improvement following horizontal acquisitions. *Industrial and Corporate Change*, 7(3), 453-484.
- Cascio, W. F. (2002). *Responsible restructuring: Creative and profitable alternatives to layoffs*. San Francisco, CA: Berrett-Koehler Publishers.
- Castanias, R. P., & Helfat, C. E. (1991). Managerial resources and rents. Journal of Management, 17(1), 155-171.
- Castanias, R. P., & Helfat, C. E. (2001). The managerial rents model: Theory and empirical analysis. *Journal of Management*, 27(6), 661-678.
- Chakrabarti, A., & Mitchell, W. (2013). The persistent effect of geographic distance in acquisition target selection. *Organization Science*, 24(6), 1805-1826.
- Chandler, A. D. (1962). *Strategy and structure:* Chapters in the history of the American industrial Enterprise. Cambridge, MA: MIT Press.
- Chandler, A. D. (1986). The evolution of modern global enterprise. In M. Porter (Ed.), *Competition in Global Industries* (pp. 405-448). Boston, MA: Harvard Business School Press.
- Coff, R. W. (2002). Human capital, shared expertise, and the likelihood of impasse in corporate acquisitions. *Journal* of Management, 28(1), 107-128.
- Conyon, M. J., Girma, S., Thompson, S., & Wright, P. W. (2002). The impact of mergers and acquisitions on company employment in the United Kingdom. *European Economic Review*, 46(1), 31-49.
- Das, A., & Kapil, S. (2012). Explaining M&A performance: a review of empirical research. Journal of Strategy and Management, 5(3), 284-330.
- Datta, D. K. (1991). Organizational fit and acquisition performance: Effects of post-acquisition integration. *Strategic Management Journal*, *12*(4), 281-297.
- Datta, D. K., & Grant, J. H. (1990). Relationships between type of acquisition, the autonomy given to the acquired firm, and acquisition success: An empirical analysis. *Journal of Management*, *16*(1), 29-44.
- Folta, T. B., Helfat, C. E., & Karim, S. (2016). Examining resource redeployment in multi-business firms. In *Resource redeployment and corporate strategy* (pp. 1-17). Bingley, England: Emerald Group Publishing Limited.
- Feldman, E. R., & Hernandez, E. (2021). Synergy in mergers and acquisitions: Typology, lifecycles, and value. Forthcoming, *Academy of Management Review*.
- Feldman, E. R., & McGrath, P. J. (2016). Divestitures. Journal of Organization Design, 5(1), 1-16.

- Fiedler, M., & Welpe, I. (2010). How do organizations remember? The influence of organizational structure on organizational memory. *Organization Studies*, *31*(4), 381-407.
- Finkelstein, S., & Haleblian, J. (2002). Understanding acquisition performance: the role of transfer effects. *Organization science*, *13*(1), 36-47.
- Finkelstein, S., Hambrick, D. C., & Cannella, A. A. (2009). *Strategic leadership: Theory and research on executives, top management teams, and boards.* New York, NY: Oxford University Press.
- Galbraith, J. R., & Kazanjian R. K. (1986). *Strategy Implementation: Structure, Systems and Process*. St Paul, MN: West Publishing Co.
- Giorgi, S., Lockwood, C., & Glynn, M. A. (2015). The many faces of culture: Making sense of 30 years of research on culture in organization studies. *Academy of Management Annals*, 9(1), 1-54.
- Graebner, M. E. (2004). Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journal*, 25(8-9), 751-777.
- Graebner, M. E., Heimeriks, K. H., Huy, Q. N., & Vaara, E. (2017). The process of postmerger integration: A review and agenda for future research. *Academy of Management Annals*, 11(1), 1-32.
- Gulati, R., & Puranam, P. (2009). Renewal through reorganization: The value of inconsistencies between formal and informal organization. *Organization Science*, *20*(2), 422-440.
- Hagedoorn, J., & Duysters, G. (2002). The effect of mergers and acquisitions on the technological performance of companies in a high-tech environment. *Technology Analysis & Strategic Management*, 14(1), 67-85.
- Hambrick, D. C., & Cannella, A. A. (1993). Relative standing: A framework for understanding departures of acquired executives. *Academy of Management journal*, *36*(4), 733-762.
- Harrison, J. S., Hitt, M. A., Hoskisson, R. E., & Ireland, R. D. (1991). Synergies and post-acquisition performance: Differences versus similarities in resource allocations. *Journal of Management*, *17*(1), 173-190.
- Haspeslagh, P. C., & Jemison, D. B. (1991). *Managing acquisitions: Creating value through corporate renewal*. New York, NY: Free Press.
- Hill, C. W., Hitt, M. A., & Hoskisson, R. E. (1992). Cooperative versus competitive structures in related and unrelated diversified firms. *Organization Science*, 3(4), 501-521.
- Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. Academy of Management Journal, 44(1), 13-28.
- Hitt, M. A., & Ireland, R. D. (2002). The essence of strategic leadership: managing human and social capital. *Journal* of Leadership & Organizational Studies, 9(1), 3-14.
- Hoetker, G., & Agarwal, R. (2007). Death hurts, but it isn't fatal: the postexit diffusion of knowledge created by innovative companies. *Academy of Management Journal*, 50(2), 446-467.
- Hoskisson, R. E., Hill, C. W., & Kim, H. (1993). The multidivisional structure: organizational fossil or source of value? *Journal of Management*, *19*(2), 269-298.
- Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science*, 2(1), 88-115.
- Janićijević, N. (2013). The mutual impact of organizational culture and structure. Economic Annals, 58(198), 35-60.
- Karim, S. (2006). Modularity in organizational structure: The reconfiguration of internally developed and acquired business units. *Strategic Management Journal*, 27(9), 799-823.

