

**SYNERGY RATIONALE, DEGREE OF POST-ACQUISITION INTEGRATION AND
ACQUIRER PERFORMANCE: A RESOURCE RECONFIGURATION PERSPECTIVE**

TUHIN CHATURVEDI

Assistant Professor of Management
610, Goldring Woldenberg Business Complex
A.B.Freeman of School of Business
Tulane University
New Orleans, LA 70118
Email: tchaturvedi@tulane.edu
ORCID:- 0000-0003-1809-1935

CARMEN WEIGELT

Associate Professor of Management
607, Goldring Woldenberg Business Complex
A.B.Freeman of School of Business
Tulane University
New Orleans, LA 70118
Email: cweigelt@tulane.edu

Please do not circulate this manuscript without the prior permission of the authors.

ABSTRACT

We propose that acquisitions with different operating synergy rationales (cost- or revenue synergy-based) have different resource reconfiguration needs and hence, require different *degrees* of post-acquisition integration. Using a multi-industry dataset comprising 416 U.S.-based acquirers, we find that the degree of integration exerts a positive mediating effect on acquirer performance for cost synergy acquisitions i.e., performance increases at high degrees of integration. For revenue synergy acquisitions, the degree of integration exerts a negative mediating effect i.e., performance decreases at high degrees of integration. We extend research on resource reconfiguration and post-acquisition integration by showing that the link between the intended *source* of value creation (operating synergy) and the distinctive *approach* adopted for resource reconfiguration (degree of integration) is a key driver of firm performance. We show that the integration decision in operating synergy acquisitions is nuanced and may not be captured via simple dichotomies such high/low integration or structural integration/target autonomy.

Keywords: Mergers and acquisitions, post-acquisition integration, cost and revenue synergies, resource reconfiguration, acquirer performance

Post-acquisition integration i.e., the assimilation of an acquired target is an important example of resource reconfiguration in firms (Capron, Dussauge, and Mitchell, 1998; Capron, 1999; Capron, Mitchell, and Swaminathan, 2001; Karim and Mitchell, 2000; Karim, 2006). Several studies have examined the relationship between integration and acquirer performance. Some have found that integration positively affects acquirer performance as it enables the realization of targeted synergies (Bauer and Matzler, 2014; Cording, Christmann, and King, 2008; Larsson and Finkelstein, 1999; Pablo, 1994; Zollo and Singh, 2004) albeit with exceptions. For instance, in technology acquisitions, studies have found that target autonomy has a positive effect on acquirer performance as opposed to structural integration creating an ‘integration-autonomy’ dilemma (Chen, Li, and Meng, 2017; Colman, 2020; Puranam Singh, and Zollo, 2006; Puranam and Srikanth, 2007; Puranam, Singh, and Chaudhuri, 2009; Zhu, Xia, and Makino, 2015). In contrast, a more recent set of studies has found that a ‘blended’ approach to integration positively affects performance i.e., when the acquirer integrates a portion of the target’s resources and grants autonomy to other resources (Chatterjee and Brueller, 2015; Chaturvedi and Prescott, 2022; Haspeslagh and Jemison, 1991; Kroon, Noordhaven, Corley, and Vaara, 2022; Schweizer, 2005; Wei and Clegg, 2020; Zaheer, Castaner, and Souder, 2013).

This paper proposes that a plausible reason for the conflicting findings on how integration affects acquirer performance may be that prior research has not examined how acquirers choose the degree of integration in alignment with the synergy rationale they pursue in acquisitions, and how such alignment affects acquirer performance. This is an important question because one characteristic of synergy is salient – synergy is not a ‘monolithic or unidimensional’ construct but has different rationales for value creation (Castaner and Karim, 2013; Chatterjee, 2007; Chatterjee and Brueller, 2015; Feldman and Hernandez, 2022; Rabier, 2017; Zaheer et al., 2013). Hence, if an acquirer chooses a uniform degree of integration or if it employs the discrete choice of integration or autonomy without factoring in the value creation rationale behind the synergies targeted from the acquisition, there is likely to be a negative effect on performance as those synergies are less likely to be realized (Borot, Engert, O’Connell, and Salazar, 2016; Chaturvedi and Prescott, 2022; Kroon et al., 2022; Vestring, Rouse, and Rovit, 2004; Wei and Clegg, 2020). For instance, operating synergies may entail reducing the costs of the combined acquirer and target organization i.e., cost synergies (Anand and Singh, 1997; Banaszak-Holl, Berta, Bowman, Baum and Mitchell, 2002; Maksimovic, Phillips, and Prabhala, 2011; Wood, 2009), or increasing the revenue of the combined organization i.e., revenue synergies (Briscoe and Tsai, 2011; Karim and Mitchell, 2000; Lambkin and Muzellec, 2010; Puranam et al., 2006). It is unlikely that a uniform degree of integration can enable an acquirer to both implement

cost reduction and increase revenue to the same extent. Hence, we conjecture that acquirers determine the degree of integration in accordance with the synergies they intend to realize from the acquisition to positively impact performance. Accordingly, we state our research question as - *“How is the degree of post-acquisition integration for an operating synergy acquisition aligned with its underlying synergy rationale (cost- or revenue-based), and what is the effect on acquirer performance?”*

We draw on the resource reconfiguration perspective (Bodner and Capron, 2018; Capron, 1999; Capron et al., 1998, 2001; Karim and Mitchell, 2000; Karim, 2006; Karim and Capron, 2016) to address our research question. Being complementary to sensing and seizing capabilities, the reconfiguration perspective represents the third leg of the dynamic capabilities tripod and is a topic of growing importance in recent research (Eisenhardt and Martin, 2000; Helfat et al., 2007; Karim and Capron, 2016; Teece, 2007). Karim and Capron (2016) define reconfiguration as comprising four processes – ‘adding, redeploying, recombining, and divesting resources and business units’. In line with the reconfiguration perspective, we propose that when target resources require a high level of reconfiguration, the acquirer will choose a high degree of post-acquisition integration and vice versa.

We propose that acquisitions motivated by cost- and revenue-based synergy rationales have different resource reconfiguration requirements and hence, require different degrees of integration for synergy realization. In particular, we predict that for cost-based synergy acquisitions, an acquirer is likely to choose a higher degree of integration. Furthermore, as the degree of integration increases, it is likely to have a positive effect on acquirer performance for cost-based synergy acquisitions. Conversely, for revenue-based synergy acquisitions, we predict that an acquirer is likely to choose a lower degree of integration. As the degree of integration increases, it is likely to have a negative effect on acquirer performance for revenue-based synergy acquisitions. Methodologically, our predictions indicate a mediating effect of the degree of integration on the relationship between operating synergy rationale and acquirer performance. That is, the operating synergy rationale of the acquisition determines the degree of integration pursued by the acquirer (the level of resource reconfiguration required) that, in turn, affects acquirer performance.

Our theoretical predictions related to the mediating effects of the degree of integration on the relationship between the operating synergy rationale in acquisitions and acquirer performance are empirically supported in a multi-industry sample of 416 acquirers and 1378 acquisitions over 2008-2019. Our results are robust to several sensitivity checks and empirical specifications.

To effectively capture resource reconfiguration during post-acquisition integration, we develop a novel approach for operationalizing the degree of integration for operating synergy acquisitions. We measured the change

in the operating resource bases and the revenue from resource divestiture associated with post-acquisition integration in the combined acquirer and target organization vis-à-vis both organizations prior to the acquisition. For this, we employed data from the annual statements of acquirers and targets¹. Extant approaches to operationalizing the degree of integration have employed patent data (Arora, Belenzon, and Rios, 2014; Choi and McNamara, 2018; Puranam and Srikanth, 2007; Sears, 2018), categorical variables (Chaturvedi and Prescott, 2022; Paruchuri, Nerkar, and Hambrick, 2006; Puranam et al., 2006, 2009), and survey instruments (Capron et al., 1998, 2001; Capron, 1999; Zaheer et al., 2013; Zollo and Singh, 2004; Zollo and Meier, 2008). While using patent data is an effective approach to operationalizing the degree of integration, it is context-specific to technological acquisitions and may not lend itself to examining integration in acquisitions where the acquirer targets operating synergies. Categorical variables may not capture the entire gamut of alternatives for integrating a target as they do not allow for gradations in the degree of integration (Paruchuri et al., 2006). Finally, surveys may be prone to self-serving managerial biases (Rabier, 2017). The measure we advance in this study captures the resource reconfiguration processes underpinning post-acquisition integration and can potentially enable scholars and practitioners alike to examine how the degree of integration varies with different operating synergy rationales targeted in acquisitions. As our measure is grounded in annual statements that are publicly available, it can be replicated in future research (Bettis et al., 2016; Rabier, 2017). Furthermore, it overcomes some of the above-mentioned limitations of extant approaches to operationalizing the degree of post-acquisition integration.

Our study advances research on post-acquisition integration as it provides a plausible explanation behind the conflicting findings in this literature wherein some studies have found support for a high degree of integration exerting a positive effect on performance, other studies finding support for a negative effect and a third set of studies finding that a 'blended' approach to integration positively affects performance. Our study shows that the operating synergy rationale in acquisitions determines the degree of integration chosen by the acquirer and that it is the alignment between both that affects acquirer performance via a mediating effect. We attribute this finding to our theoretical claim that acquisitions motivated by cost- and revenue-based synergy rationales are likely to have different resource reconfiguration requirements and hence, are likely to require different degrees of integration for synergy

¹ The annual statements of an acquirer (e.g., balance sheet, income statement, and cash flow statement) represent a plausible alternative for operationalizing the degree of integration (Puhakka, 2017). This approach aligns with the reconfiguration perspective since the statements provide insights on the 'stock' of resources in an acquirer's organization in year 't+1' vis-à-vis year 't' thus capturing the change in the resource stock that may occur due to post-acquisition integration. Hence, it provides a record of the 'addition, subtraction, recombination, and redeployment' processes that Karim and Capron (2016) propose in their definition of reconfiguration.

realization. Thus, we conjecture that the conflicted findings in research may be a result of scholars examining the integration-performance relationship without considering the synergy rationale in the acquisition. By employing the reconfiguration perspective to examine how post-acquisition integration affects acquirer performance, our study responds to Bodner and Capron (2018) who emphasized the potential of the reconfiguration perspective as a theoretical lens in uncovering novel insights related to the post-acquisition integration-performance relationship.

Our study also extends prior research on the reconfiguration lens of the dynamic capabilities literature. To the best of our knowledge, our study is the first that explicitly examines how the alignment between the level of reconfiguration (high or low) and the source of value creation (cost reduction or revenue growth) affects firm performance. Our theory and findings demonstrate that a high level of resource reconfiguration is likely to have a positive effect on firm performance when resources contribute to cost reduction and a negative effect when they contribute to revenue growth. Hence, our study shows that the theoretical utility of the reconfiguration perspective in explaining firm performance may reside in examining how firms align the intended *source* of value creation to the distinctive *approach* adopted for reconfiguration. Firms that are mindful of the alignment between the source of value creation and the resource reconfiguration approach may be more successful in their reconfiguration initiatives such as post-acquisition integration (Karim and Capron, 2016; p. 2).

THEORY AND HYPOTHESES

Degree of post-acquisition integration as a resource reconfiguration mechanism

Prior research has established that post-acquisition integration is an important resource reconfiguration mechanism in the context of acquisitions that enables the acquirer to extract targeted synergies (Bodner and Capron, 2018; Capron, 1999; Capron et al., 1998, 2001; Karim, 2006). In operating synergy acquisitions, an acquirer may target cost synergies by reducing the costs of the combined acquirer and target organization or it may target revenue synergies wherein it attempts to increase the revenue of the combined organization (Capron, 1999; Castaner and Karim, 2013; Chatterjee, 2007; Feldman and Hernandez, 2022). However, cost and revenue synergies differ fundamentally in terms of how they must be realized. Cost synergies arise when integration initiatives lead to scale and scope related advantages and greater operational efficiency (Dranove and Shanley, 1995; Harrigan, 1982; Haspeslagh and Jemison, 1991; Walter and Barney, 1990). Revenue synergies arise from the acquirer increasing its revenue and market share in new and existing product markets or by leveraging the complementarity between its product lines and those of the target (Dranove and Shanley, 1995; Kim and Finkelstein, 2009; Larsson and Finkelstein, 1999; Walter and Barney, 1990). Hence, it is likely that the resource reconfiguration requirements of both

these acquisitions would be different and consequently, the degree of integration required for both types of acquisitions may differ. An acquirer is more likely to be successful in extracting cost and revenue synergies when it chooses the degree of integration in alignment with the resource reconfiguration requirements of both types of synergies. Thus, it is important to distinguish between the degree of integration required for cost- and revenue-based acquisitions. In the next two sections, we develop the theoretical arguments in support of this distinction.

Cost-based synergy acquisitions and the degree of post-acquisition integration

Prior research has found that cost synergies arise when an acquirer consolidates or absorbs the target's resources within its organization to benefit from economies of scale and scope (e.g., rollup strategies) (Anand and Singh, 1997; Haspeslagh and Jemison, 1991; Kocourek, Chung, and McKenna, 2001; Maksimovic, Phillips, and Prabhala, 2011; Wood, 2009), and eliminates redundant resources via divestiture (Capron, 1999; Capron et al., 2001; Karim, 2006; Maksimovic et al., 2011). Cost synergies may arise when an acquirer improves the operational efficiency of the combined organization via the bilateral deployment of resources, capabilities, and best practices (Bai, Jin, and Serfling, 2022; Banaszak-Holl et al., 2002; Berchicci, Dowell, and King, 2012; Capron et al., 1998; Dranove and Shanley, 1995; Kaul and Wu, 2016). However, these studies have not discussed the degree of post-acquisition integration that an acquirer must choose for cost-based synergy acquisitions. We theorize that an acquirer is likely to choose a high degree of integration to effectively address the high resource reconfiguration requirements linked to extracting cost synergies via consolidation, recombination, and divestiture. A high degree of integration may also enable the acquirer to interact and operate jointly with the target to a significant extent to extract cost synergies by enhancing the operational efficiency of the combined organization.

First, a high degree of integration may enable the acquirer and target to first jointly determine which target resources need to be absorbed or consolidated within the acquirer's organization or recombined with the latter's resources. Subsequently, as target resources are assimilated, the acquirer and target need to mutually ensure that this transition occurs smoothly. For instance, the increased scale of the combined acquirer and target organization may require a greater degree of coordination between both firms to address the resulting operational complexity, coordination, and adjustment costs (Hill, Hitt, and Hoskisson, 1992; Chen, Kaul, and Wu, 2019; Shaver, 2006; Shaver and Mezas, 2009; Zhou, 2011). As part of this, the acquirer and target may need to jointly redesign incentives for retained personnel (Dessein, Garicano, and Gertner, 2010), minimize efficiency losses due to the disruption to the target's organization (Karim, 2012; Keum, 2020; Natividad and Sorenson, 2016), and maintain business continuity to minimize supplier and customer attrition (Anderson, Havila, and Salmi, 2001; Kato and Schoenberg, 2014;

Umashankar, Bahadir, and Bharadwaj, 2022). Over time, the prospect of unlocking additional cost synergies may further increase the interaction between the acquirer and target who may jointly implement additional integration initiatives or an organization-wide restructuring to extract these synergies (Barkema and Schijven, 2008; Girod and Karim, 2017; Karim, 2006).

Second, a high degree of integration may enable the acquirer to optimize the resource base of the combined organization by divesting redundant resources and jointly manage the residual organization with the target. This may include eliminating overcapacity in manufacturing facilities via consolidation, sale, and plant closures (Anand and Singh, 1997; Capron, 1999; Capron et al., 2001; Kocourek et al., 2001; Wood, 2009), selling duplicative product lines, brands, and sales teams (Homburg and Bucerius, 2005; Knudsen, Finskud, Tornblom, and Hogna, 1997; Wiles, Morgan, and Rego, 2012), and consolidating the supplier base and information technology (IT) systems (Agrawal, Engert, and Mittal, 2018, Agrawal, Kaur, and Jerry, 2019; Tanriverdi and Uysal, 2015). Subsequent to divestiture, the acquirer and target may need to work closely to determine adjustments in manufacturing capacity and other functions (Shrivastava, 1986; Pablo, 1994; Wood, 2009), reallocate roles and responsibilities (Karim and Williams, 2012), estimate severance costs due to layoffs (O'Shaughnessy and Flanagan, 1998), and redevelop or redesign structural and relational patterns within the residual organization (Aalbers, 2020; Karim, 2012; Keum, 2020).

