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Growth strategies through mergers and acquisitions in knowledge-based companies – The case for architect/engineer (A/E) professional service firms (PSFs)

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**Growth strategies through mergers and acquisitions in
knowledge-based companies – The case for architect/engineer
(A/E) professional service firms (PSFs)**

Terry A. Ruhl

**Growth Strategies Through Mergers and Acquisitions
in Knowledge-Based Companies – The Case for Architect/Engineer (A/E) Professional
Service Firms (PSFs)**

Research Dissertation

In Partial Fulfillment of the

Doctorate of Business Administration (DBA)

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Dissertation Acknowledgments

I remember watching my parents work, tirelessly, 7 days a week, to provide me with more than I could ever ask for. While I turned away from our family business to “expand my horizons” into engineering because I enjoyed math, science, and the world of transportation (and somebody told me I should be an engineer even though I had no idea what that meant), I knew I would eventually come back to the business world. I am forever blessed for having been able to do so. Posthumously, I thank my parents for everything, positive, that I have become.

I have been extremely fortunate to have grown professionally in the architectural/engineering professional services industry during the past 30-plus years. Because of my gratefulness to a wide variety of colleagues, and for the many people I met on various business ventures, projects, and other assignments, I felt compelled to contribute to the industry. This research was truly a labor of love, and I am forever indebted to those who have contributed to its completion.

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Biography

Terry A. Ruhl, P.E., F. ASCE, has more than 30 years of experience with architecture/engineering (A/E) professional service firms. In 2018 Mr. Ruhl established his own management consulting organization to help A/E companies, public agencies, private equity investors, and corporate boards engaged in the planning, design, engineering, and delivery of infrastructure solutions. Mr. Ruhl has also served on multiple boards.

Previously, he led the National Governments and Transportation businesses for A/E industry leader CH2M. Collectively, the two business units produced more than US\$3 billion in revenue annually. He also served as a member of CH2M's Board of Directors and Corporate Leadership Council, which completed a capital structure transformation from one of the largest employee-owned companies in the United States to a public-sector corporation, through the sale to Jacobs Engineering, creating the world's largest design engineering firm with leadership in multiple end markets. While at CH2M, Mr. Ruhl was personally involved with some of the world's most significant projects and programs, including modernizing the Mumbai International Airport in India; expanding the Panama Canal; assisting with the development of a US\$20 billion public transportation system in Riyadh, Saudi Arabia; and numerous other infrastructure programs throughout the United States, Europe, and Asia.

Prior to studying for his doctorate in business administration at DePaul University in Chicago, he earned his bachelor's degree in civil engineering from Colorado State University and his master's degree in transportation engineering from the University of California, Berkeley. His current studies are focused on management, strategy, and organizational behavior with an emphasis in professional service firm mergers and acquisitions.

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Abstract

Analyses of mergers and acquisitions (M&A) across industries are prevalent in the literature. Yet, this research reveals that at least half, if not more, of all M&A activity fails to meet strategic, operational, and financial objectives, and can result in declining employee and customer satisfaction. The research herein develops a model framework for alternative growth strategies in the architecture/engineering (A/E) industry, with a specific focus on the antecedents of successful M&A among A/E professional service firms (PSFs). At the center of the model is the Resource Based View of the Firm, where leadership capacity, cash, and capital flows yield an affordable means to a competitive advantage through the accumulation of necessary talent. For A/E PSFs, talent acquisition and top-line growth through market, service area, geographic, and client complementarity, along with circumspect levels of diversification, provide opportunities for firm differentiation, enhanced reputation, and greater shareholder value. In addition, positive outcomes to the buyer-seller dyad, through the exchange in price-to-earnings ratios, provide a unique value creation opportunity in the industry. These are the primary, effective antecedents for M&A activity; however, driving for economies of scope/scale (revenue/cost synergies) and other external, sell-side, and risk management factors play a substantive role as well. While many of the cross-industry failures of M&A transactions are known to result from the post-merger integration (PMI) process, and issues surrounding culture are typically cited, this research focuses on the role of Self-determination Theory and individual-level autonomy, a critical and basic need of all employees, but especially important to PSF staff. Using Penrose Theory (management capacity), as well as authentic leadership and organizational justice tenets as a basis, mediating and moderating outcomes of the PMI process were developed and tested for the A/E PSF industry in North America.

