Retaliation Effectiveness and Acquisition Performance:
The Influence of Managerial Decisions and Industry Context

Abstract: Despite extensive interest in how acquisitions can increase firm competitiveness, research has given competitive retaliation to acquisitions limited attention. Consistent with process research on managerial decisions during acquisitions, we simultaneously consider the effects of retaliation and internal integration decisions on retaliation effectiveness and acquisition performance. From an international survey in Europe, we demonstrate how managerial integration decisions and the external environment influence retaliation effectiveness to acquisitions and their performance. Specifically, longer integration duration and an open M&A strategy are associated with increased retaliation effectiveness. Meanwhile, a high-level of industry M&A activity lowers it. We also confirm that increased retaliation effectiveness is associated with lower acquisition performance. These findings help balance an internal focus in acquisition research, and they clarify the performance implications of acquirer choices that may lead to competitive retaliation effectiveness, as predicted by competitive dynamics research.

INTRODUCTION

The majority of research explaining acquisition performance focuses on competitive characteristics associated with variables known at announcement and completion (Meglio and Risberg, 2010; King, Wang, Samimi and Cortes, 2020) rather than events occurring during integration (Graebner, Heimeriks, Huy and Vaara, 2017). This has favored theory development on 'strategic fit' between firms involved in an acquisition and decision criteria visible before an acquisition (e.g., size, friendliness), or deal characteristics (e.g., Haleblian *et al*., 2009; Meglio and Risberg, 2010). Meanwhile, research consistently reveals acquisition characteristics have limited predictive power for how acquisitions perform (King *et al*., 2004, 2020). One reason for a disconnect between predicting acquisition performance from deal characteristics is that the improved acquisition performance depends on events after closing a deal, or during integration (Chircop, Johan and Taralewska, 2018; Graebner *et a*l., 2017; Haspeslagh and Jemison, 1991; Teerikangas and Thanos, 2018; van Marrewijk, 2016; Wei and Clegg, 2018).

Recent acquisition research has demonstrated the benefits of an embedded view of acquisitions (Rouziès *et al*., 2018) that acknowledges acquisition performance also depends on an acquiring firm's external environment (Haleblian *et al*., 2009). For example, research has revealed how acquisitions disrupt customer relationships (Rogan, 2013; Rogan and Greve, 2015) and result in market share losses (Harding and Rouse, 2007). A related stream of research involves examination of competitive dynamics (Chen, 1996) surrounding acquisitions. For example, acquisition involve competitive moves (Kahl and Grodal, 2016; Keil *et al*., 2013; Uhlenbruck *et al*., 2017) that require substantial managerial resources to integrate, contributing to managers overlooking external opportunities and threats (Cording *et al*., 2008; Larsson and Finkelstein, 1999) to make makes acquiring firms vulnerable to retaliation (Keil *et al*., 2013;

King and Schriber, 2016; Uhlenbruck *et al*., 2017). While competitors can act before deal closing to bid up the price (Datta, Pinches and Narayanan, 1992), acquisition integration has been recognized as the "best" time for competitor retaliation to lower acquirer performance (Kato and Schoenberg, 2012; Meyer, 2008). Still, manager decisions during integration processes and information available to competitors shape vulnerabilities for competitors to exploit (e.g., King and Schriber, 2016). Yet, how internal integration decisions combine with the external context to shape acquisition outcomes is poorly understood (Graebner *et al*., 2017; Rouziès *et al*., 2019). Specifically, it is unknown how integration decisions influence competitor retaliation and its effectiveness, and how retaliation influences acquisition performance. With this background, we ask: How do managerial decisions and the competitive context impact retaliation effectiveness and acquisition performance?

In considering this research question, we make several research contributions. First, we provide a more balanced treatment of internal and external perspectives in acquisition research (Haleblian *et al.*, 2009; Zollo and Meier, 2008), answering calls for research to consider the industrial context where acquisitions occur (Kato and Schoenberg, 2014). This is achieved by considering the joint effect of manager decisions and industry context on retaliation effectiveness, a construct not previously examined.[1] Retaliation effectiveness refers to the degree competitor retaliation negatively affects the reaching of acquisition goals. Second, we elaborate on the impacts of managerial choices following acquisitions. This extends insights that managers need to consider how an acquisition may disrupt business relationships (Öberg, Henneberg and Mouzas, 2007; Rogan, 2013), and it identifies conditions where acquisitions may invoke hostile reactions (e.g., Haleblian *et al*., 2012; Keil *et al*., 2013) that are effective. Third, we also move

[1] We gratefully acknowledge insights from an anonymous reviewer that helped to develop the construct and implications of retaliation effectiveness.

beyond research focusing on acquirer-competitor dyads (Uhlenbruck *et al*., 2017) to include a wider network of potential sources of competitive reactions to acquisitions. Overall, we develop and test internal and external impacts on competitive retaliation effectiveness to explore an overlooked explanation for why acquisition performance often falls short of expectations (King *et al*., 2004, 2020).

THEORY AND HYPOTHESES

We build on acquisition research using competitive dynamics (Keil *et al*., 2013; King and Schriber, 2016; Uhlenbruck *et al*., 2017) to focus on managerial decisions and industry context surrounding an acquisition. An acquisition is traditionally considered as means to improve firm performance in competitive industries. However, integration is needed to realize acquisition benefits and this process is intertwined, or embedded, in the external acquisition context (Rouziès *et al*., 2019). Before a deal, competitor actions can reduce the value realized by an acquirer through legal proceedings (Shaver and Mezias, 2009), bidding up the target price (Datta *et al.*, 1992), information campaigns to consumers or investors (Gao *et al*., 2017; Kato and Schoenberg, 2012), or launching new products or reducing prices on existing products (Uhlenbruck *et al*., 2017). However, we consider how effectiveness of competitor retaliation affects subsequent acquirer performance, and this is important for several reasons. During integration, financial and other resources have already been invested in the acquisition, leaving acquiring firms with less slack resources to respond to rival attacks (King and Schriber, 2016). As a significant resource investment that culminates from related strategic moves, acquiring firms often reveal significant strategic intent (Balakrishnan, 1988), making it easier for rivals to decide how to respond effectively. Responses to acquisitions can be fairly simple, as rival firms only need to call customers or employees of combining firms to stoke fear and disruption (Spratt

and Feldman, 1999). Competitor retaliation during integration can be effective as acquiring firm manager attention is focused on internal issues and not on detecting or preventing rival attacks (Cording *et al*., 2008). This reflects observations that firms integrating acquisitions are especially vulnerable to competitive retaliation (Meyer, 2008). Retaliation effectiveness is conceptually linked to the likelihood of competitor retaliation in at least two ways. First, retaliation will not be effective if there is no retaliation. Second, competitors are less likely to retaliate when they do not have the capability to effectively retaliate (Chen, 1996; Chen et al., 1992).