Third, a high degree of integration may equip the acquirer to target cost synergies via operational efficiency initiatives. In these initiatives, the acquirer needs to interact closely with the target to facilitate bidirectional resource redeployment, capability/knowledge transfer, and inter-organizational learning (Bai et al., 2022; Banaszak-Holl et al., 2002; Bresman, Birkinshaw, and Nobel, 1999; Capron et al., 1998; Capron and Pistre, 2002). However, both firms may initially face difficulties and inefficiency in internalizing each other's resources and knowledge primarily due to unfamiliarity, tacitness, or context-specificity (Ranft and Lord, 2002; Reus, Lamont, and Ellis, 2016; Wang, Zeng, and Shenkar, 2021). To overcome these challenges, a high degree of integration can facilitate the acquirer to leverage several formal coordination mechanisms for bidirectional resource deployment and knowledge transfer. These alternatives range from structural collocation or recombination (Gray, Siemsen, and Vasudeva, 2015; Karim and Kaul, 2015), dedicated acquisition integration units (Trichterborn, Knyphausen-Aufsess, and Schweizer, 2016), activity/unit linkages and employee transfer across units (Karim, 2012; Karim and Williams, 2012; Weigelt and Miller, 2013), and cross-functional and cross-organizational teams (Graebner, 2004; Wei and Clegg, 2020). However, as the acquirer and target become familiar with each other, they may transition to informal coordination mechanisms to

develop common goals, a common identity, operating routines and language, and a unified culture to further enhance the quality of operational efficiency initiatives (Birkinshaw, Bresman, and Hakanson, 2000; Bresman et al., 1999; Puranam et al., 2009; Schweiger and Goulet, 2005; Verbeke, 2010).

In sum, cost-based synergy acquisitions are likely to have high resource reconfiguration requirements wherein the acquirer needs to interact and work jointly with the target to a significant extent. Hence, the acquirer is likely to choose a high degree of post-acquisition integration for cost-based synergy acquisitions.

H1a: Cost-based synergy acquisitions are likely to require a high degree of post-acquisition integration.

Revenue-based synergy acquisitions and the degree of post-acquisition integration

Prior research has shown that revenue-based synergies in acquisitions arise from four primary sources: First, revenue synergies may be targeted when an acquirer extends a target's existing product portfolio to enter new markets or to increase penetration in existing markets (e.g., 'bolt-on' acquisitions) (Brueller, Carmeli, and Drori, 2014; Cording et al., 2008; Karim and Mitchell, 2000; Kaul and Wu, 2016; Mitchell and Shaver, 2003). A second source of revenue synergies comes from functional complementarity between the acquirer and target's resources wherein each 'rounds off' or 'completes' the other's business model (Kim and Finkelstein, 2009; King, Slotegraaf, and Kesner, 2008; Larsson and Finkelstein, 1999; Zaheer et al., 2013). As an example, an acquirer may benefit from the R&D and product development capability of a target to augment or broaden its product portfolio while a target may benefit from the downstream resources of the acquirer to commercialize its product lines and initiate revenue generation (Austin and Leonard, 2008; King et al., 2008; Sarason and Dean, 2019; Zaheer et al., 2013). Third, revenue synergies may result from product complementarity between the acquirer and target leading to cross-selling, bundling, or umbrella branding opportunities (Briscoe and Tsai, 2011; Dranove and Shanley, 1995; Lambkin and Muzellec, 2010; Li and Agarwal, 2017; Rahman, Lambkin, and Hussain, 2016). A fourth source of revenue synergies may arise when the acquirer nurtures the target's innovation capability for developing new products in the long term (Chaturvedi and Prescott, 2020; Chen, Chang, and Lin, 2010; Grimpe, 2007; Puranam et al., 2006).

However, these studies have not discussed the degree of post-acquisition integration that an acquirer must choose for revenue-based synergy acquisitions. We propose that revenue-based synergy acquisitions are likely to have low resource reconfiguration requirements. This is because the above-mentioned initiatives related to extracting revenue synergies may not require the intensive reconfiguration associated with consolidation, divestiture, and operational efficiency required to extract cost synergies. On the contrary, revenue-based synergy acquisitions are more likely to require a 'developmental' or 'light touch' approach to integration. As part of this approach, an acquirer

may adopt a low degree of integration by reconfiguring the target resources *only* to the extent that it can tangibly enhance the target's revenue generation potential or capability to extract revenue synergies. We develop this argument as follows for each of the four initiatives linked to revenue synergies.

First, 'bolt-on' acquisitions may provide the acquirer with pre-established growth platforms in new or existing product markets (Brueller et al., 2014; Cording et al., 2008; Karim and Mitchell, 2000; Kaul and Wu, 2016; Mitchell and Shaver, 2003). Hence, the acquirer is likely to be more successful at tapping revenue synergies when it adopts a low degree of integration by establishing such targets as autonomous business units with pre-specified revenue targets and not interfering with their revenue generation model by needlessly absorbing, reconfiguring, or divesting their resources. In either instance, the acquirer may only need to interact with these targets to the extent that it may tangibly enhance their revenue generation potential (Borot et al., 2016; Cogman and Tan, 2010; Reeves et al., 2016; Zaheer et al., 2013). For instance, the acquirer may selectively deploy resources such as high-quality raw materials, manufacturing scale, sales, marketing, and brand development and after-sales service teams to enhance the revenue and market share generation potential a 'bolt-on' target (Bahadir, Bharadwaj, and Srivastava, 2008; Capron et al., 1998; Capron and Hulland, 1999; Capron and Pistre, 2002; King et al., 2008). In the event that the acquirer chooses to reconfigure target resources, it is likely to do so only to a limited extent to optimize the revenue generation potential of the combined product portfolio and not to disrupt the target's revenue generating resources e.g., divesting overlapping products and brands and revoking redundant marketing budgets and salesforce incentives (Fee, Hadlock, and Pierce, 2012; Homburg and Bucerius, 2005; Knudsen et al., 1997; Wiles et al., 2012).

Second, when revenue synergies are linked to functional complementarity, the acquirer may only need to selectively deploy functional resources that may enable the target to 'round off' or 'complete' its business model, thus developing its revenue generation capability and providing it with a launching pad for revenue growth (Austin and Leonard, 2008; Brueller et al., 2014; Chatterjee and Brueller, 2015; King et al., 2008; Zaheer et al., 2013). A low degree of integration is likely to enable the acquirer to effectively achieve such limited resource sharing without disrupting the target's alternative operations. For instance, an acquirer may choose to only share its downstream resources with a target that has novel products but may require support to commercialize those products and develop new revenue streams as opposed to engaging with the other resources of target (Austin and Leonard, 2008; King et al., 2008; Sarason and Dean, 2019; Zaheer et al., 2013).

Third, when revenue synergies are targeted via product-related complementarity, the acquirer may only need to interact with the target to the limited extent of deploying cross-functional or cross-organizational teams that may leverage such complementarity (Castaner and Karim, 2013; Chen et al., 2010; Cogman and Tan, 2010; Graebner, 2004). These teams may enable to acquirer and target to jointly estimate the potential demand for bundled products or cross-selling opportunities (Bamford, Chickermane, and Nandy, 2017; Chartier, Liu, and Lyon, 2020; Rahman et al., 2016), identify co-specialized products or pool products for bundling or umbrella branding (Lambkin and Muzellec, 2010; Li and Agarwal, 2017), and train and incentivize the combined salesforce for cross-selling and selling bundled product lines (Bamford et al., 2017; Chartier et al., 2020). These outcomes are most likely to be effectively achieved via a low degree of integration.

In the fourth instance, when revenue synergies are based on the target's innovation capability, an acquirer may adopt a no-integration policy (i.e., autonomy) to preserve the contextual embeddedness and specificity of its R&D and product development capabilities, thus nurturing its long term revenue generation potential (Borot et al., 2016; Puranam et al., 2006; Reeves et al., 2016). Autonomy is critical to the success of such targets as their resources and capabilities differ significantly from those of the acquirer hence requiring structural and contextual separation (Chaturvedi and Prescott, 2022; Datta and Grant, 1990; Schweizer, 2005). Furthermore, autonomy is likely to have a positive effect on the motivation and product development capabilities of target employees facilitating the acquirer's attempts to develop a robust strategy for extracting revenue synergies (Gambardella, Khashabi, and Panico, 2020; Langfred, 2005; McGrath, 2001). Even if the acquirer chooses to reconfigure the target's resources, it may only absorb the target's administrative and support functions into its organization but will likely refrain from disturbing the R&D and product development functions of the target (Austin and Leonard, 2008; Chaturvedi and Prescott, 2022; Reeves et al., 2016; Schweizer, 2005).

Our arguments indicate that an acquirer is more likely to successfully realize revenue synergies when it adopts a low degree of integration. If the acquirer chooses a high degree of integration, it risks damaging the revenue generation potential and capability of the target, thus nullifying the revenue synergy rationale of the acquisition. For instance, consolidation and recombination may disrupt the revenue generation operations of the target while divestiture may result in the loss of key resources that are central to revenue generation (Paruchuri et al., 2006; Puranam et al., 2006; Puranam and Srikanth, 2007; Schweizer, 2005; Wei and Clegg, 2020). Thus, we theorize that

an acquirer is likely to choose a low degree of post-acquisition integration for revenue-based synergy acquisitions to address the lesser resource reconfiguration requirements of the initiatives linked to extracting revenue synergies.

H1b: Revenue-based synergy acquisitions are likely to require a low degree of post-acquisition integration.

Mediating effect of the degree of post-acquisition integration

The conceptual logic for our hypothesized mediating effect of the degree of post-acquisition integration on the relationship between the operating synergy rationale in acquisitions and acquirer performance corresponds to the indirect-only mediation effect as proposed by Zhao, Lynch, and Chen (2010). In this scenario, there may be no direct effect observed between the independent and dependent variables without the mediating variable. However, there is likely to be an indirect effect with the introduction of the mediating variable (Zhao et al., 2010). Extending this logic to our study, we conceptualize the degree of integration as a mediating mechanism that explains the relationship between the operating synergy rationale in acquisitions and acquirer performance. That is, we do not expect to observe a direct effect between the operating synergy rationale and acquirer performance. This is because unless an acquisition is integrated to some extent, it is unlikely to affect performance as synergies can only be realized when the acquirer integrates the target (Bauer and Matzler, 2014; Cording et al., 2008; Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999; Pablo, 1994; Zollo and Singh, 2004). However, we propose that when the acquirer chooses the degree of integration in alignment with the resource reconfiguration requirement of the operating synergy rationale of an acquisition (i.e., high and low degrees of integration for cost- and revenue-based synergy acquisitions respectively), the degree of integration is likely to exert a positive effect on acquirer performance (indirect effect). We develop the theory for the mediating effect of the degree of integration below for both cost- and revenue-based synergy acquisitions.

Cost-based synergy acquisitions

A low degree of integration may not enable an acquirer to implement the required level of resource reconfiguration for extracting cost synergies for two reasons. First, a low degree of integration may result in overcapacity in manufacturing facilities and redundancy in terms of overlapping product lines and brands, multiple suppliers for common items, and duplicated IT systems. These issues may hinder the acquirer's attempts to lower the costs of the combined organization (Agrawal et al., 2018, 2019; Bascle et al., 2008; Knudsen et al., 1997; Vestring et al., 2004). Second, a low degree of integration may isolate the target from the acquirer and hence, preclude the use of different coordination mechanisms for bidirectional resource redeployment and knowledge transfer (Davis, Robinson, Pearce, and Park, 1992; Haspeslagh and Jemison, 1991; Meyer, 2008; Wei and Clegg, 2020). This may hinder or delay the

adoption of tools and techniques required for operational excellence and process innovation, factors central to extracting cost synergies and enhancing the operational efficiency of the combined organization (Berchicci et al., 2012; Ettl and Reza, 1992; Natividad, 2014; Swink, Narasimhan, and Kim, 2005). Thus, at a low degree of integration, the acquirer may not be able to implement the reconfiguration levels required to extract cost synergies.

However, as the acquirer increases the degree of integration, it may be able to consolidate and recombine more substantial portions of the target's resources and raise divestment levels to eradicate redundancies to a greater extent (Barkema and Schijven, 2008; Castaner and Karim, 2013; Capron, 1999; Capron et al., 2001; Karim 2006). For instance, at a high degree of integration, the acquirer is more likely to realize synergies from scale economies as the absorption of the target resources leads to size- and scope-related advantages across the combined value chain (Cording et al., 2008; Haspeslagh and Jemison, 1991; Larsson and Finkelstein, 1999; Pablo, 1994; Zollo and Singh, 2004). It may employ divestiture as a tool to optimize the operating resources of the combined organization by enabling the acquirer to align manufacturing capacity with demand and eliminate value chain costs due to redundancies or inefficiencies (Capron et al., 2001; Maksimovich et al., 2011; Say and Vasudeva, 2020; Wood, 2009). A high degree of integration is also likely to enhance the effectiveness of resource redeployment and knowledge transfer as the acquirer interacts more closely with the target on operational efficiency initiatives (Birkinshaw et al., 2000; Bresman et al. 1999; Capron et al., 1998; Reus et al., 2016). As discussed, a high degree of integration may enable the acquirer and target to collaborate more effectively via several coordination mechanisms that may enable them to jointly reconfigure the combined value chain and improve operational efficiency. For instance, greater and more effective collaboration between the acquirer and target may lead to cost synergies arising from improved capacity utilization of manufacturing facilities and greater labor productivity and manufacturing conversion in the combined organization via process innovations (Berchicci et al., 2012; Cho and Wang, 2017; Dranove and Shanley, 1995; Siegel and Simons, 2010). Additionally, there may be cost synergies from decreasing industrial waste and lower inventory carrying costs, optimizing distribution networks and improving product or service quality (Braguinsky, Ohyama, Okazaki, and Syverson, 2015; Cho and Wang, 2017). A high degree of integration is also likely to enable the acquirer and target to increase the quality of learning outcomes related to enhancement in operational efficiency as repetitive interactions ease the tacitness, complexity, and context-specificity of the acquirer and target's resources and knowledge (Birkinshaw et al., 2000; Bresman et al., 1999; Haspeslagh and Jemison, 1991; Zollo and Singh, 2004).

Hence, an acquirer that acknowledges the substantial resource reconfiguration requirements of a cost-based synergy acquisition and accordingly chooses a high degree of integration may be more likely to realize the targeted cost synergies. For cost-based synergy acquisitions, we propose that a high degree of integration is likely to exert a positive effect on acquirer performance. Thus, we hypothesize:

H2a: For cost-based synergy acquisitions, the degree of post-acquisition integration is likely to exert a positive mediating effect on acquirer performance. That is, acquirer performance is likely to increase at higher degrees of integration.

Revenue-based synergy acquisitions

At a low degree of integration, an acquirer will be more likely to realize the targeted revenue synergies at lower degrees of integration. When an acquirer chooses a low degree of integration, it may reconfigure the target only to the extent to which it can augment its revenue generation potential of the target, not otherwise. This refers to the above-mentioned developmental or ‘light touch’ approach to integration comprising of initiatives such as the selective deployment of functional resources to extract revenue synergies from ‘bolt-on’, market penetration, and functional complementarity acquisitions; or when there is a more limited degree of interaction between the acquirer and target to extract revenue synergies from product complementarity or via the new product development capability of the target. A low degree of integration can enable an acquirer to improvise on the timing and magnitude of reconfiguration i.e., it can choose when to reconfigure and the extent to which it should reconfigure the target’s business operations (Borot et al., 2016; Cogman and Tan, 2010; Reeves et al., 2016; Vestring et al., 2004). More importantly, a lower degree of integration may enable the acquirer to avoid excessive reconfiguration that could be detrimental to the target’s revenue generation potential or capability.