Chapter 1. Introduction

Architecture/Engineering Industry Background and Context

Responding to the global financial crisis of 2008, many architecture/engineering (A/E) professional services firms embraced a diversification strategy to adapt to the changing economic, political, and social landscape. The desire to become a full-service provider was strong, highlighted by the mergers between engineering companies and construction contractors (Gregerson, 2018; Korman & Rubin, 2015; Shuster, 2011). In addition, a record level of merger and acquisition activity took place in 2018 (534 transactions), the result of multiple drivers, including ownership succession, technology-driven strategies, as well as divestitures from larger companies looking to focus in specific markets and services (Parsons, 2019). After the recession, A/E organizations started to face significant stress to “do more with less,” which posed both opportunities and constraints. A focus on core markets and competencies (e.g., water, transportation, buildings, energy, environmental services, etc.) became important for the top 500 A/E design firms (Tulacz, 2018).

The A/E professional services industry has long been known as both mature and fragmented, with few barriers to entry for small firms and startups (de Valence, 2017). Moreover, technology innovators have begun to migrate to the industry from outside traditional service providers. For example, civil engineering services are being increasingly complemented by systems engineering and big data analytics specialists (e.g., Cisco, Panasonic, etc.) that have broadened the service provider pool for the existing client base, particularly with municipalities looking to implement “smart infrastructure” initiatives (Leary, 2018; Preimesberger, 2017). Thus, traditional companies in the A/E industry face myriad growth-related challenges.

Mergers and acquisitions (M&A) have been a dominant growth strategy over the last 25 years in the industry. A recent summit of industry CEOs highlighted that, in fact, M&A strategies now seem to be providing some evidence of positive financial and other business outcomes at industry and firm levels (Rubin, 2019). Highlighting the most current industry issues facing leadership, including preparation for what is forecasted to be the first market correction since the economic recession of 2008, this summit also provided evidence that the top quartile A/E companies are taking actions that illustrate proactive leadership relative to portfolio management. These actions include paying more attention to divesting non-strategic assets, as well as improving the response to other industry macro changes, such as those stemming from diversity and digitization (AEC Advisors, 2019; Hembrough, 2019a).

These approaches within the A/E sector are consistent with broader arguments across industries that even more growth options will be introduced as companies are challenged to maintain positive earnings trajectories. For example, citing the history of Rockefeller and Standard Oil as a case study, Harding and Schwedel (2018) recently noted that future M&A transactions will be a “potpourri” of business ventures, ranging from alliances and joint ventures to minority and incubator-type investments. In addition, private equity investment in cross-industry transactions has been forecasted to grow by fivefold over the next decade (Hammoud, 2020). There seems to be little doubt that M&A will continue to be an important option for company growth-related opportunities both within and beyond the A/E sector.

Despite the prevalence of recent transactions in the A/E industry that have resulted from the strength of the overall economy and ensuing market for A/E services, amongst a host of other factors leading to industry consolidation (Hembrough, 2019b), research in this area over longer periods of time suggests that M&A activity might not be living up to its strategic promise. For

example, a report by the Environmental and Financial Consulting Group (EFCG, 2017) highlighted that profitability in the A/E industry has hovered between 10 and 12 percent of net revenue since 2005. Client satisfaction improvements are also unclear, and employee engagement statistics have not shown marked improvement (Deltek, 2018). Such industry-specific findings are aligned with other research about the strategic effectiveness of M&A activity in general, where studies have frequently failed to clearly demonstrate performance benefits for acquiring firms. In fact, evidence from a broad base of scholarship from multiple industries indicates that M&A activity often leads to significant managerial challenges and the potential for value degradation to the acquiring firm (Gomes, Angwin, Weber, & Tarba, 2013; Haleblan, Devers, McNamara, Carpenter, & Davison, 2009; Kelly, Cook, & Spitzer, 1999; Schoenberg, 2006). Findings such as these have led some scholars to conclude that an estimated “65% of acquisitions have destroyed more value than they create” (p. 82; Laurie, Doz, & Sheer, 2006).