We focus on how acquirer choices (Rogan and Greve, 2015) and contextual factors influence retaliation effectiveness during integration and its impact of acquisition performance. We draw on an acquisition process perspective (Haspeslagh and Jemison, 1991) and competitive dynamics research to develop our framework. For example, the more aware, motivated and capable competitors are, the higher an acquirer's risk that it will face effective retaliation (Chen, 1996). In Figure 1, we separately identify internal and external characteristics linked to retaliation effectiveness with more effective retaliation lowering acquisition performance. Internally, an open M&A strategy and integration duration can increase retaliation effectiveness during acquisition integration (Chircop *et al*., 2018; Graebner *et al*., 2017; King, Bauer and Schriber, 2018; Teerikangas and Thanos, 2018; van Marrewijk, 2016; Wei and Clegg, 2018). Externally, industry M&A activity and rivalry may influence retaliation effectiveness (Bauer *et al*., 2017; Bettinazzi *et al*., 2020; Haleblian *et al*., 2012; Martynova and Renneboog, 2008).

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In considering these characteristics and competitive dynamics, we argue that internal factors and acquirer choices, as well as the contextual environment where acquisitions are embedded, impact competitor retaliation effectiveness. Specifically, we anticipate that sharing

more information about an acquisition and longer integration duration expose an acquirer to more effective retaliation that lowers performance. Moreover, higher industry rivalry may enable rivals to launch effective retaliation to an acquisition. Still, the more acquisitions taking place in an industry, the less likely they may invite an effective competitive response. For example, acquisitions may be viewed as common and more firms will be resource constrained from making acquisitions. Overall, we anticipate the more effective retaliation, the lower acquisition performance, and associated relationships are more fully developed in the following subsections.

Acquisition Integration

A central tenet of competitive dynamics research is that competitive actions need to be visible to elicit a response (Chen and Miller, 2012; Chen *et al*., 2007). Acquisitions are highly visible events (Kato and Schoenberg, 2012) that are easily detected from regular environmental scanning or competitor intelligence. For example, competitor awareness can result from media attention, including coverage of internal conflict during integration and an acquirer's response to it (Hellgren *et al*., 2002; Riad and Vaara, 2011). Competitors can also notice shifts in customer relations (Öberg *et al*., 2007). Beyond these circumstances, an acquirer can also publicly announce firm goals and how an acquisition helps to reach them. However, disclosures further increase visibility surrounding an acquisition and its goals that reduce competitor uncertainty on how to effectively retaliate (King and Schriber, 2016). Additionally, the most common variable examined following acquisition completion is the length of integration, or its duration (Angwin, 2004; Cording *et al*., 2008; Li *et al*., 2017; Shi *et al*., 2012). As acquirers are especially vulnerable during integration (Meyer, 2008), integration duration displays the timeframe available for competitor retaliation (Ferrier, 2001; Nadkarni *et al*., 2016; Yu and Cannella, 2007) with longer duration providing competitors more opportunity.

Open Acquisition Strategy

While acquirers may attempt to conceal integration plans to confuse competitors (e.g., Harwood, 2006), acquirers are often required to make public announcements of motives and goals to gain approval and acceptance from regulators, stockholders, and employees (Schweiger and Goulet, 2005; Yakis-Douglas *et al*., 2017). For instance, firms often send out a press release or make regulatory filings on the goals behind an acquisition (Rabier, 2017). Additionally, firms may openly communicate their ambition to grow through acquisitions (Chatterjee, 2009).

Choosing to communicate more information to stakeholders refers to an "open strategy" (Whittington *et al*., 2011). While a benefit of transparency involves creating buy-in from stakeholders, such as investors and employees (Angwin, 2004; Meglio *et al*., 2017; Yakis-Douglas *et al*., 2017), greater communication may increase effectiveness of competitor retaliation (King and Schriber, 2016). Simply, information before an acquisition can play the role of an 'early' warning, allowing a rival to be prepared for an attack during integration, when the acquiring firm is most vulnerable (Meyer, 2008).

Fundamentally, awareness about a competitive move increases likelihood of an effective response (Chen, 1996). Additionally, knowledge of an acquisition that threatens established competitive positions is associated with increased motivation to respond (Uhlenbruck *et al*., 2017). Competitors may retaliate even to acquisitions not immediately perceived as threatening to maintain a reputation of deterring rivals from entering a market (Clark and Montgomery, 1998). The effectiveness of retaliation during integration increases with competitor awareness about acquisition goals (King and Schriber, 2016; Yakis-Douglas *et al*., 2017). An open acquisition strategy reveals acquisition plans (Balakrishnan, 1988) and competitors that know acquisition goals can tailor competitive retaliation to achieve their goals at the expense of an

acquirer's goals (King and Schriber, 2016). For instance, competitors learning of acquirer goals to expand market share can contact customers and hinder acquisition goals (Spratt and Feldman, 1999), and competitors observing an acquirer reducing product development, can invest in R&D to outperform them (Valentini, 2016). In summary, an open acquisition strategy can further the ability of competitors to retaliate effectively, as it clarifies other information about an acquisition to provide decisive insights for designing effective competitive responses. Therefore, we propose:

> *Hypothesis 1*: An open acquisition strategy is positively related to retaliation effectiveness to an acquisition.

Integration Duration

Once an acquisition has taken place, a key managerial choice is the speed to integrate a target firm (Bauer *et al*., 2020; Cording *et al*., 2008; Meglio and Risberg, 2010), but there are trade-offs. On one hand, increased speed may increase social and cultural turmoil that threaten acquisition goals (Ranft and Lord, 2002), as developing trust with target firm employees takes time (Olie, 1994). On the other hand, faster integration minimizes employee disruption (Ranft and Lord, 2002), employee uncertainty, and results in quicker realization of proposed benefits (Angwin, 2004). For example, a one-month delay in realizing $500 million in annual savings could reduce the value of an acquisition by $100 million (Chanmugam *et al*., 2005).

From a perspective of competitive dynamics, faster integration speed also provides benefits. Integrating another firm offers an unprecedented opportunity to steal clients (McIntyre, 2014), but competitive moves involving product launches, entering new markets, and advertising campaigns require time (Schriber and Löwstedt, 2018). Therefore, longer integration duration gives competitors more time to muster necessary resources and coordinate efforts to retaliate effectively (Chanmugam *et al*., 2005; Smith *et al.,* 1991). Further, longer integration increases

the risk of information about integration plans and goals leaking to competitors contributing to increased acquirer vulnerability, and the effectiveness of competitor retaliation (King and Schriber, 2016; Meyer, 2008). There will also be a delay in acquirers responding to competitor retaliation. For example, longer integration is associated with increased internal conflict (Gomes *et al.,* 2013) that absorbs managerial attention (Cording *et al*., 2008). Therefore, we propose:

> *Hypothesis 2*: The duration of integration is associated with higher retaliation effectiveness to an acquisition.