However, as the acquirer increases the degree of integration, we predict that the acquirer may not realize the targeted revenue synergies. First, implementing a high degree of integration would lead to the acquirer abandoning its developmental and ‘light touch’ approach in favor of a more invasive, reconfiguration-intensive approach whereby it would consolidate, recombine, and divest significant proportions of the target’s resources. These initiatives are likely to significantly undermine the revenue generation potential of ‘bolt-on’ or market penetration acquisitions. A high degree of integration may lead to persistent episodes of resource recombination (between the acquirer and target resources) and divestiture that are likely disrupt the target’s revenue generation model particularly when the latter is very different from that of the acquirer (Bekier and Shelton, 2002; Borot et al., 2016; Puranam et al., 2006; Reeves et al., 2016; Vestring et al., 2004). A high degree of integration is also likely to bring the target’s R&D and product development personnel under the fiat of the acquirer’s managers thus compromising their status and need for

autonomy in the combined organization (Puranam et al., 2006; Puranam and Srikanth, 2007; Ranft and Lord, 2002; Schweizer, 2005). This may lead to significant demotivation in these personnel who may eventually depart the combined organization thus undermining the acquirer's efforts to extract revenue synergies (Bekier and Shelton, 2002; Capron and Hulland, 1999; Ng and Stuart, 2022; Reeves et al., 2016).

Second, a high degree of integration may lead to an unnecessary consolidation of the acquirer and target product lines even when there may be no revenue synergies between them. In this scenario, the acquirer may have to address a high level of operational complexity arising from differences in manufacturing requirements, co-specialization, branding, promotional needs, and salesforce incentives for both sets of product lines (Bamford et al., 2017; Bekier and Shelton, 2002; Knudsen et al., 1997; Wiles et al., 2012; Zhou and Wan, 2017). Furthermore, there is likely to be a decline in revenue when business-as-usual services provided to customers get disrupted as the above-mentioned complexity leads to errors in demand estimation, product unavailability, and salesforce attrition (Anderson et al., 2001; Bekier and Shelton, 2002; Kato and Schoenberg, 2014; Umashankar et al., 2022). In an alternative scenario, a high degree of integration is likely to lead to the acquirer erroneously divesting non-redundant product lines, initiating cuts in advertising budgets and customer-related initiatives while standardizing salesforce incentives irrespective of sales targets and pipelines (Capron and Hulland, 1999; Capron et al., 2001; Fee et al., 2012; Knudsen et al., 1997; Wiles et al., 2012). These developments may damage brand appeal and pricing potential due to lower customer willingness. As a result, the acquirer may have to address issues of demotivated sales, marketing, and service personnel along with increasing customer attrition due to decreasing brand loyalty (Bekier and Shelton, 2002; Bommaraju, Ahearne, Hall, Tirunallai, and Lam, 2018; Briscoe and Tsai, 2011; Umashankar et al., 2022).

Finally, functional resources linked to deriving revenue synergies via new product development have been known to require different degrees and mechanisms of reconfiguration and at different stages of the product life cycle (Brettel, Heinemann, Engelen, and Neubauer, 2011; Chen et al., 2010; Olson, Walker, Ruekert, and Bonner, 2001; Swink et al., 2005). For instance, R&D and marketing teams tend to collaborate more closely during the early stages of the product life cycle such as product design and development (Chen et al., 2010). However, in the later stages such as product testing and rollout, R&D and marketing may have a closer collaboration with manufacturing but not with each other (Brettel et al., 2011; Olson et al., 2001; Souder, Sherman, and Davies-Cooper, 1998). Similarly, collaboration between R&D and manufacturing may be most effective when they are integrated via structural colocation (Ettlie and Reza, 1992; Gray et al., 2015; Swink et al., 2005) but for R&D and marketing, remote

collaboration is effective as long as communication is frequent (Song and Montoya-Weiss, 2001; Van den Bulte and Moenaert, 1998). A high degree of integration may impose a uniform expectation on its functional organization in terms of collaborating with the acquirer's resources. As it is less likely to accommodate the above-mentioned nuances in collaborative requirements, it may undermine the new product development capability of the target.

Our theoretical arguments predict that an acquirer that chooses a high degree of integration may be less likely to realize the targeted revenue synergies from an acquisition. In this scenario, as the revenue synergies may not materialize, we theorize that integration is likely to exert a negative effect on acquirer performance. Hence, we hypothesize the following:

H2b: For revenue-based synergy acquisitions, the degree of post-acquisition integration is likely to exert a negative mediating effect on acquirer performance. That is, acquirer performance is likely to decrease at higher degrees of integration.

DATA, VARIABLES AND ECONOMETRIC APPROACH

We gathered data on domestic (US-based) acquirers over a period of 2008-2019 from the Security Data Company (SDC) database. We chose this sample period as it represented the start of a new business cycle *ex post* the credit crunch crisis of 2008 wherein acquisition activity accelerated in the United States before slowing again in 2020 due to the onset of the COVID-19 pandemic that signaled the conclusion of the business cycle (Kengelbach et al., 2020). We obtained an initial sample of 2092 acquisitions. We only included an acquisition in our sample if it fulfilled the following three criteria – a) if the acquisition was completed, b) if the acquirer and target were both publicly traded companies (as we required data from their annual reports) and c) if the acquisition deal value was greater than \$10 million as per extant research on acquisitions. We could not obtain data for 528 acquisitions as the target was not a public company leading to a reduced sample of 1564 acquisitions. We were not able to distinctly identify an operating synergy rationale in 112 acquisitions (i.e., whether the acquisition was based on realizing cost or revenue synergies). Second, in 74 acquisitions, the acquirer intended to gain access to technological or knowledge assets such as patents. We did not include these 74 technology acquisitions in our final dataset because the post-acquisition integration process was concerned with the integration of human capital and technological resources such as patents, R&D, and technical personnel (Arora et al., 2014; Paruchuri et al., 2006; Puranam et al., 2006; Puranam and Srikanth, 2007). Thus, in these 74 acquisitions, integration was not consonant with the resource reconfiguration principles required for realizing operating synergies (Capron et al., 1998, 2001; Capron, 1999; Castaner and Karim, 2013; Karim, 2006). Our final dataset had 1378 acquisitions by 416 acquirers belonging to 33 four-digit SIC codes. We gathered

control variable and performance data from the SDC, COMPUSTAT, CRSP databases, and annual reports of the acquirers and targets. Table 1 presents the control variables. The unit of analysis was the acquisition-year.

Insert table 1 about here

Independent variable (IV)

Operating synergy rationale in acquisition - To classify the operating synergy rationale in an acquisition, we directly measured the synergy rationale behind an acquisition as declared by managers in publicly available archival sources such as press releases for the acquisition announcement, conference call transcripts, and SEC EDGAR database filings as established in research on acquisitions (Hu, Shofli, and Wang, 2021; Kimbrough and Louis, 2011; Rabier, 2017). The advantage of this approach is that it permits replicability of analyses (Bettis et al., 2016; Kimbrough and Louis, 2011; Rabier, 2017)². We matched the operating synergy rationale given by an acquiring firm's managers in the three sources above to the different synergy rationales identified in scholarly research on acquisitions shown in table 1 in Appendix I. To test H1, we operationalized a cost-based synergy acquisition as a categorical variable coded one when the synergy rationale linked to it had a higher number of pointers targeting cost reduction and zero, otherwise. In contrast, to test H2, we operationalized a revenue-based synergy acquisition as a categorical variable coded one when the synergy rationale linked to it had a higher number pointers targeting revenue growth and zero, otherwise. Of the 1378 acquisitions, 532 had a cost-based and 846 had a revenue-based synergy rationale. We provide examples of our coding approach in Appendix I³.

Dependent variable (DV)

Acquirer performance – As per prior research, we chose two long term accounting-based measures to operationalize the DV – i) change (δ) in EBITDA margin (EBITDA margin is defined as the ratio of the earnings before interest, taxes, depreciation and amortization and total revenue) and ii) revenue growth. Accounting measures reflect the actual performance of the acquirer that is realized as an outcome of integration over prior time periods

² We acknowledge that managers may have incentives to confound or obfuscate the synergy rationale behind an acquisition (Core, 2001; Morck, Shleifer, and Vishny, 1990). However, our sample comprises public firms that are bound by SEC regulations to file the details of the acquisitions and conduct conference calls with financial market actors such as analysts wherein they must explicitly state the synergy rationale and give a quantified estimate of the targeted synergies. Analysts pose questions to managers on how the synergies will be realized, what the integration plan is, etc. These conference calls transcripts are made publicly available via databases such as Standard and Poor's Capital IQ. In subsequent conference calls, managers are required to update analysts on synergy realization and the overall progress of integration. These requirements are likely to dis-incentivize managers from being 'strategic' in publicly available disclosures related to the synergy rationale behind acquisitions. We ran robustness checks to address this issue (Appendix III).

³ Managers may present both cost-based and revenue-based synergy rationales in the same acquisition (Castaner and Karim, 2013; Dranove and Shanley, 1995; Feldman and Hernandez, 2022; Homburg and Bucerius, 2005). However, one is likely to dominate the other and thus, we counted the pointers aligned to each synergy rationale for each acquisition to identify an acquisition as having a cost-based or revenue-based synergy rationale (discussed in Appendix I).

(Cording Christmann, and Weigelt, 2010; Oler, Harrison, and Allen, 2008; Zollo and Meier, 2008). In comparison, short term and long term stock performance measures reflect the expected performance in future periods (Cording et al., 2010; Zollo and Meier, 2008). We calculated both variables as per Cording et al. (2010) using a two-year time period. In these equations, the industry is defined as all the firms in the same three-digit SIC code as the acquirer.

$\delta \text{ EBITDA margin} = \frac{\text{Acquirer mean EBITDA margin}_{\text{two-year post-acquisition}} - \text{Industry mean EBITDA margin}_{\text{two-year post-acquisition}}}{\text{Acquirer mean EBITDA margin}_{\text{two-year pre-acquisition}} - \text{Industry mean EBITDA margin}_{\text{two-year pre-acquisition}}}$
$\text{Revenue growth} = \frac{\text{Acquirer mean revenue}_{\text{two-year post-acquisition}} - \text{Industry mean revenue}_{\text{two-year post-acquisition}}}{\text{Acquirer mean revenue}_{\text{two-year pre-acquisition}} - \text{Industry mean revenue}_{\text{two-year pre-acquisition}}}$

We followed this approach as per scholarly and practitioner insights suggesting that integration typically takes two to three years to complete and the targeted synergies should ideally be realized during that period (Bascle et al., 2008; Cording et al., 2010; Oler et al., 2008; Zollo and Meier, 2008). After that period, resources and managerial attention may be redeployed to business-as-usual concerns and integration may be subordinated. We used a three-year time period for both DVs as a robustness check.

Cost- and revenue-based synergy acquisitions are likely to affect acquirer performance differently due to the different value logics underpinning synergy realization i.e., cost reduction and revenue growth respectively. Hence, we employed a profitability-based measure of acquirer performance (EBITDA margin) and a growth-based measure (revenue growth). The δ EBITDA margin captures the net operating synergy benefits accruing to the acquirer due to the resource reconfiguration processes underpinning integration since realized synergies are accounted for in an acquirer's income statement for each year (Damodaran, 2006; Koller, Goedhart, and Wessels, 2010; Sirower and O'Byrne, 1998; Sirower and Sahni, 2006). Furthermore, using δ EBITDA margin helped us eliminate performance benefits arising from factors not related to operating synergies such as tax shields resulting from greater debt capacity, higher financial slack due to increased cash reserves, and changes to depreciation policies. Similarly, revenue growth is an outcome of resource reconfiguration linked to integration that contributes to revenue synergies and is included in the revenue figure in the income statement. However, as several extraneous factors can affect both our measures (Cording et al., 2010), we also ran several robustness checks (discussed in Appendix III).

Mediator variable

Degree of post-acquisition integration – We propose a novel measure for the degree of post-acquisition integration that bears methodological congruence to the resource reconfiguration lens. We define the degree of integration as *'the extent to which the acquirer absorbs the operating resources of the target within its own organization'*. The degree of integration

pertains to the *changes* made to operating resources and represents a central resource reconfiguration mechanism via which acquirers aim to realize cost- and revenue-based synergies. We view the four processes mentioned in Karim and Capron (2016)'s definition of resource reconfiguration (adding, subtracting, recombining, and redeploying resources) as constituting the process of integration that enables the acquirer to realize the targeted cost- and revenue-based synergies by integrating the physical resource base of the target within its organization. We captured two resource reconfiguration processes characterizing integration – i) changes to the operating resource base of the acquirer over time as the target resources are consolidated or reconfigured with the acquirer's resources and ii) resource divestiture revenue - the acquirer will eliminate redundancy and operational inefficiency via resource divestiture. This divestiture activity can be captured by recording the revenue that accrues to the acquirer when divestiture occurs. The revenue figure will change over time as per the magnitude and frequency of divestiture.

In conjunction, both these processes occur in the combined acquirer and target organization. We gathered data corresponding to both processes from COMPUSTAT and/or the acquirer and target's annual statements⁴. Suppose an acquirer made an acquisition in year 't' and initiated the integration of the target in year 't'. We propose that the degree of integration after a period of 'n' years i.e., 't+n' years where 'n' takes values of one, two, or three years is the difference between the post-acquisition in year 't+n' and pre-acquisition ratios in year 't' of the revenue from the resource divestiture and the operating resource base of the acquirer and target. We defined the post-acquisition ratio in year 't+n' as the ratio of the revenue from resource divestiture and the consolidated operating resource base of the acquirer and target that represents the combined state of the acquirer and the target as a result of integration over 'n' years from the year of acquisition 't'. Next, we defined the pre-acquisition ratio in year 't' as the ratio of the revenue from resource divestiture for the acquirer and target and the operating resource bases of the acquirer and target that represents their standalone or pre-acquisition state. It is to be noted that prior to the acquisition in year 't', the acquirer and target exist as independent firms and hence, their resource divestiture revenue and standalone operating resource bases will not reflect any changes from post-acquisition integration. Hence, if we did not include the target's data in our calculation of the pre-acquisition ratio, the value of the difference between

⁴ Changes to the operating resource base and resource divestiture revenue capture the RR processes the acquirer employed to realize the targeted synergies. We accessed these figures from the balance sheets of the acquirer and target and in some cases, from the statement of cash flows. However, in M&A accounting, the corresponding integration costs for both these processes (changes to the operating resource base and resource divestiture) flow through to the income statement and are directly proportional to the magnitude and nature of RR undertaken by the acquirer (Damodaran, 2006; Koller et al., 2010; Sirower and O'Byrne, 1998; Sirower and Sahni, 2006). For instance, RR may be incremental or discontinuous in nature and may affect certain resources or entire business units bearing different cost implications (Barkema and Schijven, 2008; Girod and Karim, 2017; Karim and Capron, 2016, p. 2).

the post-acquisition and pre-acquisition ratios would be biased upward. That is, the degree of integration variable is likely to be overestimated. Thus, the pre-acquisition ratio is a baseline at year ‘t’ that when subtracted from the post-acquisition ratio at year ‘t+n’ gives the magnitude of change in the acquirer and target when they are combined as a result of integration up till year ‘t+n’ i.e., ‘n’ years after the acquisition vis-à-vis their status as independent enterprises in year ‘t’ i.e., prior to the acquisition. The greater the value of the difference in pre- and post-acquisition ratios, the greater is the magnitude of change and hence, the greater is the degree of integration.

Next, we took the ratio of the natural logarithms of the book value (difference between total assets and total liabilities) of a focal target acquired in year ‘t’ to the total book values of all targets that were acquired in year ‘t’. We took this step since most acquirers in our sample made more than one acquisition in several years of the sample period and the financial statements of an acquirer provide consolidated data for revenue from resource divestiture and the operating resource base of the acquirer that result from the integration of multiple acquisitions. Finally, we subtracted the pre-acquisition ratio from the post-acquisition ratio and multiplied this value by the ratio of the book value of the focal target for whom the degree of integration was calculated and the sum of the book values of all targets that were acquired in the given year. This approach enabled us to adjust for any integration idiosyncrasies arising from the different size and resource profiles of multiple targets acquired in a single year. The above discussion can be captured by the following mathematical expression,

Degree of post-acquisition integration $DPI_{\text{acquirer}, (t+n), t}$ (‘n’ years post-acquisition; between years ‘t+n’ and ‘t’)

$$= \left\{ \left[\sum_{i=1}^n \frac{\ln(1+ADR_{\text{acquirer}, t+i} - NAR_{\text{acquirer}, t+i}) + 1}{\ln(1+OAB_{\text{acquirer}, t+i} - NAI_{\text{acquirer}, t+i}) + 1} \right] - \frac{\ln(1+ADR_{(\text{acquirer} + \text{target}), t}) + 1}{\ln(1+OAB_{(\text{acquirer} + \text{target}), t}) + 1} \right\} * \frac{\ln(X)}{\sum_j \ln(X_j)}$$

post-acquisition ratio (‘t+n’ years)
pre-acquisition ratio (‘t’ years)
target size adjustment

where, ADR – total asset divestiture revenue, NAR – non-acquisition related asset divestiture revenue, OAB – operating asset base proxied by property, plant, and equipment or fixed assets, NAI – non-acquisition related increase in operating assets, ‘X’ refers to the book value of the focal target acquired in year ‘t’ for which the degree of integration measure is calculated. X_j refers to the sum of the book values of all the ‘j’ targets acquired in year ‘t’.