- Karim, S. (2012). Exploring structural embeddedness of product market activities and resources within business units. *Strategic Organization*, *10*(4), 333-365.
- Karim, S., & Capron, L. (2016). Reconfiguration: Adding, redeploying, recombining, and divesting resources and business units. *Strategic Management Journal*, March Virtual Special Issue.
- Karim, S., & Mitchell, W. (2000). Path-dependent and path-breaking change: reconfiguring business resources following acquisitions in the US medical sector, 1978–1995. *Strategic Management Journal*, 21(10-11), 1061-1081.
- Karim, S., & Williams, C. (2012). Structural knowledge: how executive experience with structural composition affects intrafirm mobility and unit reconfiguration. *Strategic Management Journal*, *33*(6), 681-709.
- Kaul, A., & Wu, B. (2016). A capabilities-based perspective on target selection in acquisitions. *Strategic Management Journal*, 37(7), 1220-1239.
- King, D. R., Bauer, F., Weng, Q., Schriber, S., & Tarba, S. (2020). What, when, and who: Manager involvement in predicting employee resistance to acquisition integration. *Human Resource Management*, 59(1), 63-81.
- Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, *3*(3), 383-397.
- Krishnan, H. A., Miller, A., & Judge, W. Q. (1997). Diversification and top management team complementarity: Is performance improved by merging similar or dissimilar teams?. *Strategic Management Journal*, 18(5), 361-374.
- Krishnan, H. A., Hitt, M. A., & Park, D. (2007). Acquisition premiums, subsequent workforce reductions and postacquisition performance. *Journal of Management Studies*, 44(5), 709-732.
- Krishnan, H. A., & Park, D. (2002). The impact of work force reduction on subsequent performance in major mergers and acquisitions: an exploratory study. *Journal of Business Research*, 55(4), 285-292.
- Krug, J. A., & Aguilera, R. V. (2004). Top management team turnover in mergers & acquisitions. *Advances in mergers* and acquisitions, 4, 121-149.
- Krug, J. A., & Hegarty, W. H. (1997). Postacquisition turnover among US top management teams: an analysis of the effects of foreign vs. domestic acquisitions of US targets. *Strategic Management Journal*, 18(8), 667-675.
- Krug, J., & Nigh, D. (1998). Top management departures in cross-border acquisitions: Governance issues in an international context. *Journal of International Management*, 4(4), 267-287.
- Krug, J. A., Wright, P., & Kroll, M. J. (2014). Top management turnover following mergers and acquisitions: Solid research to date but still much to be learned. *Academy of Management Perspectives*, 28(2), 147-163.
- Larsson, R., & Finkelstein, S. (1999). Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. *Organization Science*, 10(1), 1-26.
- Lee, T. W., Hom, P. W., Eberly, M. B., Li, J., & Mitchell, T. R. (2017). On the next decade of research in voluntary employee turnover. *Academy of Management Perspectives*, *31*(3), 201-221.
- Levinthal, D. A., & Wu, B. (2010). Opportunity costs and non-scale free capabilities: profit maximization, corporate scope, and profit margins. *Strategic Management Journal*, *31*(7), 780-801.
- Makri, M., Hitt, M. A., & Lane, P. J. (2010). Complementary technologies, knowledge relatedness, and invention outcomes in high technology mergers and acquisitions. *Strategic Management Journal*, *31*(6), 602-628.
- Marchetti, A. (2019). Firms of a Feather Merge Together: The Coordination Benefits of Compatible Cultures. Working Paper. Available at SSRN 3712838.