Although research on M&A success has painted a rather mixed picture, firms do not appear to be decreasing their M&A interest. In fact, recent surveys of the A/E industry indicated that approximately 75 to 90 percent of CEOs touted their respective acquisitions as marginally or fully successful, leading many in the A/E industry to conclude that the current consolidation trend will likely continue (EFCG, 2016; 2017; 2020). The contradicting supply of evidence highlights that there remains a significant gap in the literature regarding the antecedents and framework for successful M&A activity as an alternative growth strategy, especially amongst companies in the A/E industry. This is especially the case for firms located within North America where little scholarly research is available. Without any clear historical causal relationship between previous M&A activity and industry financial performance, this also raises

the question about the benefits of consolidation, especially considering the number of significant acquisitions closed since the last economic recession of 2008.

The Distinctive Features of Professional Service Firms

The primary focus of the proposed research is on knowledge-based companies that are commonly referred to as professional service firms (PSFs), in particular those that operate in the A/E marketplace. PSFs can differ significantly in their management behaviors, due to the nature of highly trained professionals providing (sometimes intangible) consulting advice to their clients, and the fact that the recruitment and retention of key staff, who tend to be well-compensated and operate with a high level of intrinsic motivation and autonomy, differ from traditional industrial and other service organizations (Alvesson, 1995; Greenwood, Deephouse, & Li, 2007; Reed, 1996; Scott, 1987; c.f. Suddaby, Greenwood, & Wilderom, 2008). PSFs generally include a decentralization of authority, characterized by a minimally structured hierarchy with a high level of individual discretion and task autonomy (Empson, 2000; Greenwood, Hinings, & Brown, 1990; Malhotra & Morris, 2009).

At an organizational level, PSFs differ from their manufacturing counterparts relative to jurisdictional control, such as organizational structure, human resource policies and practices, and pricing systems, as well as the degree of face-to-face client interaction throughout the production/delivery process (Malhotra & Morris, 2009). Accounting, legal, management consulting, and engineering professions (among others) fall under this type of PSF organizational framework. It has also been suggested that significant differences in the behaviors between these organizations exist, which “may exhibit considerable variation both across and within professions” (p. 991; Suddaby et al., 2008). Specific to the architectural and engineering professions, A/E firms typically do not employ “up or out” partnership models as do legal and

accounting firms, and the A/E industry is dominated by fixed-fee pricing compared to variable-based fee forms seen in the legal and accounting industry (Malhotra & Morris, 2009).

Architecture/Engineering PSF Merger and Acquisition Research Scope

The guiding question of the proposed research is to ask, what is behind successful M&A in knowledge-based companies, explicitly A/E consulting firms in North America? Specifically, the research is broken down into the following: (1) what are the key antecedents and outcomes of successful M&A as presented in the broader strategy literature; (2) based on this information, what is the generalizability and applicability of these factors to the A/E PSF domain; and lastly, (3) how do the factors obtained from the broader literature regarding the post-merger integration (PMI) process apply to firm- and individual-level outcomes that are important to A/E PSFs?