We used a two-year horizon for post-acquisition integration for each target. That is, in the equation above, ‘n’ equals two and ‘i’ takes the value of ‘one’ and ‘two’ for our main analyses. The value of the degree of integration variable ranges from zero to one with greater values indicating higher degrees of integration and *vice versa*. We took the square of this variable to test for the curvilinear effects predicted in our hypotheses. We used a three-year horizon (‘n’ equal to three) as a robustness check given the above discussion related to two- and three-year periods being

central to estimating the effect of integration on acquirer performance. Appendix II provides a working example of how we calculated the degree of integration for Conagra Inc.'s 2018 acquisition of Pinnacle Foods.

We lagged our variables to ensure temporal precedence between the IV, mediators and DV and to avoid any sources of bias and measurement error in our mediation model (Aguinis, Edwards, and Bradley, 2017; MacKinnon et al., 2002). Specifically, we measured the IV (synergy rationale in acquisition) at time 't-3', lagging it by three years. We measured the mediator variable (degree of integration) at time 't-2', lagging it by two years. We measured our DVs (Δ EBITDA margin and revenue growth) at time 't'. This approach enables us to provide a temporal interval to account for acquirers choosing different degrees of integration and linking it to performance (Barkema and Schijven, 2008; Capron, 1999; Girod and Karim, 2017; Karim, 2006). We tested other lag structures as robustness checks.

Econometric approach

We employed the modified causal step approach to test for mediation (Kenny, Kashy, and Bolger, 1998) as per recent research (Caner, Bruyaka, and Prescott, 2018; Chaturvedi and Prescott, 2020; Moeen, 2017). First, we tested for joint significance of the relationship between the IV (operating synergy rationale) and mediator (degree of integration). Next, we tested for joint significance of the mediator and the DV (acquirer performance). This approach is advantageous due to high statistical power and low type one error (Aguinis et al., 2017; Kenny et al., 1998; MacKinnon et al., 2002).

While we included several control variables, based on the dynamics underpinning our mediation model, we had to address three empirical challenges. First, there is likely to have been endogeneity in the IV and the mediator. That is, an acquirer may self-select into making cost- or revenue-based synergy acquisitions and choosing a specific degree of integration in a later time period if it may have experienced performance-related benefits related to either or both in earlier periods (Anand, Mulotte, and Ren, 2016; Mitchell and Shaver, 2003; Shaver, 2005; Zollo and Singh, 2004). This may lead to reverse causality issues in our model when the error term is correlated with the IV and mediator. To address this, we controlled for one- and two-year lagged values of the DV in our models. This leads to a second issue wherein OLS regression is not advisable as the lagged DV values may be inflated at the expense of the IV and mediator leading to biased coefficients (Keele and Kelley, 2006). A third issue arises due to omitted variable bias from time-invariant fixed effects such as geographical origin, culture, structure (Shaver, 2005).

We addressed the above issues by assuming that each of our control variables along with the IV and mediator was potentially endogenous. Hence, we used the Arellano-Bond (AB) generalized method of moments (GMM)

estimator that performs a first-differencing procedure for all variables and lags them appropriately by creating instruments to eliminate the time-invariant fixed effects while addressing the issue of inflated lagged DV coefficients (Arellano and Bond, 1991; Roodman, 2009a, b). This approach has been used in recent research on acquisitions (Barkema and Schijven, 2008; Bertrand and Zuniga, 2006; Bertrand and Capron, 2015; Chaturvedi and Prescott, 2020). We chose a system-GMM estimator for our model as it adheres to a steady state assumption whereby the instrument variables need to be uncorrelated to the fixed effects due to a ‘random walk’ pattern (Roodman, 2009a). We chose this approach since acquirers in our sample may have prioritized different synergies in their acquisitions and may have had different integration capabilities (Anand et al., 2016; Barkema and Schijven, 2008; Brueller et al., 2014; Chatterjee and Brueller, 2015; Zollo and Singh, 2004). Furthermore, each target is likely to have required an idiosyncratic degree of integration for successful synergy realization. Hence, the mediating effect of the degree of integration on the synergy rationale-acquirer performance relationship was likely to have been random, depending only on the acquirer- and acquisition-specific factors discussed above. We employed alternative econometric approaches as robustness checks discussed in Appendix III.

RESULTS

Table 2 gives the correlations and descriptive statistics for the study. Tables 3, 4, and 5 show our results. Panels 1a-1d in figure 1 shows the graphical representation of the results. Multi-collinearity was not an issue in our analysis as the mean variance inflation factor was below 10 (considered appropriate) for our variables. The mean of degree of post-acquisition integration was 0.563. On average, acquirers integrated 56.3 percent of their targets. The requirements for statistical robustness for the AB-GMM specification (Roodman, 2009a, b) were met for each model as shown in tables 3, 4, and 5 and are discussed in Appendix III. For each model, we reported heteroscedasticity-adjusted robust standard errors clustered at the acquirer level (Shaver, 2005; Windmeijer, 2005).

Insert tables 2, 3, 4, 5 and figure 1 about here

Hypothesis 1a stated that cost-based synergy acquisitions will require a higher degree of post-acquisition integration relative to revenue-based synergy acquisitions. From model 2 in table 3, this hypothesis was supported. The degree of integration for cost-based synergy acquisitions was about 79 percent greater *relative* to that for revenue-based synergy acquisitions (Model 2, Table 3: $\beta = 0.787$, $p < .01$).

Hypothesis 1b stated that revenue-based synergy acquisitions will require a lower degree of post-acquisition integration relative to cost-based synergy acquisitions. From model 3 in table 3, this hypothesis was supported. The

degree of integration for revenue-based synergy acquisitions was about 32 percent lower *relative* to that for cost-based synergy acquisitions (Model 3, Table 3: $\beta = -0.322$, $p < .05$).

Hypothesis 2a stated that for cost-based synergy acquisitions, the degree of post-acquisition integration will exert a positive mediating effect on acquirer performance relative to revenue-based synergy acquisitions. That is, acquirer performance will increase at higher degrees of integration. For mediation to hold, the first condition of Kenny et al. (1998) is that the IV should have a significant effect on the mediator. This condition is met as discussed above in the result for hypothesis 1a. Kenny et al. (1998)'s second condition is that the mediator should exert a significant effect on the DV. From tables 4 and 5, this condition was also satisfied. The degree of integration had a positive and significant effect on δ EBITDA margin (Model 4, Table 4: $\beta = 0.252$, $p < .05$) and on revenue growth (Model 4, Table 5: $\beta = 0.271$, $p < .01$). As per the third condition of Kenny et al. (1998), the IV should have a significant effect on the DV when the mediator is controlled for. This condition was satisfied in tables 4 and 5. When the degree of integration was controlled for in model 5 of tables 4 and 5, the main effect of the cost-based synergy acquisition variable turned *significant* in its prediction of δ EBITDA margin (Model 5, Table 4: $\beta = 0.431$, $p < .01$) and revenue growth (Model 5, Table 5: $\beta = -0.049$, $p < .05$). In comparison, model 2 in both tables shows that the main effect (without controlling for the mediator) was *not significant* (δ EBITDA margin: Model 2, Table 4: $\beta = 0.336$; revenue growth: Model 2, Table 5: $\beta = -0.153$). Thus, we found support for H2a and our theoretical framework predicting an indirect only mediation effect as per Zhao et al. (2010).

In material terms, cost-based synergy acquisitions contributed to a 43 percent greater increase in EBITDA margin and a five percent lesser increase in revenue growth relative to revenue-based synergy acquisitions given the mediating effect of the degree of integration. Panels 1a and 1b of figure 1 show the marginal mediating effect of the degree of integration on the cost-based synergy acquisition-acquirer performance relationship for δ EBITDA margin and revenue growth relative to revenue-based synergy acquisitions, respectively. As the degree of integration increased to 10 percent, the acquirer's EBITDA margin and revenue decreased by about 32 percent and 19 percent (panels 2a and 2b, respectively). However, as the degree of integration increased beyond 10 percent, the EBITDA margin and revenue steadily increased to the point when the degree of integration was 100 percent i.e., the target was fully integrated (about 28 percent and 23 percent relative to revenue-based synergy acquisitions from panels 2a and 2b, respectively). These results demonstrate that higher degrees of integration positively affected performance for

cost-synergy acquisitions. In appendix IV, we provide qualitative evidence in support of this result by describing Bimbo Bakeries USA's acquisition of Sara Lee Bakeries USA in 2011, a cost-based synergy acquisition.

Hypothesis 2b stated that for revenue-based synergy acquisitions, the degree of post-acquisition integration will exert a negative mediating effect on acquirer performance relative to cost-based synergy acquisitions. That is, acquirer performance will decrease at higher degrees of integration. For mediation to hold, the first condition of Kenny et al. (1998) is met as discussed above in the result for hypothesis 1b. The second condition of Kenny et al. (1998) was fulfilled as per the discussion above on H2a from model 4 of tables 4 and 5. When the degree of integration was controlled for in model 6 of tables 4 and 5, the revenue-based synergy acquisition categorical variable exerted a negative and significant main effect on both δ EBITDA margin (Model 6, Table 4: $\beta = -0.456$, $p < .01$) and revenue growth (Model 6, Table 5: $\beta = -0.142$, $p < .01$) implying a negative mediating effect on both performance metrics. In comparison, model 2 in both tables shows that the main effect (without controlling for the mediator) was *not significant* (δ EBITDA margin: Model 3, Table 4: $\beta = -0.308$; revenue growth: Model 3, Table 5: $\beta = 0.402$). This fulfils the third condition of Kenny et al. (1998). Thus, we found support for H2b and our theoretical framework predicting an indirect only mediation effect as per Zhao et al. (2010).

In material terms, revenue-based synergy acquisitions contributed to a 46 percent lower increase in EBITDA margin and a 14 percent lesser increase in revenue growth relative to cost-based synergy acquisitions given the mediating effect of the degree of integration. Panels 1c and 1d of figure 1 show the marginal mediating effect of the degree of integration on the revenue-based synergy acquisition-acquirer performance relationship for δ EBITDA margin and revenue growth relative to cost-based synergy acquisitions respectively. As the degree of integration increased to 10 percent, the acquirer's EBITDA margin and revenue increased by about 11 percent and 16 percent (panels 2c and 2d, respectively). However, as the degree of integration increased beyond 10 percent, the EBITDA margin and revenue steadily decreased to the point when the degree of integration was 100 percent i.e., the target was fully integrated (about 24 percent and 30 percent from panels 2c and 2d, respectively). These results demonstrate that higher degrees of integration negatively affected performance for revenue-based synergy acquisitions and that lower degrees of integration were likely to positively affect acquirer performance. In appendix IV, we provide qualitative evidence for this result by describing General Mills Inc.'s acquisition of Blue Buffalo Pet Products Inc. in 2018, a revenue-based synergy acquisition.

Our results for H1 and H2 were also robust to several checks detailed in Appendix III.

DISCUSSION AND CONCLUSION

Our study contributes to research on post-acquisition integration and the reconfiguration lens of the dynamic capabilities literature. It also has important implications for practicing managers.

Contribution

First, our study advances research on post-acquisition integration by providing a plausible explanation for the conflicting findings in this literature. For instance, some studies have found support for a high degree of integration exerting a positive effect on acquirer performance (Bauer and Matzler, 2014; Cording et al., 2008; Larsson and Finkelstein, 1999; Pablo, 1994; Zollo and Singh, 2004), other studies finding support for a negative effect (instead finding support for positive effect for a low degree of integration or target autonomy on acquirer performance) (Chen et al., 2017; Colman, 2020; Puranam et al., 2006; Puranam and Srikanth, 2007), and a third set of studies finding that a 'blended' approach to integration positively affects acquirer performance (Chatterjee and Brueller, 2015; Chaturvedi and Prescott, 2022; Kroon et al., 2022; Schweizer, 2005; Zaheer et al., 2013). Our study demonstrates that the degree of integration in an acquisition may be determined by the synergy rationale in an acquisition (e.g., the operational synergy rationale in the context of our study) in accordance with the resource reconfiguration requirements of the acquisition. For instance, our results show cost- and revenue-based synergy acquisitions have high and low resource reconfiguration requirements and hence, were likely to lead to acquirers choosing a high and low degree of integration respectively. Additionally, as the degree of integration increased, it exerted a positive mediating on acquirer performance for cost-based synergy acquisitions but a negative mediating effect for revenue-based synergy acquisitions. Thus, our results indicate that the conflicted findings in the literature may be an outcome of scholars examining the effect of integration on performance without factoring in the synergy rationale of an acquisition and the level of resource reconfiguration that may be required as part of integration.

For instance, in the first set of studies discussed above, it is likely that different synergy rationales may have been combined resulting in an overall positive effect of the degree of integration on acquirer performance. Likewise, the studies in the second and third set have predominantly examined acquisitions in a technological context and hence, it may be the context-specific nature of human capital and technological resources in such acquisitions that led to empirical support for a low degree of integration or target autonomy positively affecting acquirer performance. This may also be attributed to the more general observation that technological synergies are more likely to arise when resources are preserved via mechanisms such as structural differentiation, autonomous charters, and specialized

incentives with a bare minimum level of administrative fiat or managerial interference. By disaggregating the operating synergy rationales in our sample, we were able to unpack the nuance inherent to the acquirer's decision of choosing the degree of integration by how this decision was different for cost- and revenue-based synergy acquisitions. Furthermore, by employing the reconfiguration perspective to examine how post-acquisition integration affects acquirer performance, our study responds to Bodner and Capron (2018) who emphasized the potential of the reconfiguration perspective as a theoretical lens in uncovering novel insights related to the post-acquisition integration-performance relationship.

For instance, in panels 1a and 1b in figure 1, for cost-based synergy acquisitions, the δ EBITDA margin and revenue growth consistently increased with an increase in the degree of integration. However, both performance measures only turned positive at moderately high degrees of integration (37 percent and 30 percent i.e., when about one-thirds of the target was integrated). This observation indicates that only after a substantial level of resource reconfiguration was undertaken by the acquirer was there a positive impact on both performance measures. In contrast, in panels 1c and 1d, both performance measures consistently decreased with an increase in the degree of integration. However, as the degree of integration exceeded 35 percent and 27 percent respectively (i.e., when the acquirer integrated between one-fourths to one thirds of the target), both performance measures for revenue-based synergy acquisitions turned negative. That is, even a minimal level of resource reconfiguration was likely to negatively impact acquirer performance. Thus, the established research finding in the first set of studies mentioned above that a high degree of integration positively affects performance may only hold for cost-based synergy acquisitions but not for revenue-based synergy acquisitions. Hence, this may be indicative of a prospective boundary condition that warrants further theoretical and empirical investigation in terms of how much integration is likely to positively affect acquisitions with differing synergy rationales.

Additionally, the trends in panels 1a-1d indicate that the acquirers were unlikely to have conceptualized the integration decision as a dichotomy between structural integration and autonomy. If they did, there were likely no grounds for observing a trend from our results. The appearance of a linear trend implies that acquirers likely viewed the integration decision as one concerning the *extent* to which the target's resources were to be integrated i.e., integration was a matter of degree (Bascle et al., 2008; Borot et al., 2016; Vestring et al., 2004). Our findings thus indicate that the integration decision in operating synergy acquisitions is more complex than resolving an integration-autonomy dilemma, choosing a high level of integration, or adopting a 'blended' approach to integration.