- Maritan, C. A., & Lee, G. K. (2017). Bringing a resource and capability lens to resource allocation. Journal of Management, 43(8), 2609-2619.
- McGrath, P. J., & Singh, H. (2016). Resource reconfiguration and transactions across firm boundaries: The roles of firm capabilities and market factors. In *Resource redeployment and corporate strategy* (pp. 217-251). Bingley, England: Emerald Group Publishing Limited.
- Mintzberg, H. (1979). The Structuring of Organizations. Englewood Cliffs, NJ: Prentice Hall.
- Mintzberg, H. (1980). Structure in 5's: A synthesis of the research on organization design. *Management Science*, 26(3), 322-341.
- Nadler, D. A. and Tushman, M. L. (1997). *Competing by design: The power of organizational architecture*. New York, NY: Oxford University Press.
- Nelson, R. R. and Winter, S. G. (1982). An evolutionary theory of economic change. Cambridge, MA: Belknap Press.
- Netter, J., Stegemoller, M., & Wintoki, M. B. (2011). Implications of data screens on merger and acquisition analysis: A large sample study of mergers and acquisitions from 1992 to 2009. *The Review of Financial Studies*, 24(7), 2316-2357.
- O'Shaughnessy, K. C., & Flanagan, D. J. (1998). Determinants of layoff announcements following M&As: An empirical investigation. *Strategic Management Journal*, *19*(10), 989-999.
- Pablo, A. L. (1994). Determinants of acquisition integration level: A decision-making perspective. Academy of Management Journal, 37(4), 803-836.
- Park, H. D., Howard, M. D., & Gomulya, D. M. (2018). The impact of knowledge worker mobility through an acquisition on breakthrough knowledge. *Journal of Management Studies*, 55(1), 86-107.
- Paruchuri, S., Nerkar, A., & Hambrick, D. C. (2006). Acquisition integration and productivity losses in the technical core: Disruption of inventors in acquired companies. *Organization Science*, 17(5), 545-562.
- Penrose, E. T. (1959). The Theory of the Growth of the Firm. Oxford, UK.: Blackwell Publishers.
- Puranam, P., Singh, H., & Chaudhuri, S. (2009). Integrating acquired capabilities: when structural integration is (un) necessary. Organization Science, 20(2), 313-328.
- Puranam, P., Singh, H., & Zollo, M. (2006). Organizing for innovation: Managing the coordination-autonomy dilemma in technology acquisitions. *Academy of Management Journal*, 49(2), 263-280.
- Qian, Y., Roland, G., & Xu, C. (2006). Coordination and experimentation in M-form and U-form organizations. *Journal of Political Economy*, 114(2), 366-402.
- Ragozzino, R., & Reuer, J. J. (2011). Geographic distance and corporate acquisitions: signals from IPO firms. *Strategic Management Journal*, 32(8), 876-894.
- Rajan, R. G., & Wulf, J. (2006). The flattening firm: Evidence from panel data on the changing nature of corporate hierarchies. *The Review of Economics and Statistics*, 88(4), 759-773.
- Ranft, A. L. (2006). Knowledge preservation and transfer during post-acquisition integration. *Advances in Mergers* and Acquisitions, 5, 51-67.
- Ranft, A. L., & Lord, M. D. (2002). Acquiring new technologies and capabilities: A grounded model of acquisition implementation. Organization Science, 13(4), 420-441.
- Rapino, M., & Fields, A. (2013). Mega Commuting in the U.S.: Time and Distance in Defining Long Commutes Using the 2006-2010 American Community Survey. US Census Bureau.