The proposed research will contribute to the existing literature by evaluating the antecedents and outcomes of M&A growth strategies, through both qualitative and quantitative exploratory analyses of A/E industry-level activity since the last economic recession of 2008. In particular, the research will contribute to the literature by: (1) fulfilling the assessment and establishment of a pragmatic, and holistic, framework for successful A/E-industry growth strategies through M&A; and (2) by providing additional theoretical insight to the crucial components of the PMI process amongst PSFs using Self-determination Theory and Penrose Theory as foundational principles. Specific hypotheses will be argued and tested in relation to what conditions (or antecedents) are required for successful M&A activity in the A/E industry, with success operationalized using a balanced scorecard approach (Ruess & Voelpel, 2012). In addition, the moderating and mediating impacts within the PMI process will be investigated through field surveys using questionnaires of employees transitioning through the affiliated organizational change process. More specifically, the influences of leadership capacity, authentic

leadership behavior, and organizational justice during the PMI process will be examined against the relationships between individual-level autonomy and resultant individual job outcomes of job satisfaction, organizational commitment, and turnover intentions.

Examining the professional services industry holds substantial practical value. In concert with the array of challenges presented earlier, the industry is of tremendous size, earning nearly US\$2.0 trillion in revenue in 2018 with the A/E industry subsector in the United States earning \$339 billion in revenues that same year (International Trade Administration, 2019). The industry is a growing and relatively stable marketplace that has not generally resulted in negative returns (EFCG, 2016; 2017). Such results, in comparison to other industries, have attracted interest and investment from outside of the traditional A/E sector; most notably, private equity investors are looking for short-term or long-term gains through buying and selling companies (Gregerson, 2018). The fact that the industry is ever-changing due to external, global market influences with interest that varies from large-scale global conglomerates, such as Cisco and Panasonic, to the presence of sole proprietors and even private equity, creates unique challenges for leaders in the industry. Importantly, as described herein, knowledge-based industries have been found to behave and operate much differently from other industry counterparts.

M&A strategies have served as an organizational development intervention to effectively improve a business enterprise by aggressively obtaining the requisite resources for competitive advantage as explained by the theories surrounding the Resource-based View of the Firm (Barney, 1991), as well as predecessor theories surrounding leadership and managerial capacity (Penrose, 1959). In addition, it is anticipated that the significance of managing individual-level autonomy surrounding Self-determination Theory (Deci & Ryan, 2008) through positive leadership tenets such as authentic leadership (Avolio & Gardner, 2005) and organizational

justice (Colquitt, 2001), as opposed to simply applying managerial action to more general concepts related to company culture, will serve as a strong basis for determining correlational, predictive, mediating, and moderating outcomes of the PMI process.

In the sections that follow, I first review the general strategy literature to identify the key firm-level and individual-level antecedents and outcomes of M&A activity to build an integrative framework for examining M&A success. This review begins with the overarching company strategies (short- and longer-term) involved in successful and unsuccessful M&A activity and concludes with a summary-level framework. Next, I explore how this framework applies specifically to the PSF domain and describe several questions to be explored by the proposed research. These questions are situated at the firm-level and involve drivers such as the financial health and capital investment capacity of the firm to address organic or acquisitive strategies. In addition, the transaction-based antecedents surrounding top- and bottom-line growth, talent and other asset acquisition, and associated shareholder value accretion are assessed. I then build specific hypotheses for the individual-level factors within the framework, investigating the PMI process and how changes in staff-level autonomy are impacted by various leadership principles, including ultimate company leadership approaches along with the supervisory roles of front-line leaders, and how these factors impact individual-level job outcomes. Finally, I outline the proposed multi-method research program, using three independent studies relying on archival data sources to examine the research questions and associated hypotheses relating to the proposed exploratory, correlational, and predictive relationships.

Chapter 2. Literature Review

Outcomes of Mergers and Acquisitions

The scholarly literature covering M&A is both broad and deep. While the terms “mergers” and “acquisitions” are often used interchangeably, much of the research focuses on firm acquisition behavior as opposed to mergers of equals. As a result of Jemison and Sitkin’s (1986) seminal research, the predominant view of the M&A process was largely changed from decision-based theory to one of analyzing pre-merger and PMI processes through the lens of strategic and organizational fit, whereby the merging of the two company operational structures, administrative practices, and cultures take place. Similar to the focus of the currently proposed research, this literature is more attuned to the courtship and PMI process and their impacts on successful M&A, although the selection of the right partner and the designated “deal” structure clearly play a large part in overall M&A success.