In tandem, our study offers a novel approach to operationalizing post-acquisition integration. We measured the change in the operating resource bases and the revenue from resource divestiture associated with post-acquisition integration in the combined acquirer and target organization vis-à-vis both organizations prior to the acquisition. We employed data from the annual statements of acquirers and targets to develop this measure. The issue of operationalizing the level of integration in acquisition research has been a challenging one for scholars over time (Bodner and Capron, 2018). While scholars have employed patent data, categorical variables, and survey instruments, to operationalize the level of integration, each of these has limitations (as discussed in the introduction). Furthermore, these established approaches may have inadvertently prevented scholars from examining the nuance and complexity faced by acquirers while choosing the degree of integration. Our proposed measure relaxes some of these limitations by re-conceptualizing integration as the degree to which the acquirer integrates the target's resources in its organization, thus capturing the resource reconfiguration processes underpinning integration. Additionally, as a firm's annual statements are legitimized artifacts for evaluating the yearly change in a firm's resources (Damodaran, 2006; Koller et al., 2010; Puhakka, 2017), our measure demonstrates the practical importance of employing annual statements in making sense of changes occurring to the acquirer and target resources during acquisition integration.

For instance, in the mathematical expression for the degree of integration, we were able to capture the changes made to the acquirer and target resources due to integration since the constituent figures taken from the balance sheet and statement of cash flows provided the yearly change in the resource stock for both firms. These changes also constitute the realized synergies and integration costs that flow through to the income statement and contribute to changes in the acquirer's EBITDA margin and revenue (Sirower and O'Byrne, 1998; Sirower and Sahni, 2006). Thus, employing data from annual statements enabled us to estimate the changes to the combined organization's resources with greater granularity via a closer examination of how these changes affected acquirer performance. As annual statements are publicly available, our measure is tractable as it is not limited by survey response rates or to the lack of gradation inherent to categorical variables (Bodner and Capron, 2018; Paruchuri et al., 2006; Rabier, 2017). More importantly, it is replicable in subsequent research as scholars can recreate and refine it (Bettis et al., 2016; Rabier, 2017). Hence, our measure represents an initial step towards encouraging scholars to develop empirically tractable and replicable instruments to better understand post-acquisition integration.

Secondly, our study also contributes to research on the resource reconfiguration lens aligned to the dynamic capabilities literature (Eisenhardt and Martin, 2000; Helfat et al., 2007; Karim, 2006; Karim and Capron, 2016; Teece,

2007). In their review of resource reconfiguration, Karim and Capron (2016) expatiate on the central role of reconfiguration as a dynamic capability that includes the addition, subtraction, recombination, and redeployment of resources for value creation. We extend prior work on the reconfiguration lens by showing that the theoretical utility of this perspective may lie in explicating how the alignment between the approach to reconfiguration (high or low reconfiguration) and the source of value creation (cost reduction or revenue growth) affects firm performance. Extant research has found that cost reduction and revenue growth are fundamentally different drivers of firm value. Cost reduction is concerned with greater efficiency, higher quality, lower waste, and variance reduction in operations while revenue growth is associated with innovation, experimentation, differentiation, and developing new products (Hill, 1988; Lee, Hoehn-Weiss, and Karim, 2021; Rust, Moorman, and Dickson, 2002). Our study aligns with Karim and Capron (2016) to establish that firms that are mindful of the alignment between the source of value creation and the resource reconfiguration approach may be more successful in their reconfiguration initiatives such as post-acquisition integration (p. 2).

Finally, while our study examined operating synergy acquisitions, the theoretical arguments we developed may be extendable to several cost reduction and revenue growth initiatives. For instance, internal cost reduction initiatives involving total quality implementation, decreasing operational costs or spend, layoffs, facility closure etc. may require significant levels of reconfiguration wherein managers are likely to extensively transform relevant resources. Conversely, revenue growth initiatives such as new product development projects, advertising or promotional campaigns, and salesforce training are likely to require low levels of reconfiguration wherein managers may retain a lot of autonomy in decision making and implementation.

Managerial implications

First, our study suggests that acquiring managers may note the importance of ‘tailoring’ or adapting the integration approach to the operating synergy rationale of a focal acquisition. For cost-based synergy acquisitions, managers may improve firm performance by developing integration plans based on extensively consolidating, reconfiguring and divesting the target’s resources. Importantly, ‘under-integrating’ the target’s resources may ‘leave value on the table’ resulting in lower profitability (EBITDA margin) and revenue. From an implementation standpoint, as managers begin to integrate a cost-based synergy acquisition, they may have to traverse a ‘valley of discouragement’ (the negative part of the trends below the x-axis in panels 1a and 1b that may lead to initial decline in profitability and revenue. However, managers who transition to higher degrees of integration by traversing the

‘valley’ in its entirety by reaching and surpassing transition points in 1a and 1b (i.e., the point at which the trends turn positive) may be rewarded with performance improvements as realized cost synergies overcome integration costs.

For revenue-based synergy acquisitions, acquiring managers may want to adopt a much more circumspect approach wherein they improvise on the degree of integration after having considered the nuances in terms of how much of the target should be integrated via a selective reconfiguration approach. Our results relay an important message to managers - ‘over-integrating’ the target’s resources may lead to a deleterious ‘domino effect’ – there may be an unwarranted (and needless!) rise in the degree of integration along with a disruption to the synergy potential of the target that is likely to contribute to a decline in profitability and revenue. Thus, acquiring managers may want to avoid the temptation to persist with integration beyond a certain level to ensure that the upside in profitability and revenue growth gained from a low of integration does not get frittered away. To ensure this, as managers begin to integrate a revenue-based synergy acquisition, they may want to keep track of the ‘sweet spot’, or the transition points in panels 1c and 1d beyond which, integrating the target is likely to lead to the domino effect discussed above and a decline in profitability and revenue.

Second, our proposed measure for the degree of integration may be of interest to acquiring managers in tracking the progress of integrating the target’s operating resources within their organization. Scholars and practitioners have developed several tools, techniques, and frameworks for tracking the progress of acquisition integration via measuring realized synergies, integration costs, setting milestones and targets for integration, and monitoring acquirer performance (Gates and Very, 2003; Haspeslagh and Jemison, 1991; Lajoux, 2006; Meyer, 2008). Our measure supplements these artifacts by enabling managers to keep track of the transformation that occurs in acquirer and target resources during integration. Hence, it provides them with an opportunity to develop a resource-based perspective to integration. While we operationalized our measure on a yearly basis, we believe that managers may customize it to a duration of their choice so that they can track the resource transformation process more closely.

Limitations and future research

The limitations of our study provide interesting avenues for subsequent research on post-acquisition integration. First, while our empirical context included only operating synergy acquisitions, how integration affects acquirer performance in acquisitions underpinning alternative synergy rationales is an important and interesting area for future scholarly inquiry. Recent research has found that acquirers are gradually moving beyond seeking the more conventional operating synergies in their acquisitions with focus shifting to institutional, network, and relational

synergies (Bettinazzi and Zollo, 2017; Feldman and Hernandez, 2022; Hernandez and Shaver, 2019). In these contexts, the degree of integration is unlikely to be grounded around the principles of resource reconfiguration (i.e., adding, subtracting, redeploying, and reconfiguring resources) because the acquirer may not have unilateral decision rights related to reconfiguring or dissolving the target's relational, network, or institutional ties. Furthermore, the ontological and epistemological underpinnings of the integration process may be different wherein realized synergies and integration costs may take on new meanings and implications. For instance, the terminologies affiliated with cost and revenue synergies such as consolidation, cross-selling, umbrella branding etc. may not be relevant and a new set of terminologies may need to be conceptualized.

Second, while our focus in this study was limited to the degree of integration, an interesting area of research refers to the interplay of the degree of integration with alternative aspects of post-acquisition integration such as the speed of integration (Bauer, Matzler, and Wolf, 2016; Homburg and Bucerius, 2006). For instance, a prospective research question may tease out the interplay between speed and degree of integration. Alternatively, a second question could examine if acquirers pursue greater speed while integrating cost-based synergy acquisitions so that higher degrees of integration are reached as soon as possible? Similarly, do acquirers 'go slow' in integrating revenue-based synergy acquisitions as lower degrees of integration may positively affect performance?

In conclusion, our study emphasizes that research on acquisitions may consider examining synergy and integration, two central drivers of acquirer performance, in conjunction to better understand acquirer performance. For practitioners, our message is straightforward – if they align the degree of integration in an acquisition to the synergy rationale underlying it and refrain from the inefficiencies of 'under-integrating' and the temptation of 'over-integrating', they may have a greater likelihood of recording superior performance.

REFERENCES

- Agarwal, A., Engert, O., Mittal, A. (2018, September 14). One-size-rarely-fits-all: Tailoring procurement synergies to the deal. *The McKinsey Quarterly*. McKinsey & Company.
- Aguinis, H., Edwards, J. R., & Bradley, K. J. (2017). Improving our understanding of moderation and mediation in strategic management research. *Organizational Research Methods*, 20(4), 665-685.
- Anand, J., & Singh, H. (1997). Asset redeployment, acquisitions and corporate strategy in declining industries. *Strategic Management Journal*, 18(S1), 99-118.
- Anand, J., Mulotte, L., & Ren, C. R. (2016). Does experience imply learning? *Strategic Management Journal*, 37(7), 1395-1412.
- Anderson, H., Havila, V., & Salmi, A. (2001). Can you buy a business relationship? On the importance of customer and supplier relationships in acquisitions. *Industrial Marketing Management*, 30(7), 575-586.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277-297.
- Austin, J. E., & Leonard, H. B. D. (2008). Can the virtuous mouse and the wealthy elephant live happily ever after? *California Management Review*, 51(1), 77-102.
- Aroora, A., Belenzone, S., & Rios, L. A. (2014). Make, buy, organize: The interplay between research, external knowledge, and firm structure. *Strategic Management Journal*, 35(3), 317-337.
- Bai, J., Jin, W., & Serfling, M. (In press). Management practices and mergers and acquisitions. *Management Science*. <https://doi.org/10.1287/mnsc.2020.3946>.
- Bamford, I., Chickermane, N., & Nandy, R. (2017). Revenue synergies in acquisitions. In search of the holy grail. Deloitte M&A Institute.

Banaszak-Holl, J., Berta, W. B., Bowman, D. M., Baum, J. A., & Mitchell, W. (2002). The rise of human service chains: Antecedents to acquisitions and their effects on the quality of care in US nursing homes. *Managerial and Decision Economics*, 23(4-5), 261-282.

Barkema, H. G., & Schijven, M. (2008). Toward unlocking the full potential of acquisitions: The role of organizational restructuring. *Academy of Management Journal*, 51(4), 696-722.

Barki, H., & Pinsonneault, A. (2005). A model of organizational integration, implementation effort, and performance. *Organization Science*, 16(2), 165-179.

Bascle, I., Duthoit, C., Goodall, S., Matthiessen, J., Strüven, P., & Tevelson, R. (2008). Thinking laterally in PMI: Optimizing functional synergies. In BCG Focus (Ed.), *Trends in Post-Merger Integration*. The Boston Consulting Group.

Bauer, F., & Matzler, K. (2014). Antecedents of M&A success: The role of strategic complementarity, cultural fit, and degree and speed of integration. *Strategic Management Journal*, 35(2), 269-291.

Bauer, F., Dao, M. A., Matzler, K., & Tarba, S. Y. (2017). How industry lifecycle sets boundary conditions for M&A integration. *Long Range Planning*, 50(4), 501-517.

Bekier, M. M., & Shelton, M. J. (2002). Merging? Watch your sales force. *The McKinsey Quarterly*, 38(4), 106-116.

Berchicci, L., Dowell, G., & King, A. A. (2012). Environmental capabilities and corporate strategy: Exploring acquisitions among US manufacturing firms. *Strategic Management Journal*, 33(4), 257-261.

Bertrand, O., & Zuniga, P. (2006). R&D and M&A: Are cross-border M&A different? An investigation on OECD countries. *International Journal of Industrial Organization*, 24(2), 401-423.

Bertrand, O., & Capron, L. (2015). Productivity enhancement at home via cross-border acquisitions: The roles of learning and contemporaneous domestic investments. *Strategic Management Journal*, 36(5), 640-658.

Bettinazzi, E. L., & Zollo, M. (2017). Stakeholder orientation and acquisition performance. *Strategic Management Journal*, 38(12), 2465-2485.

Bettinazzi, E.L., & Feldman, E.R. (2021) Stakeholder orientation and divestiture activity. *Academy of Management Journal*, 64(4), 1078-1096.

Bettis, R. A., Ethiraj, S., Gambardella, A., Helfat, C., & Mitchell, W. (2016). Creating repeatable cumulative knowledge in strategic management. *Strategic Management Journal*, 37(3), 317-337.

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.

Bodner, J., & Capron, L. (2018). Post-merger integration. *Journal of Organization Design*, 7(1), 1-20.

Bommaraju, R., Ahearne, M., Hall, Z. R., Tirunillai, S., & Lam, S. K. (2018). The impact of mergers and acquisitions on the sales force. *Journal of Marketing Research*, 55(2), 254-264.

Borot, J., Engert, O., O'Connell, S., & Salazar, P. (2016). Integration Agility: Tailoring the Integration Approach to Deal Rationale and Sources of Value. In McKinsey Global Institute (Ed.), *Perspectives on Merger Management*. McKinsey & Company.

Brahm, F., Tarzijan, J., & Singer, M. (2017). The impact of frictions in routine execution on economies of scope. *Strategic Management Journal*, 38(10), 2121-2142.

Bresman, H., Birkinshaw, J., & Nobel, R. (1999). Knowledge transfer in international acquisitions. *Journal of International Business Studies*, 30(3), 439-462.

Brettel, M., Heinemann, F., Engelen, A., & Neubauer, S. (2011). Cross-functional integration of R&D, marketing, and manufacturing in radical and incremental product innovations and its effects on project effectiveness and efficiency. *Journal of Product Innovation Management*, 28(2), 251-269.

Brueller, N. N., Carmeli, A., & Drori, I. (2014). How do different types of mergers and acquisitions facilitate strategic agility? *California Management Review*, 56(3), 39-57.

Caner, T., Bruyaka, O., & Prescott, J. E. (2018). Flow signals: Evidence from patent and alliance portfolios in the US biopharmaceutical industry. *Journal of Management Studies*, 55(2), 232-264.

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. (1999). The long-term performance of horizontal acquisitions. *Strategic Management Journal*, 20(11), 987-1018.

Capron, L., & Hulland, J. (1999). Redeployment of brands, sales forces, and general marketing management expertise following horizontal acquisitions: A resource-based view. *Journal of Marketing*, 63(2), 41-54.

Capron, L., Mitchell, W., & Swaminathan, A. (2001). Asset divestiture following horizontal acquisitions: A dynamic view. *Strategic Management Journal*, 22(9), 817-844.

Capron, L., & Pistre, N. (2002). When do acquirers earn abnormal returns? *Strategic Management Journal*, 23(9), 781-794.

Capron, L., & Guillén, M. (2009). National corporate governance institutions and post-acquisition target reorganization. *Strategic Management Journal*, 30(8), 803-833.

Castañer, X., & Karim, S. (2013). Implementing acquirers' synergistic intent: Cost reduction, revenue enhancement and bilateral interactions with the target. In E. Perrault (Ed.), *Mergers and Acquisitions: Practices, Performance and Perspectives* (pp. 75-108). Nova Science Inc.

Chartier, J., Liu, A., & Lyon, S. (2020, February 11). Capturing cross-selling synergies in M&A. *The McKinsey Quarterly*. McKinsey & Company.

Chatterjee, S. (2007). Why is synergy so difficult in mergers of related businesses? *Strategy & Leadership*, 35(2), 46-52.

Chatterjee, S., & Brueller, N. N. (2015). A new M & A methodology: Five lessons in anticipating post-merger resource interactions and challenges. *Strategy & Leadership*, 43(4), 26-37.

Chaturvedi, T., & Prescott, J. E. (2020). Dynamic fit in an era of ferment: Product design realignment and the survival-enhancing role of alliances and acquisitions. *Research Policy*, 49(6), 103989.

Chen, C. H., Chang, Y. Y., & Lin, M. J. J. (2010). The performance impact of post-M&A interdepartmental integration: An empirical analysis. *Industrial Marketing Management*, 39(7), 1150-1161.

Chen, F., Li, F., & Meng, Q. (2017). Integration and autonomy in Chinese technology-sourcing cross-border M&As: From the perspective of resource similarity and resource complementarity. *Technology Analysis & Strategic Management*, 29(9), 1002-1014.