- Robins, J. A., & Wiersema, M. F. (2003). The measurement of corporate portfolio strategy: Analysis of the content validity of related diversification indexes. *Strategic Management Journal*, 24(1), 39-59.
- Schweiger, D. M., & Very P. (2003). Creating value through merger and acquisition integration. Advances in Mergers and Acquisitions, 2, 1-26.
- Schweiger, D. M., & Weber, Y. (1989). Strategies for managing human resources during mergers and acquisitions: An empirical investigation. *Human Resource Planning Journal*, 12(2), 69-86.
- Shrivastava, P. (1986). Postmerger integration. Journal of Business Strategy, 7, 65-76.
- Smith, D. R., Holtom, B. C., & Mitchell, T. R. (2011). Enhancing precision in the prediction of voluntary turnover and retirement. *Journal of Vocational Behavior*, 79(1), 290-302.
- Tang, L., & Zhao, M. (2022). Learning to integrate: A study on post-acquisition integration by emerging market acquirers. Working Paper.
- Testoni, M., Sakakibara, M., & Chen, K. (2022). Face-to-face interactions and the returns to acquisitions: evidence from smartphone geolocational data. *Strategic Management Journal*, 1-34.
- Vincenty, T. (1975). Direct and inverse solutions of geodesics on the ellipsoid with application of nested equations. *Survey Review*, 23(176), 88-93.
- Walsh, J. P. (1988). Top management turnover following mergers and acquisitions. *Strategic Management Journal*, 9(2), 173-183.
- Wernerfelt, B. (1984). A resource-based view of the firm. Strategic Management Journal, 5(2), 171-180.
- Williamson O. E. (1964). *The economics of discretionary behavior: Managerial objectives in a theory of the firm.* Englewood Cliffs, NJ: Prentice-Hall.
- Williamson O. E. (1970). Corporate control and business behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Williamson, O. E. (1975). Market and hierarchies: Antitrust implications. New York, NY: The Free Press.
- Williamson, O. E. (1985). The economic institutions of capitalism. New York, NY: The Free Press.
- Winter, S. G. (1987). Knowledge and competence as strategic assets. In D. Teece (Ed.), *The competitive challenge: Strategies for industrial innovation and renewal* (pp. 159-184). Cambridge, MA: Ballinger.
- Younge, K. A., Tong, T. W., & Fleming, L. (2015). How anticipated employee mobility affects acquisition likelihood: Evidence from a natural experiment. *Strategic Management Journal*, *36*(5), 686-708.
- Zhou, Y. M. (2011). Synergy, coordination costs, and diversification choices. *Strategic Management Journal*, 32(6), 624-639.
- Zhou, Y. M. (2013). Designing for complexity: Using divisions and hierarchy to manage complex tasks. *Organization Science*, 24(2), 339-355.
- Zollo, M., & Singh, H. (2004). Deliberate learning in corporate acquisitions: post-acquisition strategies and integration capability in US bank mergers. *Strategic Management Journal*, 25(13), 1233-1256.

Figure 1: Illustration of Hypothesis 1

In a deal (a), acquirer A1 and target T1 have similar firm-level structural knowledge (SK), i.e., their shapes are the same. In deal (b), acquirer A2 and target T2 have dissimilar SK, i.e., their shapes are different. Note that both deals are where technical knowledge (TK) is related. H1 predicts that a greater target manager retention post-acquisition is expected to occur in deal (a).



Figure 2: Illustration of Hypothesis 2

Within a single TK related deal (c), target managers can have different types of SK. The small, filled rectangles in the target refer to individual managers with similar SK as the acquirer (SK+). The circles in the target refer to managers with dissimilar SK as the acquirer (SK-). H2 predicts that SK+ target managers are more likely to be retained compared to SK- managers in TK related acquisitions.



Figure 3: Summary of Hypotheses

TK+/- denotes technical knowledge relatedness between the target and the acquirer. SK+/- denotes structural knowledge similarity between the target and the acquirer (H1) or between the target manager and the acquirer (H2). H1 and H2 predict greater target manager retention, and H3 predicts greater post-acquisition performance at (SK+, TK+) compared to (SK-, TK+). The literature suggests less target manager retention when TK+ than TK-, which we confirmed in our results (e.g., col 1 in Table 4).

		Technical K	Knowledge
		TK+ TK related	TK- TK unrelated
S tructural	SK+ SK similar	(SK+, TK+) H1, H2: retain H3: higher performance	(SK+, TK-)
Knowledge	SK- SK dissimilar	(SK-, TK+) H1, H2: replace H3: lower performance	(SK-, TK-)
		Lit predicts: Replace (confirmed)	Lit predicts: Retain (confirmed)

Figure 4: Examples of Organizational Structures

Firm A has two base units (i.e., Sub 1 and 2) and Firm B has seven base units (i.e., Sub a, b, c, d, e, 3, and 4). The structure in firm A has fewer base units than the structure in firm B. According to our definition, Firm A is more centralized than firm B.

Parent firm A		Parent firm B							
Subsidiary 1	Subsidiary 2	Subsi Sub a	idiary 1 Sub b	Subsid Sub c	liary 2 Sub d	Subsidiary 3 Sub e	Subsidiary 4		
More centr Base unit c	ralized count = 2			More d Base ur	ecentraliz iit count	zed = 7			

		Technical k	Knowledge	
		TK+ TK related	TK- TK unrelated	
Structural	SK+ SK similar	47.0%	48.9%	47.9%
knowledge	SK- SK dissimilar	41.7%	53.1%	46.9%
		44.6%	50.7%	

Table 1: Percentage of target managers retained by the acquirer post-M&A

Notes: This table shows the percentage of managers being retained two years after M&A completion in each category of TK relatedness and SK similarity. TK+/- denotes technical knowledge relatedness between the target and acquiring firms. SK+/- denotes structural knowledge similarity between the target manager and acquiring firm.