A broad range of M&A literature – from management, economics, finance, accounting, and sociology work – has been produced over the last 40 years. The traditional financial or capital markets view has centered around the general conclusion that M&A does, in fact, create economic value; however, it traditionally benefits the acquired firm’s shareholders more so than the acquiring firm (Haspeslagh & Jemison, 1991). King and colleagues (2004) conducted one of the most thorough meta-analysis of M&A, reviewing 93 empirical studies and over 200,000 acquisitions. While the complications surrounding the high rates of M&A failure were noted, the effect sizes were small ($r = -0.10, p < .001$) for the financial performance of acquiring firms beyond the announcement date. This review also provided the distinction that alternative strategies, such as organic growth and alliance structures, can also be problematic and challenging. The evidence suggested that, compared to organic growth or alliance arrangements,

the speed to obtain resources and the ability to control those resources were a clear advantage to M&A activity. Yet, these authors also noted,

“The identification of the factors in the acquisition context that result in superior post-acquisition performance – i.e., the moderators – is, however, another matter. Ideally, the conditions under which acquisitions will be associated with superior performance would have been revealed in our meta-analyses. Our results indicated that post-acquisition performance is moderated, but by unspecified variables” (p. 196; King, Dalton, Daily, & Covin, 2004).

Along these lines, Ruess and Voelpel (2012) more recently confirmed that while study results vary widely, between 50-80 percent of M&A activity fails to meet strategic, operational, or financial objectives (e.g., profitability and shareholder value), and often results in declining customer and employee satisfaction. These authors suggest that successful acquisitions depend on the right partner, timing, transaction financials, and strategic rationale. Over the years, other studies, meta-analyses, and summary-level research have highlighted similar results, finding there is no significant difference in firm performance between firms that engage in acquisitions and those that do not (Franks, Harris, & Titman, 1991). Or, firms with significant acquisitive growth strategies can, at times, underperform the market, although acquirer performance was found to gradually improve through the 1980s (Loderer & Martin, 1992). These lackluster results continue to be reinforced by more recent research (Renneboog & Vansteenkiste, 2019) where only three of the 25 antecedents studied were found to be consistent predictors of long-term M&A performance; namely, CEO overconfidence and a lack of integration resources were found to lead to the underperformance of M&A, whereas enhanced governance was positively related to transaction performance. Further, new research looking at the short-term stock market impacts

from M&A activity, within the window of time since the economic recession of 2008, indicates that shorter-term success measures have improved, largely due to improvements in corporate governance (Alexandridis, Antypas, & Travlos, 2017).

On the other hand, Capron and Shen (2007) found evidence that acquirer returns were, in general, positive when buying private firms. Moreover, it has generally been found that complementary acquisitions tend to yield synergistic outcomes (Larsson & Finkelstein, 1999) and outperform diversification strategies (Bauer & Matzler, 2013; Hitt, Harrison, Ireland, & Best, 1998). Across various studies, the strengths, capabilities, and capacity of the team managing PMI appears to be a critical consideration for downstream results as many of the failures cited in the M&A literature continue to point to ineffective PMI strategies and processes, especially those transactions dealing with strategic, structural, personnel, cultural, and stakeholder integration, as well as leadership and communication-based interventions (Steigenberger, 2016). Other practitioners and scholars highlight that a codified merger integration process, such as using traditional project management and systems integration processes, is critical to M&A success as opposed to relying on tacit knowledge and firm experience to guide the integration process (Digeorgio, 2002; Patel, 2012).

Taken collectively, the preceding empirical evidence suggests that while there is overall economic benefit from M&A activity, acquiring firm performance does not necessarily show positive change as a result of M&A, and at times, can be somewhat negatively impacted (Agrawal, Jaffe, & Mandelker, 1992; Datta, Pinches, & Narayanan, 1992; Haleblan et al., 2009; Haspeslagh & Jemison, 1991; King et al., 2004; Steigenberger, 2016). As Haleblan et al. (2009) concluded, “given that scholars have been able to isolate some conditions in which acquirers generate value, it remains puzzling as to why acquisitions on average still perform poorly” (p.