Chen, M., Kaul, A., & Wu, B. (2019). Adaptation across multiple landscapes: Relatedness, complexity, and the long run effects of coordination in diversified firms. *Strategic Management Journal*, 40(11), 1791-1821.

Cogman, D., & Tan, J. (2010). A lighter touch for postmerger integration. *The McKinsey Quarterly*, 34(2), 21-23.

Cording, M., Christmann, P., & King, D. R. (2008). Reducing causal ambiguity in acquisition integration: Intermediate goals as mediators of integration decisions and acquisition performance. *Academy of Management Journal*, 51(4), 744-767.

Cording, M., Christmann, P., & Weigelt, C. (2010). Measuring theoretically complex constructs: The case of acquisition performance. *Strategic Organization*, 8(1), 11-41.

Core, J. E. (2001). A review of the empirical disclosure literature: Discussion. *Journal of Accounting and Economics*, 31(1-3), 441-456.

Christensen, C. M., Alton, R., Rising, C., & Waldeck, A. (2011). The new M&A playbook. *Harvard Business Review*, 89(3), 48-57.

Damodaran, A. (2006). *Investment Valuation*. John Wiley & Sons.

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.

Davis, P. S., Robinson Jr, R. B., Pearce, J. A., & Park, S. H. (1992). Business unit relatedness and performance: A look at the pulp and paper industry. *Strategic Management Journal*, 13(5), 349-361.

Dessaint, O., Golubov, A., & Volpin, P. (2017). Employment protection and takeovers. *Journal of Financial Economics*, 125(2), 369-388.

Dessein, W., Garicano, L., & Gertner, R. (2010). Organizing for synergies. *American Economic Journal*, 2(4), 77-114.

Dranove, D., & Shanley, M. (1995). Cost reductions or reputation enhancement as motives for mergers: The logic of multihospital systems. *Strategic Management Journal*, 16(1), 55-74.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal*, 21(10-11), 1105-1121.

Ellis, K. M., Reus, T. H., & Lamont, B. T. (2009). The effects of procedural and informational justice in the integration of related acquisitions. *Strategic Management Journal*, 30(2), 137-161.

Ettlie, J. E., & Reza, E. M. (1992). Organizational integration and process innovation. *Academy of Management Journal*, 35(4), 795-827.

Feldman, E. R. (2014). Legacy divestitures: Motives and implications. *Organization Science*, 25(3), 815-832.

Feldman, E. R., & Hernandez, E. (In press). Synergy in mergers and acquisitions: Typology, lifecycles, and value. *Academy of Management Review*.

Feldman, E.R., & Sakhartov, A.V. (2021). Prospective on corporate renewal. Working paper.

Retrieved from **Error! Hyperlink reference not valid.**

Fulghieri, P., & Hodrick, L. S. (2006). Synergies and internal agency conflicts: The double-edged sword of mergers. *Journal of Economics & Management Strategy*, 15(3), 549-576.

Gates, S., & Very, P. (2003). Measuring performance during M&A integration. *Long Range Planning*, 36(2), 167-185.

Girod, S.J.G. & Karim, S. (2017). Restructure or Reconfigure. *Harvard Business Review*, 95(2), 128-32.

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.

Gray, J. V., Siemen, E., & Vasudeva, G. (2015). Colocation still matters: Conformance quality and the interdependence of R&D and manufacturing in the pharmaceutical industry. *Management Science*, 61(11), 2760-2781.

Grimpe, C. (2007). Successful product development after firm acquisitions: The role of research and development. *Journal of Product Innovation Management*, 24(6), 614-628.

Harris, R., & Robinson, C. (2002). The effect of foreign acquisitions on total factor productivity: Plant-level evidence from UK manufacturing, 1987-1992. *Review of Economics and Statistics*, 84(3), 562-568.

Haspeslagh, P. C., & Jemison, D. B. (1991). *Managing Acquisitions: Creating Value Through Corporate Renewal*. New York: Free Press.

Hayward, M. L. (2002). When do firms learn from their acquisition experience? Evidence from 1990 to 1995. *Strategic Management Journal*, 23(1), 21-39.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., & Winter, S. G. (2007). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. John Wiley & Sons.

Hernandez, E., & Shaver, J. M. (2019). Network synergy. *Administrative Science Quarterly*, 64(1), 171-202.

Homburg, C., & Bucerius, M. (2005). A marketing perspective on mergers and acquisitions: How marketing integration affects postmerger performance. *Journal of Marketing*, 69(1), 95-113.

Hubbard, R., Vetter, D. E., & Little, E. L. (1998). Replication in strategic management: Scientific testing for validity, generalizability, and usefulness. *Strategic Management Journal*, 19(3), 243-254.

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. (2006). Modularity in organizational structure: The reconfiguration of internally developed and acquired business units. *Strategic Management Journal*, 27(9), 799-823.

Karim, S. (2009). Business unit reorganization and innovation in new product markets. *Management Science*, 55(7), 1237-1254.

Karim, S. (2012). Exploring structural embeddedness of product market activities and resources within business units. *Strategic Organization*, 10(4), 333-365.

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.

Karim, S., & Capron, L. (2016). Reconfiguration: Adding, redeploying, recombining and divesting resources and business units. *Strategic Management Journal*, 37(13), E54-E62.

Kato, J., & Schoenberg, R. (2014). The impact of post-merger integration on the customer-supplier relationship. *Industrial Marketing Management*, 43(2), 335-345.

Kaul, A., & Wu, B. (2016). A capabilities-based perspective on target selection in acquisitions. *Strategic Management Journal*, 37(7), 1220-1239.

Keele, L., & Kelly, N. J. (2006). Dynamic models for dynamic theories: The ins and outs of lagged dependent variables. *Political Analysis*, 14(2), 186-205.

Kengelbach, J., Gell, J., Keienburg, G., Degen, D., & Kim, D. (2020). COVID-19's impact of global M&A. Boston Consulting Group.

- Kenny, D. A., Kashy, D. A., & Bolger, N. (1998). Data analysis in social psychology. Gilbert, D., S. Fiske, S., Lindzey, G. eds. *The Handbook of Social Psychology*, (pp. 233–265) McGraw-Hill. Boston, MA.
- Keum, D. D. (2020). Cog in the wheel: Resource release and the scope of interdependencies in corporate adjustment activities. *Strategic Management Journal*, 41(2), 175-197.
- Kocourek, P.F., Chung, S.Y., & McKenna, M.G. 2000. Strategic rollups: Overhauling the multi-merger machine. *Strategy and Business*, 10:1-14.
- King, D. R., Slotegraaf, R. J., & Kesner, I. (2008). Performance implications of firm resource interactions in the acquisition of R&D-intensive firms. *Organization Science*, 19(2), 327-340.
- Knudsen, T. R., Finskud, L., Törnblom, R., & Hogna, E. (1997). Brand consolidation makes a lot of economic sense. *The McKinsey Quarterly*, 33(4), 189-193.
- Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: Measuring and Managing the Value of Companies*. John Wiley and Sons.
- Kretschmer, T., & Puranam, P. (2008). Integration through incentives within differentiated organizations. *Organization Science*, 19(6), 860-875.
- Kroon, D.P., Noordhaven, N.G., Corley, K.G., & Vaara, E. (In press). Hard and soft integration: Towards a dynamic model of post-acquisition integration. *Journal of Management Studies*. <https://doi.org/10.1111/JOMS.12766>
- Laad, M., Mukherjee, J., Jayaraman, R. (2016). Applications rationalization during M&A. Deloitte M&A Institute.
- Laamanen, T., & Keil, T. (2008). Performance of serial acquirers: Toward an acquisition program perspective. *Strategic Management Journal*, 29(6), 663-672.
- Lajoux, A. R. (2006). *The Art of M&A Integration*. New York: McGraw-Hill.
- Lambkin, M. C., & Muzellec, L. (2010). Leveraging brand equity in business-to-business mergers and acquisitions. *Industrial Marketing Management*, 39(8), 1234-1239.
- Lamont, B. T., King, D. R., Maslach, D. J., Schwerdtfeger, M., & Tienari, J. (2019). Integration capacity and knowledge-based acquisition performance. *R&D Management*, 49(1), 103-114.
- 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.
- Li, Z., & Agarwal, A. (2017). Platform integration and demand spillovers in complementary markets: Evidence from Facebook's integration of Instagram. *Management Science*, 63(10), 3438-3458.
- Lind, J. T., & Mehlum, H. (2010). With or without U? The appropriate test for a U-shaped relationship. *Oxford Bulletin of Economics and Statistics*, 72(1), 109-118.
- Lye, J. N., & Hirschberg, J. (2018). Confidence Intervals for Ratios: Econometric Examples with Stata. Retrieved from <https://www.researchgate.net/profile/Joseph-Hirschberg>.
- MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, 7(1), 83.
- Maksimovic, V., Phillips, G., & Prabhala, N. R. (2011). Post-merger restructuring and the boundaries of the firm. *Journal of Financial Economics*, 102(2), 317-343.
- Meyer, C. B. (2008). Value leakages in mergers and acquisitions: Why they occur and how they can be addressed. *Long Range Planning*, 41(2), 197-224.
- Millson, M. R. (2015). Exploring the nonlinear impact of organizational integration on new product market success. *Journal of Product Innovation Management*, 32(2), 279-289.
- Mitchell, W., & Shaver, J. M. (2003). Who buys what? How integration capability affects acquisition incidence and target choice. *Strategic Organization*, 1(2), 171-201.
- Moen, M. (2017). Entry into nascent industries: Disentangling a firm's capability portfolio at the time of investment versus market entry. *Strategic Management Journal*, 38(10), 1986-2004.
- Morck, R., Shleifer, A., & Vishny, R. W. (1990). Do managerial objectives drive bad acquisitions? *The Journal of Finance*, 45(1), 31-48.
- Natividad, G. (2014). Integration and productivity: Satellite-tracked evidence. *Management Science*, 60(7), 1698-1718.
- Oler, D. K., Harrison, J. S., & Allen, M. R. (2008). The danger of misinterpreting short-window event study findings in strategic management research: An empirical illustration using horizontal acquisitions. *Strategic Organization*, 6(2), 151-184.
- Olson, E. M., Walker Jr, O. C., Ruckerf, R. W., & Bonnerd, J. M. (2001). Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance. *Journal of Product Innovation Management*, 18(4), 258-271.
- 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.
- 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.
- Puhakka, H. (2017). The role of accounting in making sense of post-acquisition integration. *Scandinavian Journal of Management*, 33(1), 12-22.
- 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.
- Puranam, P., & Srikanth, K. (2007). What they know vs. what they do: How acquirers leverage technology acquisitions. *Strategic Management Journal*, 28(8), 805-825.
- Puranam, P., Singh, H., & Chaudhuri, S. (2009). Integrating acquired capabilities: When structural integration is (un) necessary. *Organization Science*, 20(2), 313-328.
- Puranam, P., & Vanneste, B. (2016). *Corporate Strategy: Tools for Analysis and Decision-Making*. Cambridge University Press.
- Rabier, M. R. (2017). Acquisition motives and the distribution of acquisition performance. *Strategic Management Journal*, 38(13), 2666-2681.
- Rahman, M., Lambkin, M., & Hussain, D. (2016). Value creation and appropriation following M&A: A data envelopment analysis. *Journal of Business Research*, 69(12), 5628-5635.
- Reeves, M., Reinaud, A., Harnoss, J., & Bergman, R. (2016). Postmerger integration rejuvenation. In BCG Perspectives (Ed.), *Post-Merger Integration*. Boston Consulting Group.

- Reus, T. H., Lamont, B. T., & Ellis, K. M. (2016). A darker side of knowledge transfer following international acquisitions. *Strategic Management Journal*, 37(5), 932-944.
- Roodman, D. (2009a). How to do xtabond2: An introduction to difference and system GMM in Stata. *The Stata Journal*, 9(1), 86-136.
- Roodman, D. (2009b). A note on the theme of too many instruments. *Oxford Bulletin of Economics and Statistics*, 71(1), 135-158.
- Simonsohn, U. (2018). Two lines: A valid alternative to the invalid testing of U-shaped relationships with quadratic regressions. *Advances in Methods and Practices in Psychological Science*, 1(4), 538-555.
- St. John, C. H., & Harrison, J. S. (1999). Manufacturing-based relatedness, synergy, and coordination. *Strategic Management Journal*, 20(2), 129-145.
- Sarason, Y., & Dean, T. J. (2019). Lost battles, Trojan horses, open gates, and wars won: How entrepreneurial firms co-create structures to expand and infuse their sustainability missions in the acquisition process. *Academy of Management Perspectives*, 33(4), 469-490.
- Schweizer, L. (2005). Organizational integration of acquired biotechnology companies into pharmaceutical companies: The need for a hybrid approach. *Academy of Management Journal*, 48(6), 1051-1074.
- Shaver, J. M. (2005). Testing for mediating variables in management research: Concerns, implications, and alternative strategies. *Journal of Management*, 31(3), 330-353.
- Shaver, J. M. (2006). A paradox of synergy: Contagion and capacity effects in mergers and acquisitions. *Academy of Management Review*, 31(4), 962-976.
- Sirower, M. L., & O'Byrne, S. F. (1998). The measurement of post-acquisition performance: Toward a value-based benchmarking methodology. *Journal of Applied Corporate Finance*, 11(2), 107-121.
- Sirower, M. L., & Sahni, S. (2006). Avoiding the "synergy trap": Practical guidance on M&A decisions for CEOs and Boards. *Journal of Applied Corporate Finance*, 18(3), 83-95.
- Swink, M., Narasimhan, R., & Kim, S. W. (2005). Manufacturing practices and strategy integration: Effects on cost efficiency, flexibility, and market-based performance. *Decision Sciences*, 36(3), 427-457.
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.
- Van den Bulte, C., & Moenaert, R. K. (1998). The effects of R&D team co-location on communication patterns among R&D, marketing, and manufacturing. *Management Science*, 44(11-part-2), S1-S18.
- Varadarajan, R., DeFanti, M. P., & Busch, P. S. (2006). Brand portfolio, corporate image, and reputation: Managing brand deletions. *Journal of the Academy of Marketing Science*, 34(2), 195-205.
- Vestring, T., Rouse, T., & Rovit, S. (2004). Integrate where it matters. *Sloan Management Review*, 46(1), 15-18.
- Wang, H., Zeng, Y., & Shenkar, O. (In Press). Agricultural roots and subnational cultural heterogeneity in domestic acquisitions. *Strategy Science*. <https://doi.org/10.1287/stsc.2021.0123>
- Wei, T., & Clegg, J. (2020). Untangling the integration–performance link: Levels of integration and functional integration strategies in post-acquisition integration. *Journal of Management Studies*, 57(8), 1643-1689.
- Windmeijer, F. (2005). A finite sample correction for the variance of linear efficient two-step GMM estimators. *Journal of Econometrics*, 126(1), 25-51.
- Wood, A. (2009). Capacity rationalization and exit strategies. *Strategic Management Journal*, 30(1), 25-44.
- Zaheer, A., Castañer, X., & Souder, D. (2013). Synergy sources, target autonomy, and integration in acquisitions. *Journal of Management*, 39(3), 604-632.
- Zahra, S. A., & Nielsen, A. P. (2002). Sources of capabilities, integration and technology commercialization. *Strategic Management Journal*, 23(5), 377-398.
- Zhao, Z. J., & Anand, J. (2013). Beyond boundary spanners: The collective bridge as an efficient interunit structure for transferring collective knowledge. *Strategic Management Journal*, 34(13), 1513-1530.
- Zhou, Y. M. (2011). Synergy, coordination costs, and diversification choices. *Strategic Management Journal*, 32(6), 624-639.
- Zhou, Y. M., & Wan, X. (2017). Product variety, sourcing complexity, and the bottleneck of coordination. *Strategic Management Journal*, 38(8), 1569-1587.
- Zhu, H., Xia, J., & Makino, S. (2015). How do high-technology firms create value in international M&A? Integration, autonomy and cross-border contingencies. *Journal of World Business*, 50(4), 718-728.
- 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.
- Zollo, M., & Meier, D. (2008). What is M&A performance? *Academy of Management Perspectives*, 22(3), 55-77.
- Zorn, M. L., Sexton, J. C., Bhussar, M. S., & Lamont, B. T. (2019). Unfinished business: Nested acquisitions, managerial capacity, and firm performance. *Journal of Management*, 45(4), 1488-1516.