	Variables	Definition	Mean	Std. Dev.
(1)	Firm-level retention rate	% of target TMT staying with the acquirer 2 years following the deal	0.510	0.442
(2)	Manager-level retention indicator	Indicator of whether or not the target manager stays with the acquirer 2 years following the deal completion	0.475	0.500
(3)	Indicator for firm-level TK relatedness	Indicator of whether or not the target and the acquirer are in related industries, based on the first 2-digit SIC code	0.530	0.499
(4)	Indicator for firm-level SK similarity	Indicator of the whether or not the target and the acquirer comes from ultimate parent firms with structural similarity	0.561	0.497
(5)	Indicator for manager-level SK similarity	Indicator of the whether or not the target manager and the acquirer carry similar structural knowledge	0.565	0.496
(6)	Cash offer deal	Deal-level. Dummy variable coded 1 if a cash offer is made and 0 for any other form of payment such as cash and stock	0.628	0.483
(7)	Size of the deal	Deal-level. Ln(deal value)	2.689	4.905
(8)	Cross-border deal	Deal-level. Dummy variable to account for the cross-border nature of a deal, coded 1 if the target unit and the acquirer are not in the same country, 0 otherwise	0.214	0.410
(9)	Divestiture of related business indicator	Deal-level. Indicator of whether or not the target and the seller are in related industries, based on the first 2-digit SIC code	0.472	0.499
(10)	Public acquirer	Firm-level. Dummy of whether the ultimate acquirer was publicly owned, 1 for public, 0 otherwise	0.337	0.473
(11)	Public target	Firm-level. Dummy of whether the target was publicly owned, 1 for public, 0 otherwise	0.028	0.166
(12)	Target firm age	Firm-level. Ln(target firm age)	3.215	1.076
(13)	Acquirer M&A experience	Firm-level. Ln(number of previous M&As the acquirer announced)	0.290	1.916
(14)	US acquirer	Firm-level. Dummy of whether or not the acquier is a US company	0.693	0.461
(15)	US target	Firm-level. Dummy of whether or not the target is a US company	0.704	0.457
(16)	Target firm board size	Firm-level. Ln(number of managers on board in the target firm)	0.804	1.865
(17)	Target manager on board indicator	Manager-level. Indicator of the manager was ever on the board of the target firm	0.334	0.472
(18)	Target manager tenure	Manager-level. Ln(number of years the manager has worked at the target firm	1.514	0.825
(19)	Target CEO indicator	Manager-level. Indicator of whether the target manager is the CEO of the target firm 0 otherwise	0.144	0.351

Table 2. Summary Statistics

Notes: This table presents summary statistics for the main variables used in the estimation. N=1,339; the DVs on firm-level retention rate have N=616.

	Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
(1)	Firm-level retention rate	1																		
(2)	Manager-level retention indicator	0.888	1																	
(3)	Indicator for firm-level TK relatedness	-0.088	-0.061	1																
(4)	Indicator for firm-level SK similarity	-0.009	0.011	0.022	1															
(5)	Indicator for manager-level SK similarity	-0.003	0.010	-0.028	0.859	1														
(6)	Cash offer deal	0.038	0.026	-0.241	-0.112	-0.064	1													
(7)	Size of the deal	-0.056	-0.085	0.156	0.023	-0.013	0.289	1												
(8)	Cross-border deal	0.019	0.041	-0.086	0.080	0.068	0.167	0.072	1											
(9)	Divestiture of related business indicator	-0.043	-0.034	0.266	-0.045	-0.047	-0.074	0.027	-0.113	1										
(10)	Public acquirer	-0.030	-0.001	0.155	0.052	0.016	0.002	0.259	0.145	0.000	1									
(11)	Public target	0.079	0.036	-0.128	0.016	0.015	0.057	0.108	0.185	-0.090	-0.112	1								
(12)	Target firm age	-0.153	-0.132	0.133	0.059	0.035	-0.051	0.097	0.037	0.139	0.076	-0.025	1							
(13)	Acquirer M&A experience	0.007	0.006	-0.069	-0.005	-0.020	0.008	0.018	0.056	0.001	0.161	0.131	0.040	1						
(14)	US acquirer	-0.013	-0.016	0.003	-0.065	-0.028	-0.043	-0.166	-0.475	0.029	-0.235	-0.062	-0.077	0.001	1					
(15)	US target	-0.003	-0.013	0.039	-0.077	-0.023	-0.038	-0.178	-0.441	0.111	-0.155	-0.146	-0.021	0.005	0.697	1				
(16)	Target firm board size	-0.201	-0.137	0.171	-0.024	-0.080	-0.117	0.098	-0.055	0.147	0.079	0.091	0.139	0.071	0.091	0.026	1			
(17)	Target manager on board indicator	-0.091	-0.023	0.032	0.050	0.030	-0.019	-0.026	-0.002	0.045	-0.015	0.013	-0.022	0.029	0.008	-0.038	0.310	1		
(18)	Target manager tenure	-0.046	-0.093	-0.003	0.022	-0.001	0.095	0.077	0.030	-0.053	0.009	0.014	0.048	-0.068	0.026	0.051	0.139	0.069	1	
(19)	Target CEO indicator	-0.043	-0.003	-0.010	0.025	0.020	0.021	-0.008	0.061	-0.022	0.023	-0.006	0.006	-0.049	-0.110	-0.125	-0.057	0.210	-0.051	1