Environmental context

Acquisitions are also embedded in an industry context (e.g., Rouziès *et al*., 2019) and industries differ significantly on their M&A activity and rivalry, and these factors may influence retaliation effectiveness. M&A frequency in an industry likely impacts the effectiveness of rival retaliation, as cognitive and other resources required to launch effective retaliation is spread across more acquisitions as industry M&A activity increases (e.g., Haleblian *et al*., 2012). Still, acquisitions in industries with greater M&A activity are more likely to be regarded as common practice to either enable them to have established responses, or to reduce competitive responses to an individual acquisition (Nadkarni and Barr, 2008; Sutcliffe and Huber, 1998). In either circumstance, competitor actions may be more symbolic (Yu and Cannella, 2013) resulting in lower retaliation effectiveness.

In considering rivalry, we maintain that rivalry within an industry is associated with competitor retaliation with competitors focusing on effective retaliation (Baum and Korn, 1996; Chen, 1996; Chen *et al*., 1992; Porter, 1980). For example, acquirers often lose customers to competitors (Harding and Rouse, 2007; Öberg *et al*., 2007; Rogan, 2013; Rogan and Greve, 2015). More cutthroat competition in an industry will also trigger further competitive responses in escalating actions to maintain performance (Derfus *et al*., 2008). This reflects observations

that acquisitions invite competitive retaliation (Keil *et al*., 2013), and this can be predicted using acquisition characteristics (Uhlenbruck *et al*., 2017). We next outline our arguments around the relation between M&A activity and industry rivalry and effective retaliation to acquisitions.

Industry M&A activity

M&A typically occur in waves (Toxvaerd, 2008) and M&A intensity can differ between industries. Competitive dynamics suggests events that receive more managerial attention increase competitor retaliation (Chen, 1996). However, firms reacting to acquisitions will also need to spread managerial, financial, and other resources for retaliation more thinly across a higher the number of acquisitions in its environment, reducing the capability to respond effectively. As a result, greater M&A activity may mean acquisitions are considered business as usual in an industry, or acquisitions will be less likely to merit a response (Nadkarni and Barr, 2008; Sutcliffe and Huber, 1998). For instance, meeting one competitor's acquisition with tailored R&D efforts (Valentini, 2016) will be easier than meeting two, three, or more acquisitions with similar effectiveness.

Greater consolidation in an industry can increase the market power of remaining competitors, reducing the motivation to respond (Clougherty and Duso, 2011). Also, the higher the number of acquisitions in an industry, the higher the chance competitors will also be involved in acquisitions, concentrating attention on their own internal integration problems (Cording *et al.*, 2008), at the expense of awareness needed to retaliate effectively (Chen, 1996). As a result, higher industry M&A activity likely results in less retaliation that is also less effective due to reduced resource availability (i.e., capability). Therefore, we propose:

> *Hypothesis 3*: Greater industry M&A activity is associated with lower retaliation effectiveness to an acquisition.

Industry rivalry

The ongoing struggle over limited profits varies in intensity across industries. For example, some industries are relatively mild-mannered, and others characterized by 'cut-throat' rivalry (Porter, 1980), and we anticipate this influences the degree rivals that can respond effectively to acquisitions. In industries with low rivalry, competitive moves are less likely to be met with effective retaliation, as rivals may decide to avoid raising risk from increasing rivalry (Livengood and Reger, 2010). As a consequence, competitors in industries with less rivalry may only offer symbolic, less effective retaliation (Yu and Cannella, 2013).

In contrast, in industries with higher rivalry, we anticipate that competing firms are more likely to retaliate and impact an acquirer meeting acquisition goals. This relates to competition evolving from circumstances where increasing performance of one firm comes at the expense of others, leading to escalating actions for firms to simply maintain performance (Derfus *et al*., 2008). Further, firms in competitive industries may respond to maintain a reputation of retaliation to defer entry by additional competitors (Basdeo *et al*., 2006). Higher rivalry in an industry also enhances external monitoring of competitors and it increases the motivation to make competitive responses to acquisitions (e.g., Keil *et al*., 2013). By already being exposed to rivalry, competitors will have developed a competitive capability with established rivalry increasing emotional stakes behind retaliation (Kilduff *et al*., 2010) that increase the importance of effective retaliation. As a result, we anticipate competitors will focus on competitive responses that result in effective retaliation (Chen, 1996). Therefore, we propose:

> *Hypothesis 4*: Industry rivalry is positively associated with retaliation effectiveness to an acquisition.

Impact of Retaliation Effectiveness on Acquisition Performance

Although retaliation does not guarantee lower acquisition performance (Keil *et al*., 2013), competitive retaliation, on average, can be expected to impact acquisition goals and lower acquisition performance (e.g., Chen, 1996). Competitors have multiple options available to directly and indirectly reduce the value of an acquisition and an increase in competitor retaliation effectiveness may lead acquiring firms to simply maintain performance (Derfus *et al*., 2008). If nothing else, dealing with competitive retaliation to achieve acquisition goals takes additional managerial time and attention, as well as additional firm resources. Further, as multiple actions from different competitors take effect, cumulative retaliation will likely make retaliation actions more effective contributing to a decline in performance (Otero-Neira and Varela-Gonzalez, 2005). For example, Fee and Thomas (2004) find positive effects of horizontal acquisitions deteriorate after one year due to rivalry. Additionally, when competitor reactions to an acquisition become known, research has found the share prices of acquiring firms decrease (Oler *et al*., 2008). Therefore, we propose:

> *Hypothesis 5*: Retaliation effectiveness lowers manager assessments of acquisition performance.

METHODOLOGY

We used the Zephyr database to identify acquisitions by manufacturing firms in European German speaking countries that were completed between July 2012 and January 2014. To make our sample more homogenous, we limited the annual sales of the acquirer to 1 billion Euros prior to the acquisition for an initial sample of 528 firms. This sample is justified on several grounds. First, manufacturing industries play an important role for the Germanic countries and a regional restriction limits institutional differences (Weigelt and Sarkar, 2012). For example, German speaking countries are characterized by restrictive labor legislation or low investor protection

(Capron and Guillén, 2009; Homburg and Bucerius, 2006). Second, limiting our sample to firms with annual sales below 1 billion Euros helped to make retaliation effects observable to managers. For example, a focus on smaller firms increases the likelihood a manager has information about an acquisition to control for the informant's competency (Kumar *et al*., 1993). Third, most M&A research is conducted in the U.S., and, assuming the U.S. is more competitive, our sample has a conservative impact on our research in that it would make significant results less likely. Finally, the selected timeframe was recent to avoid recollection bias (Ellis *et al*., 2009; Krishnan *et al*., 1997), but delayed enough to allow for competitor responses. Our initial sample included 528 acquiring firms.