485). Along these lines, other scholars have pointed to the need for more research that examines contextual factors that may moderate the outcomes of M&A activity. For instance, King et al. (2004) noted, "...unidentified variables may explain significant variance in post-acquisition performance, suggesting the need for additional theory development and changes to M&A research methods" (p. 195). Moreover, Cartwright and Schoenberg's (2006) summary review also cites that much of the past M&A research has been completed using discipline-specific lenses at the expense of a more holistic understanding of the M&A process. More recent literature continues to highlight the mixed results and ambiguous interpretations (including how success and failure are determined) from a vast array of historic studies, also promoting the need for more qualitative-based and mixed-method approaches. Additional research is needed to identify new theories and an enhanced understanding of the underlying issues surrounding the "human side" and individual-level impacts of M&A that go beyond the more traditional identification of negative employee reactions and cultural differences associated with failed PMI attempts prevalently cited in the literature (Sarala, Vaara, & Junni, 2019).

The Need for a Longer-term and Programmatic View

While the previous research illustrates high rates of failure for historic M&A transactions, in aggregate, it is difficult to uniformly assess the conditions by which a merger or acquisition is deemed successful largely because of the complexity surrounding the analytical approaches, time spans, outcome variables, and definitions that are often used. Some scholars have recognized these intricacies and have provided evidence that the true success of acquisitions can only be measured over a long-term time frame, using a programmatic approach, after organizational restructuring and refinement can take place as a second stage of M&A in

order to fully exploit the potential synergies, following what is usually a suboptimal, initial integration process (Barkema & Schijven, 2008; Chatterjee, 2009; Laamanen & Keil, 2008).

Moreover, beyond citations of the significant failure rates and associated explanations and rationale for these rates, ambiguity still exists regarding the nature by which M&A is deemed a “success” or “failure” (Epstein, 2005). In many instances, success can be based on the short-term (often less than 1 week) market responses to share price from M&A announcements. On the other hand, some M&A objectives and corresponding results against those objectives are viewed on a more well-rounded, multi-variable basis over a period of years. The assessments themselves, whether derived from perceptions of company executives or market analysts, are also inconsistent. In fact, some authors suggest that adopting a longer-term perspective, such as 5 to 10 years, portrays a much more positive outlook on the success of M&A, yielding success rates of greater than 50 percent (e.g., Teerikangas & Thanos, 2018).

Strategy Considerations: Antecedents or Driving Factors in M&A

A host of industry-focused, environmental-related, and even personal interest factors and theories have been proposed surrounding M&A (Yaghoubi, Yaghoubi, Locke, & Gibb, 2016a; 2016b). For example, identified drivers of M&A have spanned overall industry growth trajectories leading to “waves” of M&A resulting from aggregate economic activity, as well as from regulatory or technology changes (Jovanovic & Rousseau, 2008), myriad financially-based factors related to industry shocks (Mitchell & Mulherin, 1996), and industry-related behaviors associated with firm size, such as defensive posturing (i.e., “eat or be eaten theory,” Gorton, Kahl, & Rosen, 2009). Other factors such as overconfidence (hubris), self-interest (agency cost hypothesis), managerial envy, managerial herding, and even tax advantage approaches, are also prevalently cited (Bouwman, Fuller, & Nain, 2009; Datta et al., 1992; Friedman, Carmeli,

Tishler, & Shimizu, 2015; Goel & Thakor, 2010; Haleblan et al., 2009; Yaghoubi et al., 2016a; 2016b). Others highlight the ability to gain economies of scope and scale at a firm or sub-unit level as an advantageous antecedent for acquiring firms (Rahman & Lambkin, 2015). Most notably, however, rationale surrounding firm-level growth, essentially represented by top-line revenue and/or bottom-line profitability leading to enterprise value creation, tends to dominate the driving forces behind M&A, although value creation has been expressed as both an antecedent and an outcome (Bruner & Perella, 2004; Haleblan et al., 2009; Haspeslagh & Jemison, 1991).