Table 3. Correlations

Notes: This table reports the correlations between the main variables. Bolded figures are significant at 5% level.

Il we de velou	(1)	(2)	(3)	(4)	(5)	(6)
Hypothesis:		OLS models			H2 Logit models	
Dependent variable:	Firm	-level retention	n rate	Manage	r-level retention	indicator
Indicator for TK relatedness, interacted with: Indicator for firm SK similarity standard error p-value Indicator for manager SK similarity standard error		0.200 (0.075) 0.008	0.207 (0.076) 0.006		0.808	0.846
p-value Indicator for TK relatedness	-0.114 (0.042)	-0.229 (0.059)	-0.203 (0.062)	-0.322 (0.154)	0.004 -0.788 (0.233)	0.004 -0.695 (0.258)
Indicator for firm-level SK similarity	0.006 -0.008 (0.037)	0.000 -0.106 (0.054)	0.001 -0.100 (0.054) 0.066	0.037	0.001	0.007
Indicator for manager-level SK similarity	0.855	0.048	0.000	-0.027 (0.136) 0.844	-0.458 (0.207) 0.027	-0.477 (0.208) 0.022
Cash offer			0.042 (0.044) 0.338			0.053 (0.170) 0.755
ln(deal value)			-0.006 (0.005) 0.166			-0.031 (0.018) 0.073
Cross-border deal			-0.010 (0.058) 0.859 0.030			0.138 (0.208) 0.507 0.048
Public acquirer			(0.043) 0.491 -0.012			(0.155) 0.759 0.127
Public target			(0.046) 0.792 0.129			(0.176) 0.471 0.754
ln(target firm age)			(0.086) 0.133 -0.052 (0.018)			(0.384) 0.050 -0.253 (0.079)
ln(acquirer M&A experience)			0.004 -0.009 (0.010)			0.001 -0.028 (0.039)
US acquirer			0.381 -0.058 (0.060) 0.340			0.469 -0.082 (0.206) 0.689
US target			0.016 (0.061) 0.792			-0.030 (0.221) 0.892
ln(target firm board size)						-0.132 (0.040) 0.001
Target manager on board						-0.072 (0.139) 0.605
Target manager tenure, In(years worked)						-0.102 (0.090) 0.259 0.006
						(0.186)
Constant	0.971 (0.130) 0.000	0.504 (0.182) 0.006	0.775 (0.196) 0.000	-0.716 (0.862) 0.407	-0.313 (0.873) 0.720	1.022 (1.037) 0.324
Year fixed effects Industry fixed effects Quantification of the results	Yes Yes	Yes Yes 0.094	Yes Yes 0.108	Yes Yes	Yes Yes 0.086	Yes Yes 0.091
Observations	616	616	616	1,339	1,339	1,339
K-squared Pseudo R-squared	0.156	0.166	0.188	0.076	0.081	0.106

Table 4. Propensity of target manager retention by TK relatedness and SK similarity

Notes: Columns 1-3 present the results from an OLS model estimating the effect of firm-level TK relatedness and SK similarity on target manager retention rate; unit of observation is deal-level. Columns 4-6 present the results from a logit model estimating the propensity of target manager being retained by firm-level TK relatedness and manager-level SK similarity; unit of observation is manager-level. Standard errors in the parentheses are clustered by deal. Quantification of the results is the difference in percentage point between the firm-level retention rate of [TK+, SK+] and [TK+, SK-] in Columns 1-3 and the difference between the predicted probabilities of target manager being retained in [TK+, SK+] vs. [TK+, SK-] in Columns 4-6.