We then conducted a survey of acquiring firm executives in spring 2015 to test the proposed relationships with a key informant research design. Primary data offers richer detail necessary to investigate information only available to managers, such as competitive actions and their effectiveness surrounding acquisitions. Additionally, secondary data is less available for medium sized firms, as the obligation to publicly disclose is lower compared to large firms. As a result, surveys are a common methodology in M&A research when secondary data is not available (Bauer and Matzler, 2014; Cording *et al*., 2008; Homburg and Bucerius, 2005, 2006; Junni *et al*., 2015). Further, we chose upper managers and executives of acquiring firms as participants for two reasons. First, they tend to be knowledgeable of information pertaining to questions (Bauer and Matzler, 2014; Ellis *et al*., 2009). Second, due to managerial turnover, it was nearly impossible to identify target executives after an acquisition. We would have preferred to question two executives per firm to avoid key informant bias concerns (Kumar *et al*., 1993). However, managerial turnover made it difficult to identify two executives with both needed information on an acquisition and willingness to participate in a lengthy questionnaire. Our

approach risks a potential key informant bias (Kumar *et al*., 1993) resulting from differences in the role of respondents (Philips, 1981; Seidler, 1974) or individual biases (e.g. Huber and Power, 1985; Salancik and Meindl, 1984). To control for a potential key informant bias, we investigated whether responses of top managers and middle managers, and managers with a core strategic (e.g. CEO), financial (e.g. CFO), or operational role (e.g. M&A manager) systematically vary. The results of a Mann-Whitney (for the first variable) and a Kruskal-Wallis test (for the second) show no significant differences concerning their judgement regarding retaliation effectiveness and acquisition performance. Further, reported acquisition performance is consistent with observed broader acquisition research, suggesting key informant bias has limited effects in our sample.

Final questionnaires were sent with a cover letter where we referred to the sampled acquisition, an executive summary of a prior study, and a return envelope. After three weeks, we started with follow-up calls where respondents could answer the questionnaire on the telephone or complete an online survey. We received 115 completed questionnaires resulting in a response rate of 21.8 percent. This response rate compares favorably with other primary data acquisition research (e.g., Bauer and Matzler, 2014; Homburg and Bucerius, 2005, 2006; Junni *et al*., 2015; Zaheer *et al*., 2013). To assess potential non-response bias, we implemented two tests. First, we selected a random sample of our basic population and compared it for relative size and annual sales with the received answers (Zaheer *et al*., 2013). Second, we compared early and late respondents according to the suggestions of Armstrong and Overton (1977). For both, we found no statistically significant differences, or non-response bias does not appear to be a serious concern for our data.

Measures

For scale development, we modified existing scales and developed new scales using a four-step process to capture the major components of the concepts with items that have a common core, but unique attributes (Churchill and Peter, 1984). We first defined the constructs of interest used to review relevant literature. Even though surveys are less common than research using secondary data in M&A research, we focused on prior conceptualization and assessment when possible. Second, from our review, we created an item pool to "sample systematically all content that is potentially relevant to the target construct" (Clark and Watson, 1995, p. 311). Third, we discussed this item pool with researchers and managers with diverse backgrounds from various countries. In this step, we asked the participants to focus on the clarity of the items, potential redundancies, and – as the items were randomly arranged – to sort them to the defined constructs. We refined scales until we achieved convergence. Fourth, we developed the survey instrument and conducted a two-step pretest in February 2015. In the first step, we discussed the questionnaire with acquisition experienced executives from Scandinavian and German-speaking countries face to face, and we invited them to "think out loud". In the second step, we surveyed seven industrial and academic experts to test the comprehensibility of our questionnaire. Psychometric properties are reported in SMR 1.

Dependent Variable

Performance was assessed with three indicators that asked the degree an acquisition: 1) improved the company's situation, 2) developed new customers and/or markets, or 3) grew market share. All three questions refer to the combination of acquirer and target after the acquisition. These items help assess change from a firm's prior performance and its ability to achieve acquisition goals. Further, the examination of multiple dimensions of performance

reflects an advantage of managerial assessment over archival measures (Papadakis and Thanos, 2010). For example, managers can have private information that may enable better estimates of acquisition performance (Laamanen, 2007; Schijven and Hitt, 2012), as many integration measures are only available to managers (Papadakis and Thanos, 2010). Research also finds that managerial assessments are correlated with objective measures and provide similar results (King *et al*., 2020; Wall *et al.,* 2004).

Independent Variables

Open strategy was measured with two items on a seven-point Likert scale where managers assessed the extent an acquisition's goals where publicly announced and shareholders reacted based on these announcements.

Duration of integration was assessed with four indicators based on the dimensions applied by Cording and colleagues (2008) for assessing the degree of integration. In line with previous research, the indicators were operationalized on a seven-point Likert scale ranging from 1=less than 6 months to 7=more than 24 months (e.g. Cording *et al*., 2008; Bauer and Matzler, 2014). Contrary to other scales, we reverse coded duration, as "the faster, the better" is generally assumed and it avoids concerns from using common scale properties.

Industry M&A activity was operationalized with two items to indicate if acquisitions are a common practice in the industry. Again, a seven-point Likert scale was used.

Industry rivalry was assessed with two indicators. Similar prices and quality as well as immediate reactions in an industry are an artefact of destructive rivalry (Porter, 1980). Consequently, respondents were asked to these two facets on a 7-point Likert scale.

Retaliation effectiveness. To better understand how retaliation affects acquisition performance, we argue that retaliation effectiveness may depend on interruption of acquirers

achieving intermediate goals (e.g., Cording *et al*., 2008). As such, retaliation effectiveness was assessed with four items asking the degree competitive responses limited: 1) achieving acquisition goals, 2) product development, 3) market expansion, and 4) technology goals. Respondents rated the four items on a seven-point Likert scale. A focus on the impact of acquisition goals is relevant, as goal accomplishment is an established mediator of acquisition performance (Cording *et al*., 2008).

Control Variables

We included multiple control variables for industry- and firm-level effects that could be expected to influence our results. We controlled for whether an acquisition was domestic or *cross-border*, as national governance institutions have serious impact on acquisitions and firm behavior (Capron and Guillen, 2009). We also controlled for the emphasis a firm placed on a *dominant M&A strategy* by asking managers if acquisitions play a dominant role for the firm's strategy, and whether a firm is well known for executing acquisitions aggressively. Further, we controlled for the *transaction type* as horizontal or vertical acquisitions may trigger retaliation more than conglomerate ones, and *relative size* using a single item on a 5-point scale indicating the relative size to acquirer annual sales with 1=less than 25% to 5=more than 100%. We also controlled for firm size using the *annual sales* of the combined entity. *Prior acquisition experience* of an acquirer was controlled using a count of acquisitions completed in five years prior to an acquisition. We also implemented several industry-level controls. *Average media coverage* was captured with a single item measure requesting the respondents on how much media publicity acquisitions in the industry receive. *Industry growth* is the average industry growth three years prior to an acquisition. Finally, s*upply chain friction* was assessed with two indicators: 1) if firms

in the industry display tension with customers on price and quality, and 2) if firms in the industry display tension with suppliers on price and quality.