Table 1: Control variables, operationalization and rationale for inclusion*

Variable name	Operationalization	Data source
Acquirer size	Natural log of acquirer revenue in year 't'.	COMPUSTAT
Corporate diversification	Natural log of the total number of four digit SIC codes for an acquirer for year 't'.	Mergent Online, Capital IQ, IBIS World
Business unit interdependence	Measured using resource dependence between a pair of NAICS codes that the acquirer was present in. We measured the dependence of NAICS code 'x' on NAICS code 'y' using the dollar value of goods sold by 'y' to 'x' and vice versa. We summed them to determine mutual dependence between both codes and repeated this process for all possible pairs of codes for the acquirer for year 't'.	Census Bureau (U.S. Department of Commerce)
Relative performance (acquirer/target)	Ratio of the ROA of acquirer and target in year 't'.	COMPUSTAT
Unabsorbed slack	(Cash + short term investments)/Revenue for acquirer in year 't'	COMPUSTAT
Acquirer experience (cost-based/revenue-based synergy acquisitions)	Cumulative number of cost-based synergy acquisitions made by the acquirer from the start of the sample period till year 't-1'. The measure was 'decayed' by dividing the acquisition activity of year 't-1' by 1, 't-2' by 2 to adjust for the decrease in synergy potential of the acquisition over time. A similar approach was followed for revenue-synergy based acquisitions (Hayward, 2002).	SDC Platinum
Acquirer experience (industry specific)	Natural log of total number of SIC codes in which an acquirer made an acquisition till year 't-1'.	SDC Platinum
Prior alliance/divestiture experience	Natural log of the cumulative number of alliances/divestitures made by the acquirer from the start of the sample year till year 't-1' for year 't'.	SDC Platinum
Time between successive acquisitions	For a particular acquisition 'n', this measure is the natural log of the average time duration (in days) between the preceding acquisition (n-1) and the succeeding acquisition (n+1) for an acquirer.	COMPUSTAT
Position in acquisition sequence	We defined an acquisition sequence as all the acquisitions made by an acquirer over a rolling three-year window. For a particular acquisition 'n', this measure is the natural log of its numerical position (e.g., first, second etc.) in the sequence. (Barkema and Schijven, 2008)	SDC Platinum
Target type (divested/non-divested)	Dummy variable coded '1' if the acquisition involved the purchase of divested assets; '0' otherwise.	SDC Platinum
Relative acquisition size	Acquisition purchase price/Market capitalization of acquirer for year 't'.	COMPUSTAT, SDC Platinum
Serial acquirer	Dummy variable coded '1' for an acquirer that made more than four acquisitions over the chosen sample period; '0' otherwise. (Laamanen and Keil, 2008)	Capital IQ, Company press announcements and conference calls, 10K and annual reports, Lexis Nexis
Prior goodwill impairment	Magnitude of goodwill impairment / Asset base of the acquirer until year 't-1' (Rabier, 2017)	COMPUSTAT
Relative degree of business relatedness (acquirer/target)	Natural log of the number of four digit SIC codes common to acquirer and target i.e., one, two, three, or four in year 't'	COMPUSTAT, SDC Platinum
New productivity enhancing initiatives	Natural log of the number of initiatives promoted by the acquirer or target to enhance operational efficiency between year 't' and year 't+2' (e.g., TQM/JIT programs, continuous improvement programs etc.).	Capital IQ, Company press announcements and conference calls, 10K and annual reports, Lexis Nexis
Prior organizational restructuring experience	Natural log of the number of instances when the acquirer or target announced an organizational restructuring until year 't-1'. (Barkema and Schijven, 2008)	
New advertising/branding campaigns	Natural log of the number of new advertising or branding campaigns announced by the acquirer or target between year 't' and year 't+2'.	
# of new products introduced	Natural log of the number of new product categories introduced by the acquirer or target between year 't' and year 't+2' (post-acquisition)	

* In this table, year 't' refers to the year in which an acquisition is made. All controls were lagged by one year.

Table 2: Correlations and descriptive statistics

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Cost synergy	1																										
2. Rev. synergy	0.00	1																									
3. Deg. of int.	0.01	-0.01	1																								
4. Deg. of int. sq	0.05	-0.08	0.02	1																							
5. Acquirer size	0.04	-0.06	0.08	0.02	1																						
6. Corp. Div.	0.02	0.02	0.02	0.00	0.17	1																					
7. Unit Interdependence	0.05	0.03	-0.01	0.03	0.11	0.04	1																				
8. Rel. perf.	0.01	0.00	0.05	0.01	0.13	-0.03	0.03	1																			
9. Un. slack	0.00	0.00	0.03	0.03	0.05	0.05	0.00	0.04																			
10. Experience (cost)	0.13	-0.01	0.02	0.04	0.19	0.00	0.00	0.00	-0.01	1																	
11. Experience (revenue)	-0.01	0.15	-0.01	-0.01	0.08	0.00	0.00	0.00	-0.01	-0.01	1																
12. Experience (industry)	0.03	0.06	-0.03	0.01	0.05	0.00	0.00	0.00	-0.02	0.02	0.03	1															
13. Alliance exp.	0.01	0.03	-0.06	-0.03	0.13	0.06	0.00	0.01	-0.01	0.00	0.02	0.08	1														
14. Div. exp.	0.00	0.00	0.02	0.02	0.08	0.08	-0.01	0.02	0.02	0.06	-0.02	-0.03	-0.01	1													
15. Acqn. time	0.01	0.00	0.04	-0.01	0.09	-0.02	0.00	-0.02	-0.01	0.00	0.00	-0.01	-0.02	0.02	1												
16. Acqn. seq.	0.01	0.00	-0.03	0.02	-0.01	0.00	0.01	-0.03	-0.01	0.00	0.00	0.00	0.00	-0.03	0.08	1											
17. Acqn. size	0.08	-0.04	0.06	0.02	-0.04	0.04	0.00	0.00	0.00	0.02	-0.01	0.01	0.00	-0.02	0.03	-0.01	1										
18. Resources	-0.07	-0.05	0.08	0.03	0.08	0.03	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.02	1									
19. Serial acq.	0.00	0.00	-0.02	0.02	0.02	-0.05	0.00	-0.01	0.00	0.00	0.00	0.00	0.04	0.02	-0.07	0.00	0.00	0.00	1								
20. Goodwill	0.02	0.04	-0.01	0.00	0.07	0.03	-0.01	0.00	0.00	-0.01	0.01	0.00	0.00	0.02	-0.03	-0.02	-0.01	-0.01	-0.03	1							
21. Bus. relatedness	0.01	-0.02	0.07	0.01	0.01	-0.02	0.08	0.00	0.00	0.04	-0.01	-0.12	-0.02	-0.03	-0.04	0.00	0.08	0.04	0.00	-0.11	1						
22. Prod. initiatives	0.06	-0.01	0.00	0.02	0.14	0.01	0.01	-0.01	-0.01	0.00	-0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	1					
23. Restructuring	0.07	0.00	0.04	0.01	0.08	0.07	-0.03	-0.03	-0.00	0.00	-0.00	-0.01	0.00	0.06	-0.02	0.00	0.03	0.03	0.05	0.02	0.07	0.09	1				
24. Advertising	-0.02	0.05	-0.01	-0.01	0.11	0.03	0.01	-0.02	-0.01	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	-0.15	-0.12	1			
25. New products	-0.01	0.07	0.00	-0.02	0.09	0.02	0.00	-0.01	0.00	0.00	0.05	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	-0.09	-0.07	0.17	1		
26. δ EBITDA/sales	0.01	0.02	0.02	0.01	-0.02	-0.02	0.02	0.03	-0.01	0.02	0.00	-0.01	0.02	0.02	0.00	0.02	0.03	0.02	0.01	-0.04	0.05	0.03	-0.03	0.03	-0.02	1	
27. Revenue growth	0.00	0.05	0.00	0.02	-0.04	0.04	0.01	0.05	-0.01	-0.01	0.02	0.03	0.04	0.01	0.00	-0.04	0.01	0.01	0.02	-0.05	0.02	0.00	-0.05	0.08	0.05	0.02	1
Mean	0.37	0.26	0.53	0.31	8.16	1.42	0.15	13.47	8.68	0.62	0.40	0.74	3.17	2.02	1.23	1.45	0.53	0.47	0.27	13.17	0.34	0.69	2.63	0.48	0.57	-0.02	0.01
S.D.	0.45	0.39	0.21	0.17	3.24	0.35	0.08	5.25	6.13	0.81	0.49	0.55	1.53	1.77	1.91	0.26	0.37	0.29	0.18	4.67	0.28	0.14	0.78	0.34	0.80	0.18	0.09
Maximum	1	1	0.77	0.71	13.19	2.19	0.18	19.54	16.31	3.01	1.87	2.32	5.64	4.33	3.77	2.40	1	1	1	18.22	0.67	1.10	3.47	1.39	1.69	0.11	0.12
Minimum	0	0	0.06	0.00	2.47	0	0	0.23	3.09	0.31	0.14	0.55	1.07	0.64	0	0	0	0	0	10.18	0.13	0	0	0	0	-0.13	-0.22

N= 553 acquisition-year observations. All values ≥ 0.1 and ≤ -0.1 are significant at $p < 0.05$.

Table 3 – Arellano-Bond GMM panel regression analyses (endogeneity adjusted estimates) – degree of integration as DV

	Model 1 (controls)	Model 2	Model 3
Cost-based synergy acquisition dummy (cost 1; revenue 0)		0.787** (0.260)	
Revenue-based synergy acquisition dummy (revenue 1; cost 0)			-0.322* (0.133)
DV (1 year lag)	0.269 (0.457)	0.297 (0.415)	0.330 (0.408)
DV (2 year lag)	0.093 (0.290)	0.076 (0.063)	0.116 (0.344)
Acquirer size	0.427** (0.129)	0.492*** (0.127)	0.270** (0.102)
Corporate diversification	-0.548 (0.666)	-0.549 (0.687)	-0.930 (0.757)
Business unit interdependence	0.060+ (0.035)	0.124+ (0.072)	0.137* (0.055)
Relative performance	0.721* (0.304)	0.693* (0.312)	0.653 (0.510)
Unabsorbed slack	0.385 (0.340)	0.409 (0.343)	0.349 (0.399)
Acquirer experience (cost synergy acquisitions)	0.723 (0.441)	0.944* (0.426)	0.893* (0.421)
Acquirer experience (revenue synergy acquisitions)	-0.099* (0.044)	-0.112* (0.044)	-0.106+ (0.058)
Acquirer experience (industry)	0.276 (0.346)	0.328 (0.372)	0.370 (0.549)
Prior alliance experience	-0.119* (0.047)	-0.103* (0.047)	-0.140* (0.057)
Prior divestiture experience	0.116* (0.046)	0.111* (0.045)	0.101* (0.044)
Time between successive acquisitions	-0.168 (0.329)	-0.282 (0.364)	-0.340 (0.492)
Position in acquisition sequence	-0.198 (0.357)	-0.205 (0.355)	-0.233 (0.342)
Target type (divested/non-divested)	0.583* (0.234)	0.635*** (0.133)	0.932** (0.288)
Relative acquisition size	0.209 (0.303)	0.388 (0.361)	0.300 (0.276)
Serial acquirer	0.363* (0.122)	0.377** (0.126)	0.423** (0.137)
Prior goodwill impairment	-0.340*** (0.065)	-0.314*** (0.068)	-0.353*** (0.083)
Relative degree of business relatedness	0.290** (0.098)	0.426*** (0.106)	0.417*** (0.119)
New productivity enhancing initiatives	-0.169 (0.313)	-0.113 (0.136)	-0.194 (0.183)
Prior organizational restructuring experience	0.271* (0.124)	0.453*** (0.112)	0.140* (0.066)
New advertising/branding campaigns	-0.194 (0.139)	-0.126 (0.084)	-0.084* (0.035)
# of new products introduced	-0.077* (0.034)	-0.132*** (0.023)	-0.413** (0.160)
Year/ industry/acquirer fixed effects	Included	Included	Included
# of groups (acquirers)	416	416	416
# of instruments	181	182	182
Arellano-Bond test – AR (1) - 1st differences (p-value)	<.001	<.001	<.01
Arellano-Bond test – AR (2) - 1st differences (p-value)	0.346	0.806	0.764
Overall Hansen test (p-value)	0.522	0.381	0.330
Difference-in-Hansen test - instrument exogeneity (p-value)	0.457	0.406	0.347
Wald χ^2 (p-value)	492.34***	597.24***	643.84***

Notes: a) + $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$. b) The value in the parentheses for each variable is the robust heteroscedasticity adjusted errors clustered at the acquirer level. c) Bold values refer to coefficients of hypotheses testing.

Table 4 –Arellano-Bond GMM panel regression analyses (endogeneity adjusted estimates) - δ EBITDA margin as DV

	Model 1 (controls)	Model 2	Model 3	Model 4	Model 5	Model 6
Cost-based synergy acquisition dummy (cost 1; revenue 0)		0.336 (0.279)			0.431** (0.137)	
Revenue-based synergy acquisition dummy (revenue 1; cost 0)			-0.308 (0.345)			-0.456** (0.168)
Degree of integration				0.252* (0.114)	0.157* (0.080)	0.119* (0.054)
DV (1 year lag)	0.228*** (0.055)	0.492*** (0.086)	0.237** (0.080)	0.245*** (0.064)	0.059*** (0.016)	0.079** (0.027)
DV (2 year lag)	0.033 (0.039)	0.017*** (0.004)	0.032 (0.038)	0.057 (0.039)	0.055*** (0.009)	0.032 (0.039)
Acquirer size	-0.061** (0.022)	-0.128 (0.080)	-0.104** (0.030)	-0.159*** (0.032)	-0.076 (0.102)	-0.072+ (0.043)
Corporate diversification	0.117 (0.158)	0.080 (0.143)	0.085 (0.159)	0.110 (0.151)	0.048 (0.066)	0.040 (0.163)
Business unit interdependence	-0.525 (0.357)	-0.160+ (0.091)	-0.437 (0.350)	-0.478 (0.330)	-0.158+ (0.091)	-0.452 (0.359)
Relative performance	0.209+ (0.119)	0.275* (0.114)	0.430*** (0.105)	0.189 (0.122)	0.175*** (0.042)	0.253* (0.118)
Unabsorbed slack	0.279 (0.224)	0.093 (0.085)	0.171 (0.233)	0.261 (0.257)	0.059 (0.040)	0.268 (0.231)
Acquirer experience (cost synergy acquisitions)	0.494* (0.238)	0.595*** (0.168)	0.475+ (0.273)	0.490+ (0.290)	0.527** (0.159)	0.357* (0.177)
Acquirer experience (revenue synergy acquisitions)	-0.249* (0.112)	-0.269** (0.092)	-0.538* (0.222)	-0.428* (0.167)	-0.152+ (0.082)	-0.385 (0.238)
Acquirer experience (industry)	0.375 (0.242)	0.295 (0.257)	0.341 (0.252)	0.304 (0.294)	0.596 (0.729)	0.246 (0.266)
Prior alliance experience	-0.274 (0.177)	-0.063 (0.053)	-0.101 (0.181)	-0.087 (0.177)	-0.101 (0.071)	-0.117 (0.226)
Prior divestiture experience	0.251 (0.237)	0.069 (0.074)	0.144 (0.273)	0.069 (0.244)	0.092+ (0.050)	0.136 (0.227)
Time between successive acquisitions	-0.354 (0.263)	-0.421 (0.664)	-0.326 (0.280)	-0.267 (0.245)	-0.457 (0.808)	-0.354 (0.254)
Position in acquisition sequence	-0.245 (0.223)	-0.130 (0.090)	-0.391 (0.295)	-0.301 (0.250)	-0.101 (0.086)	-0.249 (0.239)
Target type (divested/non-divested)	0.207 (0.221)	0.625 (0.904)	0.145 (0.277)	0.324 (0.282)	0.197 (0.644)	0.169 (0.227)
Relative acquisition size	0.381+ (0.226)	0.095 (0.071)	0.045 (0.060)	0.177 (0.222)	0.104 (0.073)	0.232 (0.224)
Serial acquirer	0.354** (0.105)	0.210*** (0.050)	0.248*** (0.059)	0.644** (0.237)	0.263** (0.092)	0.178*** (0.046)
Prior goodwill impairment	-0.188** (0.059)	-0.391* (0.186)	-0.198** (0.068)	-0.192** (0.061)	-0.525** (0.168)	-0.224*** (0.060)
Relative degree of business relatedness	0.369*** (0.100)	0.483*** (0.136)	0.234*** (0.053)	0.664+ (0.372)	0.587*** (0.157)	0.417*** (0.083)
New productivity enhancing initiatives	0.172*** (0.035)	0.227 (0.213)	0.157*** (0.036)	0.184*** (0.035)	0.263 (0.224)	0.092 (0.104)
Prior organizational restructuring experience	0.259** (0.101)	0.442+ (0.254)	0.315* (0.130)	0.670* (0.309)	0.457+ (0.247)	0.241*** (0.049)
New advertising/branding campaigns	-0.088 (0.080)	-0.135+ (0.078)	-0.076* (0.033)	-0.140 (0.090)	-0.198+ (0.113)	-0.120 (0.081)
# of new products introduced	-0.469*** (0.134)	-0.122+ (0.066)	-0.661*** (0.121)	-0.356 (0.235)	-0.376+ (0.212)	-0.156 (0.108)
Year/industry/acquirer fixed effects	Included	Included	Included	Included	Included	Included
# of groups (acquirers)	416	416	416	416	416	416
# of instruments	181	183	183	183	185	185
Arellano-Bond test – AR (1) - 1st differences (p-value)	<.001	<.01	<.001	<.001	<.001	<.001
Arellano-Bond test – AR (2) - 1st differences (p-value)	0.683	0.382	0.466	0.793	0.357	0.585
Overall Hansen test (p-value)	0.426	0.644	0.702	0.475	0.526	0.364
Difference-in-Hansen test - instrument exogeneity (p-value)	0.543	0.629	0.682	0.730	0.461	0.389
Wald χ^2 (p-value)	485.31***	769.54***	429.79***	467.86***	839.61***	521.63***

Notes: a) + $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$. b) The value in the parentheses for each variable is the robust heteroscedasticity adjusted errors clustered at the acquirer level. c) Bold values refer to coefficients of hypotheses testing.