	(1)	(2)	(3)	(4)
	Log	it models	Logit	models
			Distance>166	Distance<=166
	Cross-Border	Non Cross-Border	miles	miles
Dependent variable:	Manager-level	retention indicator	Manager-level	retention indicator
Indicator for TK relatedness, interacted with:				
Indicator for firm SK similarity	1.464	0.651	1.076	-1.082
standard error	(0.841)	(0.347)	(0.539)	(1.957)
p-value	0.082	0.060	0.046	0.580
Indicator for TK relatedness	-0.246	-0.750	-0.974	0.335
	(0.820)	(0.294)	(0.454)	(1.402)
	0.764	0.011	0.032	0.811
Indicator for firm SK similarity	-0.362	-0.367	-0.233	-2.091
	(0.719)	(0.249)	(0.364)	(1.182)
	0.615	0.140	0.522	0.077
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
Deal-level controls	Yes	Yes	Yes	Yes
Firm-level controls	Yes	Yes	Yes	Yes
Manager-level controls	Yes	Yes	Yes	Yes
Quantification of the results	0.258	0.070	0.207	-0.591
Observations	286	1,053	497	167
Pseudo R-squared	0.262	0.114	0.205	0.501

Table 5. Heterogeneity of the effects based on distance

Notes: This table presents results from logit models estimating the propensity of target manager being retained by firm-level TK relatedness and SK similarity. Unit observation is manager-level. The sample is split by the degree of geographical proximity between the target and acquiring firms. Standard errors in the parentheses are clustered by deal. Quantification of the results is the difference between the predicted probabilities of [TK+, SK+] and [TK+, SK-].

Table 6. Acquirer's post-acquisition performance by TK relatedness and SK similarity

^ ^ ^	(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)
Hypothesis:		H3		_		H3				H3	
	(DLS model	S	_	(DLS model	S		(OLS model	S
	Chan	iges betwee	en the		Chan	ges betwee 204.5 yes	en the	01/01	Chan	iges betwee	en the
Dependent variable:	average and after	er deal con	pletion		and after	er deal con	pletion	ave	d aft	er deal com	pletion
			<u>r ···</u>	-							r
Indicator for TK relatedness, interacted with:											
Indicator for firm SK similarity		0.028	0.031			0.043	0.041			0.051	0.047
standard error		(0.026)	(0.024)			(0.022)	(0.020)			(0.024)	(0.021)
p-value		0.277	0.196			0.055	0.044			0.035	0.027
Indicator for TK relatedness	-0.004	-0.020	-0.028		-0.007	-0.031	-0.037	-0.0	07	-0.035	-0.042
	(0.010)	(0.022)	(0.023)		(0.009)	(0.018)	(0.018)	(0.0	11)	(0.019)	(0.020)
	0.677	0.361	0.216		0.451	0.078	0.043	0.5	26	0.069	0.037
Indicator for firm SK similarity	0.000	-0.016	-0.020		0.005	-0.020	-0.022	0.0	02	-0.028	-0.029
	(0.010)	(0.022)	(0.022)		(0.009)	(0.016)	(0.015)	(0.0	09)	(0.017)	(0.015)
	0.979	0.455	0.366		0.551	0.211	0.155	0.8	13	0.095	0.056
Year fixed effects	Yes	Yes	Yes		Yes	Yes	Yes	Ye	es	Yes	Yes
Industry fixed effects	Yes	Yes	Yes		Yes	Yes	Yes	Ye	es	Yes	Yes
Deal-level controls	No	No	Yes		No	No	Yes	Ν	0	No	Yes
Firm-level controls	No	No	Yes		No	No	Yes	N	0	No	Yes
Orientification of the next to (0/ error the											
sample average)			0.355				0.678				0.692
Observations	384	384	384		339	339	339	30	9	309	309
R-squared	0.144	0.149	0.220		0.124	0.141	0.196	0.1	23	0.146	0.220

Notes: This table presents results from OLS models estimating the post M&A acquirer firm performance affected by firm-level TK relatedness and SK similarity; unit of observation is deal-level. Standard errors in the parentheses are clustered by deal. Quantification of the results is the difference between the change in ROA of [TK+, SK+] and [TK+, SK-] over the sample average ROA.