RESULTS

Descriptive data and respondents

We report descriptive data of our sample, in Table 1. The majority of deals were horizontal (60%), and the relative size of a target in comparison to an acquirer was most often under 25 percent. Additionally, 40 percent of sampled firms have sales less than 100 million Euros. The majority of sampled firms also conducted fewer than three acquisitions in the prior five years. The answers of the respondents in our sample reflect the conditions of investigated industries from the perspective of the business unit or department managers, CEOs and CFOs who filled out the questionnaires. For example, 12 percent of the responses were from heads of acquisition or corporate development departments.

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To test the proposed relationships, we used structural equation modeling (SEM). We chose PLS-SEM as a method instead of a co-variance based approach for several reasons. First, PLS-SEM offers advantages for exploring complex relationships for the first time (Henseler *et al*., 2014), as we do. Additionally, PLS-SEM offers greater flexibility in estimating than co-variance based (CB) approaches for complex models (Hair *et al*., 2011). Further, PLS-SEM is appropriate for complex models with smaller sample sizes (Hair *et al*., 2011; Hair *et al*., 2013; Henseler *et al*., 2014). Another advantage of PLS-SEM is that the properties for measuring latent variables are less restrictive and constructs with fewer items can be modeled (Hair *et al*., 2011). Finally, PLS is often used in M&A research (e.g. Ahammad *et al*., 2017; Junni *et al*., 2015). As a result, we applied PLS-SEM with Smart PLS (Ringle *et al*., 2005) using the path weighting

scheme to assess our model (Henseler *et al*., 2009). The significance of relationships was tested with 5,000 bootstraps using the individual sign change option (Hair *et al*., 2011; Hair *et al*., 2012). We assessed our research model in two steps to examine: 1) the reliability and validity of the measurement models, and 2) the structural model (Hulland, 1999) before examining the hypothesized relationships.

Evaluation of the Measurement Models: Reliability and Validity

As the indicators of the constructs co-vary, our measurement models have a reflective character (Jarvis *et al*., 2004). For assessing the reliability of our measures, we calculated composite reliability (CR) and the average variance extracted (AVE), see SMR Table 1. All CR values exceed the recommended threshold of 0.7 and the AVE values range between 0.598 and 0.768. While it is recommended that loadings should exceed the value of 0.7 and values below 0.4 should be deleted (Hulland, 1999), we retain the construct open strategy with one loading below the 0.7 threshold, as it meets the recommended AVE threshold of 0.5 and composite reliability criteria (Henseler *et al*., 2009). Based on the psychometric properties of our scales, we conclude that our measures are reliable.

For assessing discriminant validity, we applied three different tests. First, we assessed the Fornell-Larcker criterion that compares the correlations of the latent variables with the square roots of the corresponding AVE values (Fornell and Larcker, 1981), see SMR Table 2. Second, we assessed the cross-loadings for discriminant validity (Henseler *et al*., 2009), and each indicator had lower cross-loading with other constructs, see SMR Table 3. Third, our greatest heterotrait-monotrait ratio (HTMT) value is 0.770 and this is below the threshold value of 0.85 (Clark and Watson, 1995; Henseler *et al*., 2015). All three tests indicate that discriminant validity is established. Still, self-reported data for assessing independent and dependent variables at a

single point in time from a single respondent can result in common method bias (Podsakoff and Organ, 1986; Podsakoff *et al*., 2003; Podsakoff *et al*., 2012). Consequently, we took several a priori and post hoc steps to reduce the likelihood and to assess common method bias, see SMR3.

Structural model

Figure 2 represents the results of the PLS analysis. An R^2 value of 0.225 for retaliation effectiveness and 0.276 for performance indicates that our research model explains a substantial amount of variance. Further, the Stone-Geisser´s Q^2 indicates that our model has predictive relevance (Geisser, 1975; Henseler *et al*., 2009; Stone, 1974). As PLS does not offer a broad variety of measures for model fit, we investigated the standardized root mean square residual (SRMR). The value of 0.068 is below the recommend threshold of 0.08 (Hu and Bentler, 1999) indicating a sufficient fit for our model.

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We find that industry growth is associated with higher retaliation effectiveness (ß = 0.226; p = 0.015), though it leads to higher acquisition performance (ß = 0.174; p = 0.091). Supply chain friction also increases retaliation effectiveness (ß = 0.219; p = 0.043), but it does not have a direct impact on acquisition performance. This is in line with Rogan and Greve (2015) who find acquisitions trigger competitive reactions from suppliers and customers. While most firm-level controls do not significantly impact our research model, increased annual sales of the combined firms are associated with lower retaliation effectiveness (ß = -0.197; p = 0.049). Size can be seen as an indicator for market power that deters competitors to respond, or for established processes that make an acquirer less vulnerable. However, there is no significant effect of size on acquisition performance. Interestingly, prior acquisitions increase retaliation effectiveness (ß = 0.213; p = 0.032), but not acquisition performance. This suggests that prior

acquisitions may absorb manager attention and result in increased retaliation effectiveness. Relative size of an acquisition triggers retaliation effectiveness (ß = 0.136; p = 0.084), but it also increases performance (ß = 0.158; p = 0.045). This result suggests that acquisitions of larger targets (relative size) engender competitive responses that are more effective as an acquirer's managers are absorbed by increased complexity during integration.

Hypothesis testing

Hypothesis 1 suggests that acquirers with an open M&A strategy experience higher retaliation effectiveness, and we find support for this effect (ß = 0.319; p = 0.008). For Hypothesis 2, we find that longer integration duration significantly triggers retaliation effectiveness (ß = 0.217; p = 0.036). We also find empirical support for Hypothesis 3 (ß = -0.187; p = 0.061), but contrary to expectations industry rivalry is not associated with retaliation effectiveness (Hypothesis 4). This suggests that higher rivalry coincides with diminishing returns to retaliation effectiveness, but additional research on the relationship between rivalry and retaliation and its effectiveness is needed. However, in line with expectations, we find strong support that retaliation effectiveness lowers acquisition performance for Hypothesis 5 (ß = -0.367; p = 0.003). This outcome is consistent with industrial organization research (Porter, 1980), and competitive dynamics research examining competitive retaliation to acquisitions (Uhlenbruck *et a*l., 2017).