Table 5 – Arellano-Bond GMM panel regression analyses (endogeneity adjusted estimates) – Revenue growth as DV

	Model 1 (controls)	Model 2	Model 3	Model 4	Model 5	Model 6
Cost-based synergy acquisition dummy (cost 1; revenue 0)		-0.153 (0.171)			-0.049* (0.022)	
Revenue-based synergy acquisition dummy (revenue 1; cost 0)			0.402 (0.364)			-0.142** (0.049)
Degree of integration				0.271** (0.086)	0.166* (0.075)	0.130* (0.054)
DV (1 year lag)	0.576** (0.185)	0.574*** (0.104)	0.425*** (0.097)	0.455*** (0.111)	0.867* (0.419)	0.523*** (0.131)
DV (2 year lag)	0.121 (0.127)	0.058 (0.134)	0.188 (0.379)	0.137 (0.103)	0.015 (0.038)	0.129 (0.102)
Acquirer size	-0.052* (0.024)	-0.143+ (0.082)	-0.046+ (0.253)	-0.474* (0.189)	-0.086* (0.039)	-0.048* (0.019)
Corporate diversification	0.319 (0.277)	0.391 (0.764)	0.218 (0.241)	0.193 (0.217)	0.341 (0.234)	0.164 (0.234)
Business unit interdependence	0.221 (0.154)	0.075 (0.093)	0.199 (0.127)	0.254* (0.122)	0.034 (0.034)	0.245 (0.197)
Relative performance	0.316* (0.136)	0.170*** (0.044)	0.093** (0.027)	0.432** (0.153)	0.102*** (0.029)	0.047*** (0.012)
Unabsorbed slack	0.249 (0.240)	0.637 (0.424)	0.178 (0.202)	0.103 (0.164)	0.358 (0.237)	0.114 (0.167)
Acquirer experience (cost synergy acquisitions)	-0.583* (0.269)	-0.468 (0.434)	-0.202 (0.248)	-0.479* (0.211)	-0.357 (0.233)	-0.588* (0.231)
Acquirer experience (revenue synergy acquisitions)	0.568*** (0.159)	0.452** (0.140)	0.231** (0.077)	0.422** (0.126)	0.682** (0.255)	0.740*** (0.197)
Acquirer experience (industry)	0.358** (0.109)	0.286** (0.103)	0.218*** (0.057)	0.553** (0.213)	0.164* (0.071)	0.232*** (0.088)
Prior alliance experience	0.299 (0.287)	0.207 (0.171)	0.346 (0.230)	0.175 (0.185)	0.180 (0.192)	0.352+ (0.191)
Prior divestiture experience	-0.469+ (0.263)	-0.712+ (0.402)	-0.557* (0.232)	-0.504* (0.218)	-0.344 (0.212)	-0.420+ (0.219)
Time between successive acquisitions	-0.441 (0.314)	-0.279 (0.471)	-0.394* (0.191)	-0.376 (0.230)	-0.130 (0.236)	-0.115 (0.087)
Position in acquisition sequence	-0.239 (0.271)	-0.251 (0.221)	-0.263 (0.220)	-0.444 (0.359)	-0.330 (0.255)	-0.233 (0.184)
Target type (divested/non-divested)	0.663 (0.448)	0.347 (0.255)	0.427 (0.329)	0.406 (0.271)	0.534 (0.332)	0.487 (0.355)
Relative acquisition size	-0.332 (0.361)	-0.419 (0.293)	-0.668 (0.502)	-0.217 (0.223)	-0.341 (0.501)	-0.307+ (0.166)
Serial acquirer	0.270* (0.107)	0.454* (0.178)	0.478*** (0.098)	0.251* (0.101)	0.651** (0.207)	0.288** (0.097)
Prior goodwill impairment	-0.353 (0.274)	-0.263 (0.185)	-0.110 (0.079)	-0.178 (0.180)	-0.113 (0.076)	-0.330 (0.240)
Relative degree of business relatedness	0.108+ (0.056)	0.126* (0.062)	0.307+ (0.174)	0.131* (0.066)	0.215+ (0.118)	0.042+ (0.023)
New productivity enhancing initiatives	-0.075* (0.030)	-0.061*** (0.017)	-0.085** (0.032)	-0.053* (0.024)	-0.057** (0.011)	-0.069** (0.022)
Prior organizational restructuring experience	-0.139 (0.145)	-0.102 (0.084)	-0.100 (0.117)	-0.119 (0.103)	-0.021 (0.017)	-0.055 (0.072)
New advertising/branding campaigns	0.083** (0.027)	0.099 (0.081)	0.027 (0.025)	0.048* (0.020)	0.014 (0.011)	0.056* (0.022)
# of new products introduced	0.682* (0.297)	0.434 (0.694)	0.232 (0.250)	0.530* (0.235)	0.451 (0.492)	0.479 (0.482)
Year/industry/acquirer fixed effects	Included	Included	Included	Included	Included	Included
# of groups (acquirers)	416	416	416	416	416	416
# of instruments	181	183	183	183	185	185
Arellano-Bond test – AR (1) - 1st differences (p-value)	0.001	<.001	0.003	0.003	<.001	0.002
Arellano-Bond test – AR (2) - 1st differences (p-value)	0.533	0.570	0.628	0.647	0.794	0.294
Overall Hansen test (p-value)	0.657	0.413	0.547	0.508	0.542	0.384
Difference-in-Hansen test - instrument exogeneity (p-value)	0.606	0.626	0.399	0.662	0.369	0.408
Wald χ^2 (p-value)	192.53***	315.68***	401.85***	227.56***	492.39***	466.85***

Notes: a) + p < .1, * p < .05, ** p < .01, *** p < .001. b) The value in the parentheses for each variable is the robust heteroscedasticity adjusted errors clustered at the acquirer level. c) Bold values refer to coefficients of hypotheses testing.

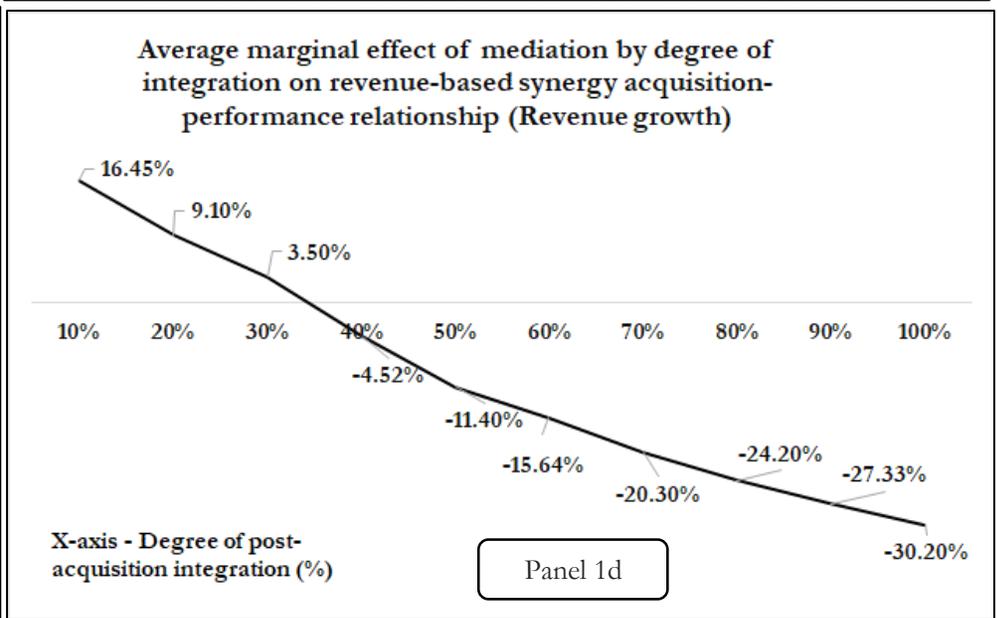
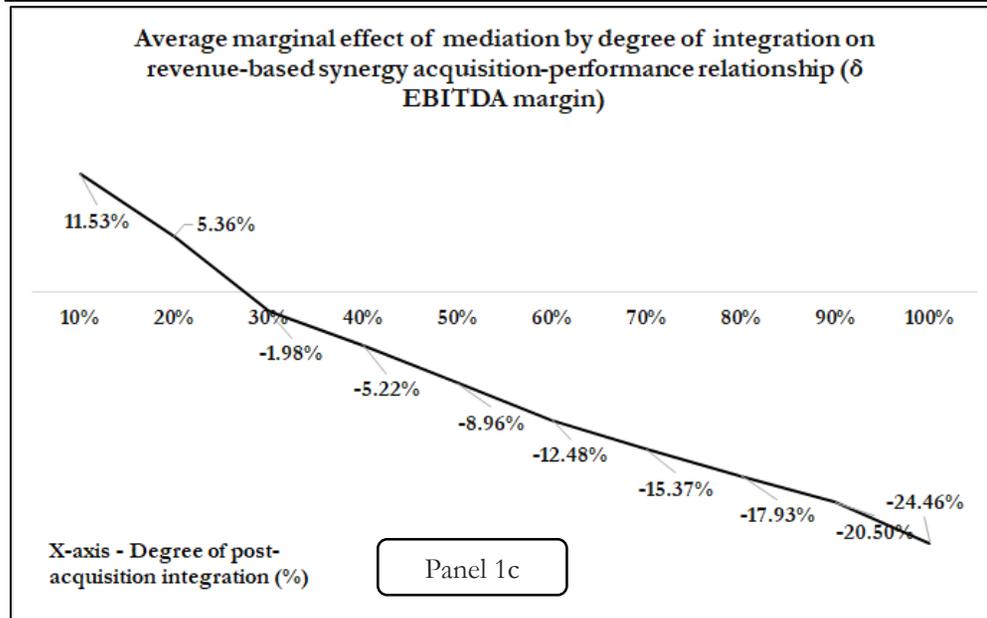
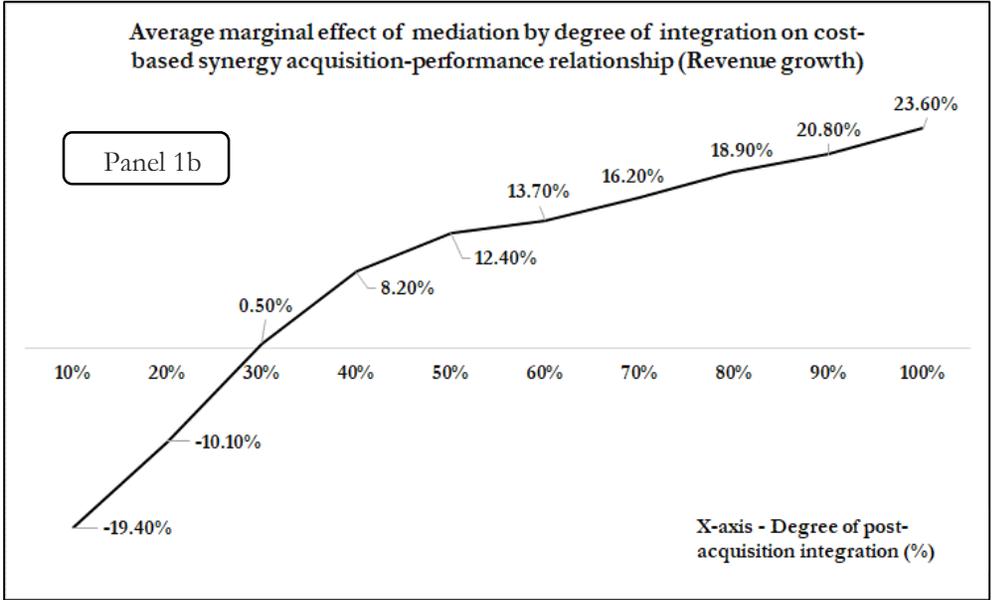
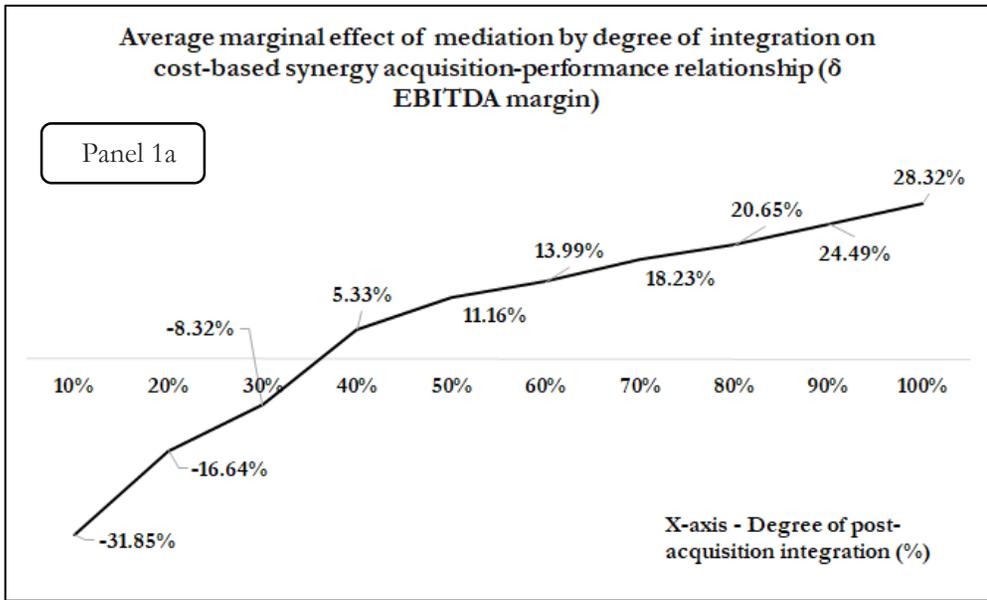


Figure 1: Panels 1a and 1b show the average marginal mediating effect of the degree of integration on the cost-based synergy acquisition-acquirer performance relationship for both DVs i.e., δ EBITDA margin and revenue growth relative to revenue-based synergy acquisitions. Panels 1c and 1d show the mediating effect of the degree of integration on the revenue-based synergy acquisition-acquirer performance relationship for both DVs i.e., δ EBITDA margin and revenue growth relative to cost-based synergy acquisitions.