APPENDIX I: Allocation Patterns of Target Executives Post-acquisition

Figure A is a breakdown of the allocation patterns of target executives two years post-acquisition, with the percentage for each scenario. A1 is the target firm (i.e., a subsidiary firm of seller A) bought by acquirer B. In scenario (1), the target manager stays with the target firm A1 as it is bought by acquirer B, accounting for 40% of sample. In scenario (2), the target manager moves to the acquirer B or to another subsidiary firm B1 of the acquirer (8%). Scenarios (1) and (2) account for 48% of the target managers, which is coded as retained in our sample. In scenario (3), the target manager is redeployed back to seller A or to another subsidiary firm A2 of the seller (7%); In scenario (4), the target manager goes to another firm C (45%). Managers in scenarios (3) and (4) are no longer employed by the acquirer two years following deal completion, thus were coded as not retained, together accounting for 52% of the target managers.





APPENDIX II: Additional Specification

We break down the indicator of manager-level SK relatedness into separate measures of *Acquirer Centralization* and *Manager Centralization* to perform a three-way interaction model specified as the following:

 $\begin{aligned} \Pr(Retention_{ijt}) &= F(\mu_0 + \mu_1 T K_{jt}^+ + \mu_2 Manager \ Centralization_{it} + \mu_3 Acquirer \ Centralization_{lt} + \mu_4 T K_{jt}^+ \times \\ Manager \ Centralization_{it} + \mu_5 T K_{jt}^+ \times Acquirer \ Centralization_{lt} + \mu_6 Manager \ Centralization_{it} \times \\ Acquirer \ Centralization_{lt} + \mu_7 T K_{jt}^+ \times \\ Manager \ Centralization_{it} \times Acquirer \ Centralization_{it} + \gamma_j + \chi_{mt} + \rho_{lt} + \delta_i + \\ \varphi_k + \tau_t + \varepsilon_{ijt}) \end{aligned}$ $\begin{aligned} & [5] \end{aligned}$

where *i* denotes a manager, the unit of observation, and *j* denotes the deal that manager *i* is involved in, representing unique pairs of acquirer firm *l* and target firm *m*. *t* denotes year; *k* denotes target industry; γ_j is a vector of deal-level controls; χ is a vector of target *m* firm-level controls; ρ is a vector of acquirer *l* firm-level controls; φ_k and τ_t are complete sets of industry and year dummies, respectively; and ε_{ijt} is an independent and identically distributed (i.i.d.) error term. *Retention* is the manager-level retention indicator that equals one if the target manager stays with the acquirer two years post-acquisition and equals zero otherwise. *Acquirer Centralization* is a measure of ultimate acquirer firm centralization based on the number of baseline subsidiaries; *Manager Centralization* is a measure of manager-level centralization based on the percentage of years the target manager has worked at a centralized firm during the past seven years. We run a logit model. The regression outputs are in Table A in the Appendix.

	(1)	(2)	(2)				
Hypothesis:	(1)	(2) ロ2	(3)				
пуротемь.	I	п2					
Dependent variable:	Manager-level retention indicat						
	Wianagei-i		mulcator				
Indicator for TK relatedness, interacted with:							
Manager centralization X Acquirer centralization		0.381	0.389				
standard error		(0.179)	(0.185)				
p-value		0.033	0.035				
Manager centralization		-1.382	-1.404				
standard error		(0.830)	(0.859)				
p-value		0.096	0.102				
Acquirer centralization		-0.368	-0.388				
standard error		(0.121)	(0.126)				
p-value		0.002	0.002				
Indicator for TK relatedness	-0.341	1.090	1.275				
	-0.142	-0.535	(0.560)				
	0.016	0.042	0.023				
Manager-level degree of centralization	-0.094	0.681	0.626				
	(0.141)	(0.573)	(0.591)				
	0.505	0.234	0.290				
Degree of centralization of the acquirer	0.093	0.285	0.261				
	(0.041)	(0.084)	(0.087)				
	0.024	0.001	0.003				
Manager centralization X Acquirer centralization		-0.216	-0.212				
		(0.125)	(0.129)				
		0.084	0.100				
Year fixed effects	Yes	Yes	Yes				
Industry fixed effects	Yes	Yes	Yes				
Deal-level controls	No	No	Yes				
Firm-level controls	No	No	Yes				
Manager-level controls	No	No	Yes				
Observations	1,339	1,339	1,339				
Pseudo R-squared	0.0783	0.0837	0.107				

Appendix Table A. Propensity of target manager retention by knowledge similarity – Three-way Interaction

Notes: This table presents the results from logit models estimating the propensity of target manager being retained by firm-level TK relatedness, manager centralization and acquirer centralization. We break down the single measure of manager SK similarity by continuous measures of manager centralization and acquirer centralization. Standard errors in the parentheses are clustered by deal.