While there is potentially an exhaustive list of possible antecedents behind M&A, the focus of the proposed research is M&A as a firm-level oriented activity with significant attention to the resultant interactions and impacts to individual employees through the PMI process. The following sections begin to narrow the focus to those firm-level antecedents and outcomes required for successful M&A as they relate to PSFs, starting with the most germane, overarching theories relative to firm-level strategy, followed by the concepts and critical success factors involving these M&A transaction motives.

Theoretical Approaches to Firm-level M&A Strategy

Jemison and Sitkin (1986) were the first to highlight that effective M&A goes beyond simply a rational choice perspective. They highlighted the need to address M&A transactions as a process between strategic fit, or how the target firm complements the acquiring firm's financial and non-financial goals and organizational fit, or the cultural, administrative, and human resource characteristics that impact the integration between companies, highlighting the importance of PMI in the overall importance for success. While few overarching theories can be applied universally, selecting the right partner through strategic fit, largely in terms of providing

complementary benefits to the core business, as well as organizational fit, highlighted by successfully integrating the cultural and administrative elements of the combining companies, are vitally important. This has not changed since Jemison and Sitkin's initial research as evidenced most recently through Bauer and Matzler's (2013) longitudinal analysis of 106 small- to medium-size private companies in Europe. These authors examined the critical antecedents for successful M&A transactions, centering on strategic complementarity, cultural fit, and the degree of integration. In addition, these authors highlight that while tacit acquisition experience is important, a systematic, codified process is likely more important in driving superior M&A results. Their findings are consistent with others who have noted the importance of the depth of integration (as opposed to allowing targeted firms to operate autonomously), and the need to account for strategic, political, and cultural differences between firms, perhaps differently from the organizational task-oriented requirements of an acquisition, in order to create value from company synergies (Pablo, 1994; Vestring, Rouse, & Rovit, 2004).

The scientific literature of M&A is predominately cross-industry in nature, and much of this work is focused on public companies. Little is known, therefore, about the lessons learned from M&A strategies within largely privately owned, knowledge-based companies in general, and particularly the A/E industry. The ultimate theories behind PSF M&A could vary between one of the many management-related, economic, social, psychological, or financial studies that have been produced over the years. However, in general, industry analysts highlight that A/E companies typically do not use their free cash flow for meaningful M&A to satisfy growth needs with service area and geographic expansion until they reach about US\$100 million in annual revenue, whereas smaller firms generally use their free cash flow to fund organic growth and working capital needs (Wittman & Hauke, 2017). Wittman and Hauke further claim that it is not

until a threshold of approximately US\$1.0 billion in annual revenue that larger scale M&A is transacted to respond to desired growth intentions in the A/E industry. Thus, to begin, there is likely a level of free cash flow, or firm size, that dictates the ability of a firm to have a substantive M&A strategy, as opposed to growing by more organic means.

In their review of strategic alliances, Ireland and colleagues (2002) point to the various approaches that may be beneficial when addressing theories explaining M&A activity, such as the resource-based view of the firm, social network theory, organizational learning theory, complexity theory, institutional theory, transaction cost economics, and sociological theory, among others. Of the various theories that have been produced outside of the purely financial realm, the Resource Based View of the Firm (Barney, 1991) is at the center of M&A strategy (Peteraf, 1993). According to Hitt, Harrison, Ireland, and Best (1998),

“Firms with significant cash flows may seek to invest them by acquiring businesses to derive greater returns. Investing free cash flows in this way, as opposed to holding them, may also demotivate future takeover attempts. Secondly, a firm may attempt to gain economies of scope by acquiring a business in which it can apply its core competence...to make its core competence less imitable” (p. 92).