As some of the results suggest a mediating impact of retaliation effectiveness on acquisition performance, we conducted supplementary mediation analysis. To test potential mediation effects of retaliation effectiveness, we estimated the indirect, direct, and total effects (MacKinnon *et al*., 2002) simultaneously in PLS to avoid biases in the path estimates instead of the traditional step-wise approach (Nitzl *et al*., 2016). Baron and Kenny´s (1986) approach to test mediation has been recently criticized as the core-assumptions only hold for complementary

mediations and not competitive ones (Shrout and Bolger, 2002; Zhao *et al*. 2010). As our research model is rather complex with multiple potential mediation effects, the c-paths might be insignificant, even if mediation exists (Nitzl *et al*., 2016). A core argument for using PLS is the non-distributional assumption, making the parametric procedure of the Sobel test inappropriate (Preacher and Hayes, 2004; 2008). Following Zhao and colleagues (2010), we analyzed the bias corrected confidence intervals with 5,000 bootstraps, as confidence intervals are more valid than a pseudo t-value (MacKinnon *et al*., 2004).

In considering the mediation of retaliation effectiveness with an open M&A strategy, we estimated the indirect, direct, and total effects (MacKinnon *et al*., 2002), see Table 2. Mediation is significant when the bias corrected confidence intervals of the indirect effect do not include zero, and our results support a mediating effect of retaliation lowering acquisition performance ($p = 0.050$).

--- Insert Table 2 about here ---

For integration duration, slower integration is associated with lower acquisition performance ($ß = -0.195$; $p = 0.062$). Further, we find empirical support for a partial mediating effect of retaliation effectiveness, see Table 3. The indirect effect is significant, as zero is not included in the bias corrected confidence intervals and the t-statistic is significant ($p = 0.096$).

--- Insert Table 3 about here ---

Even though we do not find a significant, direct effect of industry M&A activity on performance ($ß = -.032$; $p = .699$), the results of the mediation analysis indicate potentially a mediated relationship, as zero is not included in the confidence intervals of the indirect effects. However, the t-value is above a 10% significance level, see Table 4.

--- Insert Table 4 about here ---

Industry rivalry does not impact retaliation effectiveness and acquisition performance, as both relationships are insignificant, see Figure 2. As a result, we do not examine a mediating effect for competitive retaliation effectiveness with industry rivalry. In Table 5, we report path coefficients, f^2, p-values, and bias corrected confidence intervals. Overall, our results support a mediating effect of competitive retaliation effectiveness on acquisition performance.

--- Insert Table 5 about here ---

DISCUSSION

We show competitive dynamics (Chen, 1996) combined with the consideration of acquisition processes and integration (Haspeslagh and Jemison, 1991) can help to predict acquisition performance. Specifically, we develop how acquisition performance rests on a series of managerial decisions in acquiring firms (Cording *et al*., 2008; Haspeslagh and Jemison, 1991) that influence the effectiveness of competitor retaliation (Chen, 1996). This is consistent with acquisition success being influenced by managerial decisions and acquisition context (Rogan and Greve, 2015; Rouziès *et al*., 2018). We find retaliation effectiveness serves as a mediator that lower acquisition performance. This is relevant, as increased retaliation effectiveness to consolidation may also explain why horizontal acquisitions that are expected to offer benefits from resource sharing (Capron and Hulland, 1999) do not consistently improve performance (King *et al*., 2004, 2020). This demonstrates the complexity of acquisition decisions requires theoretical development to consider the context of acquisitions (King *et al*., 2020). Our research offers additional implications for acquisition research and practice.

Research Implications

An organization's relationship to its competitive environment is undeniably important. Acquisition research focusing on the integration phase has mainly considered factors internal to

combining firms, and internal and external issues are often studied separately (Haleblian *et al*., 2009). Our study balances an internal bias in existing research by also considering competitive actions external to acquiring firms, and our results confirm acquisition processes are embedded both in an internal and external context (Rouziès *et al*., 2018). Specifically, we extend existing insights connecting integration to external circumstances, such as industry life cycle (Bauer *et al*., 2017) and M&A activity (Haleblian *et al*., 2012). A consequence is that research on managerial attention during acquisitions that typically concentrates on the inner aspects (Cording *et al*., 2008) may underestimate the importance of also monitoring external conditions.

Additionally, we add to a growing stream of research considering acquisitions in their competitive environment (e.g., Kato and Schoenberg, 2014; Keil *et al*., 2013; King and Schriber, 2016; Rogan and Greve, 2015). Our study indicates that while performance gains are partly under the control of acquiring managers, acquiring firm managerial decisions also relate to effective retaliation that can lower acquisition performance. Specifically, our findings confirm and extend prior conceptual work suggesting that the degree acquirers are vulnerable to competitive retaliation differs. For example, confidentiality (versus an open M&A strategy) can have benefits in reducing retaliation effectiveness (King and Schriber, 2016), and this may explain higher performance from acquiring private targets (e.g., Capron and Shen, 2007). Further, there may be greater gains in performance than expected from acquisitions of smaller targets in unrelated industries. Specifically, smaller targets may be less taxing to an acquirer's integration capability (Lamont *et al*., 2019), and unrelated acquisitions may help to reduce retaliation effectiveness (Uhlenbruck *et al*., 2017).

Our study also moves beyond a consideration of dyads dominating competitive dynamic research (Keil *et al*., 2013; Uhlenbruck *et al*., 2017) to consider broader industry and stakeholder

reactions. This is important, as competitors can exercise important but not exclusive external influence on acquisition performance. Instead, competitive retaliation can also be taken by customers (Kato and Schoenberg, 2014). Hence, a seemingly minor but important difference rests between *competitor* retaliation and *competitive* retaliation, as well as retaliation effectiveness. Extending considerations to involve the competitive context surrounding acquisitions falls in line with an overall view of competitive strategy (e.g. Porter, 1980) that highlights retaliation may originate from multiple actors. Considering retaliation only by industry rivals may underestimate competitive retaliation and its impact on acquisition performance.

Managerial Implications

While the decision to retaliate belongs to competitors, our findings suggest acquisition managers can influence retaliation effectiveness. Acquirers may limit retaliation effectiveness by selecting targets in industries with high M&A activity, and then avoiding lengthy integration. This is consistent with acquirers benefiting from less visible acquisitions. For example, Porter (1980, p. 96) suggests firms make acquisitions "quietly away from competitors' centers of attention". Additionally, our results suggest industry growth may positively impact acquisition performance, so acquiring firm managers may want to target growing industries (Heeley, King and Covin, 2006). Further, managers need to consider competitive responses to acquisitions beyond direct competitors to include suppliers and customers. While existing research largely focuses on benefits from integration speed minimizing employee and customer disruption (Angwin, 2004; Homburg and Bucerius, 2006), it will also minimize vulnerability to retaliation. Additionally, integration flexibility, or an ability to quick adjustments (Junni *et al*., 2017; Schriber *et al*., 2018) may reduce retaliation effectiveness.

Limitations and Future Research

Our study exhibits several limitations. First, there may be additional interactions between acquisition characteristics and contextual conditions that we do not examine. For example, our focus is on managerial decisions following an acquisition, and we do not consider deal characteristics, such as the price paid or deal attitude (e.g., friendly/hostile). For example, internal firm characteristics, such as acquirer size before an acquisition may also be relevant. To make our sample homogenous and the effects of retaliation to a specific acquisition observable, we limit our sample to medium-sized acquirers with annual sales below 1 billion Euros. While we do not find acquirer size differences influence our results in robustness checks, size differences may exist creating an opportunity for future research. We also control for relevant variables, such as relative size, and we focus on manager decisions and industry context after an acquisition. We also do not directly measure competitive retaliation and depend on acquiring manager reports of how competitor reactions impacted acquisition goals (retaliation effectiveness). Additionally, archival measures of actual competitor reactions, such as price changes (e.g., Smith *et al*., 1991), are needed to validate our results. There also remains a need to explain what influences acquisition performance and for research to use multiple measures of acquisition performance (King *et al*., 2020). Further research is also needed to consider the impact of overlapping integration from prior acquisitions by either an acquirer or its target (Zorn *et al*., 2019).

Our research is also based on a survey with all information collected at the same time from a single respondent. Additionally, it assumes that responding managers were aware of competitive responses. In some circumstances (e.g., multimarket competition), managers may not be directly aware that retaliation occurred in another shared market (Ferrier, 2001). While we

limited our sample to firms with less than one billion Euro in sales to mitigate multimarket competition, we cannot fully exclude its effects. Further, the restrictive regulative environment in German speaking countries may not be generalizable to countries where acquisitions are more common. Additionally, our sample includes private firms where secondary financial information is not available, and our use of managerial assessment of acquisition performance may exhibit bias. For example, managers may misattribute problems with an acquisition to external factors. Additional research is needed to confirm our results with other measures of performance.

Another limitation is that we do not directly examine specific modes of competitive retaliation, and we assume effective retaliation results from actions taken by rivals. For example, before an acquisition, a competitor can drive up the price paid for an acquisition (Varaiya and Ferris, 1987). While competing bids are less common for private targets that are included in our sample, we do not control for competing bids. Additionally, after an acquisition, a common method of retaliation is to poach employees of combining firms (e.g., Brown *et al*., 2003; Spratt and Feldman, 1999), and employee turnover is likely to hinder acquisition performance. Further, customers can take actions that reduce the benefits for an acquisition (Marks and Mirvis, 1998; Rogan, 2013). Examination of specific forms of retaliation, who initiates a response, and their effect represent opportunities for future research.

In closing, our clearest implication reflects benefits from linking competitive dynamics with acquisition integration research to identify effective competitive retaliation as an explanation for lower than expected acquisition performance. This finding is an important complement to traditional, internal explanations of acquisition performance and a focus on deal characteristics at acquisition completion. We show that retaliation effectiveness is complex and intertwined with other acquirer considerations established in research. While several motives

may drive acquisitions, competitive dynamics reinforces the difficulty in predicting acquisition performance. For instance, in addition to difficulties in assessing target value (Capron and Shen, 2007) or integrating them (Bauer and Matzler, 2014), our research supports the heart of competitive strategy considers rivalry and retaliation (Porter, 1980). Our hope is this stimulates additional research taking a broader view in explaining acquisition performance.

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Table 1: Descriptive Statistics

Descriptive Statistics				
Buyer and Target Country				
Austria	in %	**Type of Transaction**	in %	
Austria	21%	Horizontal	60%	
Germany	9%	Vertical	32%	
Switzerland	4%	Conglomerate	8%	
Other	9%			
Germany		**Industry Growth**	Acquirer	Target
Austria	11%		in %	in %
Germany	14%	> - 15	1.8%	3.5%
Switzerland	2%	-15 to -5	0.9%	1.8%
Other	14%	-4 to 0	14.0%	14.0%
Switzerland		1 to 5	50.9%	42.1%
Austria	2%	6 to 10	28.1%	24.6%
Germany	3%	11 to 20	4.3%	10.5%
Switzerland	5%	21 to 30	.0	0.9%
Other	6%	> 30	.0	2.6%
Annual Sales	in %	**Relative Size**	in %	
< 25 Mio. €	14.9%	< 25%	48.2%	
25 - 49 Mio. €	9.6%	25% - 49%	22.8%	
50 - 99 Mio. €	15.8%	50% - 74%	7.9%	
100 - 249 Mio. €	14.9%	75% - 100%	14.9%	
250 - 499 Mio. €	17.5%	> 100%	6.1%	
500 - 1,000 Mio. €	12.4%			
> 1,000 Mio. €	14.9%			
Prior Acquisitions	In %			
None	19,3%			
1-2	31,6%			
3-4	23,7%			
5-6	7,0%			
7-8	4,4%			
More than 8	14%			

Table 2: Mediation analysis for open M&A strategy

				95% Bc CI	
Mediation Analysis	Estimate	T-statitics	p-level	2.5%	97.5%
Open Acquisition Strategy					
Direct Effect	.090	0.941	.347	.001	.275
Indirect Effect	-.104	1.958	.050	-.272	-.026
Total Effect	-.014	.142	.887	-.028	-.000

Table 3: Mediation analysis for integration duration

				95% Bc CI	
Mediation Analysis	Estimate	T-statitics	p-level	2.5%	97.5%
Integration Duration					
Direct Effect	-.195	1.867	.062	-.393	-.011
Indirect Effect	-.071	1.667	.096	-.192	-.012
Total Effect	-.266	2.746	.006	-.440	-.058

Table 4: Mediation analysis for industry M&A activity

				95% Bc CI	
Mediation Analysis	Estimate	T-statitics	p-level	2.5%	97.5%
Industry M&A Activity					
Direct Effect	-.032	.387	.699	-.106	-.000
Indirect Effect	.061	1.572	.116	.010	.192
Total Effect	.029	.341	.733	.000	.096

Table 5: Path coefficients, f^2, p-values, and bias-corrected confidence intervals

	Retaliation Effectiveness			95% Bc CI		Performance			95% Bc CI	
	ß	f^2	p-value	LB	UB	ß	f^2	p-value	LB	UB
H1: Open Acquisition Strategy	.319	.085	.008	.113	.581	.090	.007	.347	.001	.275
H2: Integration Duration	.217	.052	.036	.018	.407	-.195	.043	.062	-.393	-.011
H3: Industry M&A Activity	-.187	.027	.061	-.412	-.021	-.032	.001	.699	-.106	-.000
H4: Industry Rivalry	-.102	.010	.200	-.323	-.007	-.039	.001	.556	-.131	-.000
H5: Retaliation Effectiveness						-.327	.114	.008	-.566	-.073

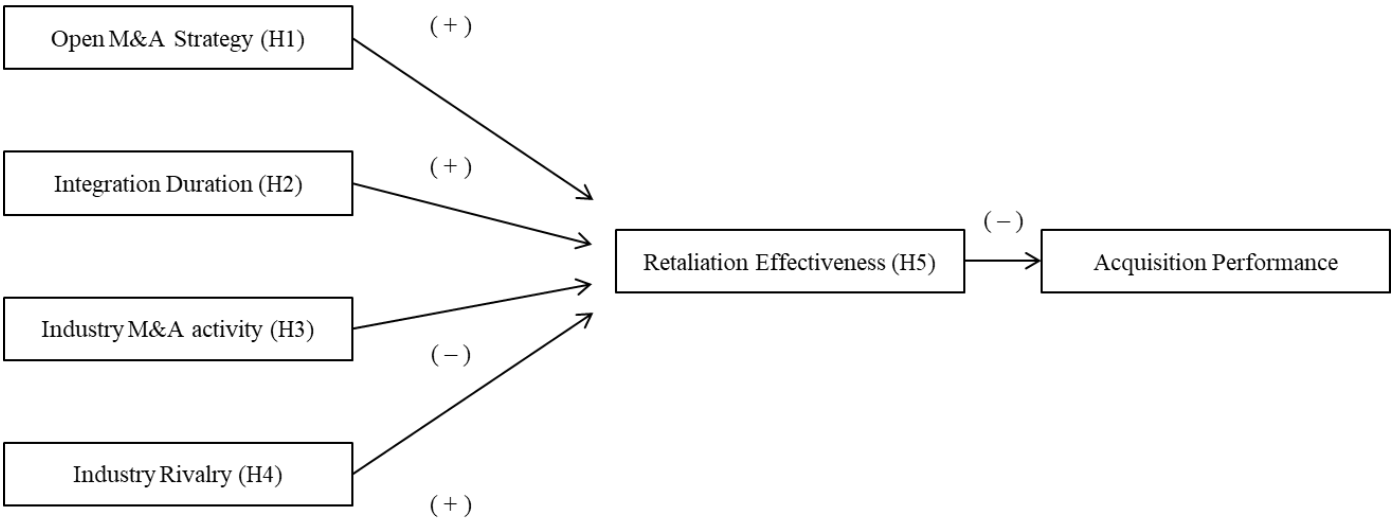

Figure 1: Framework Considering Retaliation Effectiveness on Acquisition Performance

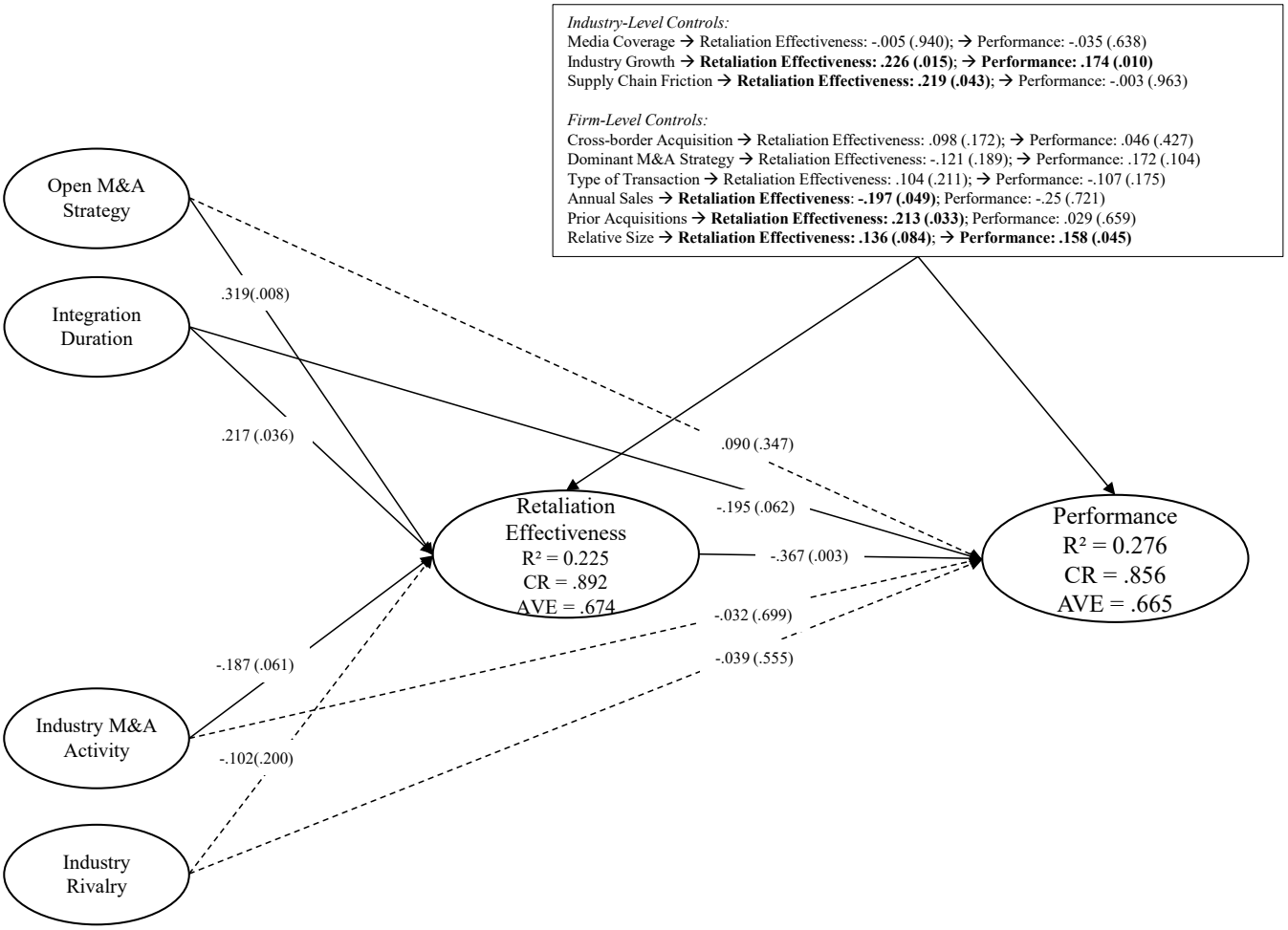

Figure 2: Results of PLS analysis