Hitt et al. also point out that the rationale behind the high failure rates attributed to the acquiring firms centers on overbidding on acquisition transactions as firms are uniquely valuable, and because their capabilities are not truly known, their value is often over-estimated. According to these authors, hubris can also provide an explanation to the overpricing of acquisitions, which can often lead to failure (also Datta, Pinches, & Narayanan, 1992).

Other scholars have taken a more foundational approach to M&A activity by applying one of the predecessor theories to the resource-based view. For example, Penrose’s Theory

(Penrose, 1955; 1959) of company growth, where management capacity drives or limits value creation, has been used to explain firm-level strategy and integration outcomes (Lamont, King, Maslach, Schwerdtfeger, & Tienari, 2019; Lockett & Wild, 2013; Lockett, Wiklund, & Davidsson, 2007). Here, the premise is that constraints to organic growth in the present period are due to preceding periods of growth, making it difficult for firms to maintain a high organic growth rate over time primarily due to managerial adjustment costs. Lockett and Wild further argue that benefits through M&A are possible due to new resources and capabilities, namely management capacity, essentially rejuvenating a firm and allowing it to grow more quickly and drive future organic growth.

Antecedents to Successful M&A across Industries

In an early attempt to categorize where M&A has been successful, Kusewitt (1985) analyzed 3,500 acquisitions by 138 acquiring firms from 1967-1976 and found six key acquisition variables determined the success of a given acquisition strategy on firm performance over a longer-term planning horizon (as operationalized by return on assets). Variables that were positively related to long-term performance were industry commonality and the acquired firm's performance prior to the transaction. Variables found to be negatively related to firm performance were relative size of the acquired firm to the acquirer, the acquisition rate of acquiring firms, acquisition timing compared to the market cycle (from an economic standpoint, acquisitions should be made during market lows), and whether cash or stock was the basis of the transaction, with poorer performance for cash transactions. Interestingly, this study highlighted that successful strategies occur when acquisitions are made over a time interval that allows proper integration and assimilation to take place (with probable targets of one acquisition every

year to every 4 or 5 years) and that “excessively small and excessively large acquisitions should be avoided” (p. 167).

Later, Hitt and colleagues (1998) summarized the key attributes that differentiated successful and unsuccessful M&As in the U.S. using an exhaustive multiple rater, multiple case, longitudinal (7 years) study starting with 191 acquisitions in the 1970s and 1980s. While the study’s focus was on publicly traded firms outside of the PSF industry, the inferences that can be drawn to measures of success for PSFs (where hostile takeovers are rare, if not non-existent) were: (1) the acquiring firm should not take on extraordinary debt and the resulting, merged companies should operate from a low to moderate debt position (*affordability*); (2) the process surrounding finding the right partner is paramount – one where clear positive synergies from complementary resources exist, leveraging the core business of the acquirer (*complementarity*); (3) synergy achievement is fostered through change management skills, flexibility, and adaptation (*integration leadership*); and, (4) an emphasis in research and development and firmwide innovation is maintained (*differentiation*). Consistent with the resource-based view of the firm, Hitt and colleagues recognized that acquiring firms must also take great care to keep from creating chaotic conditions within the firm by carefully managing the number of acquisitions it takes on at any one time, in addition to being cautious regarding investing in broad diversification strategies causing a loss of strategic control. As Grant (1991) noted, “competitive advantage rather than external environments is the primary source of inter-firm profit differentials” and “failure is often due to strategies which extend the firm’s activities beyond the scope of its capabilities” (p. 117, 122).

Building on the preceding findings, Jurich and Walker (2019) analyzed 974 publicly traded transactions between 1995 and 2017, addressing a number of different antecedents that

could lead to value creation for the combined companies. These authors found that geographic expansion among related firms led to the greatest combined benefit, whereas increasing product lines (a form of diversification) led to a decrease in combined wealth. In addition, contrary to other research (Masulis & Simsir, 2018) that provided evidence that greater wealth is created when acquiring firms initiate the offer as opposed to transactions driven by the seller, these authors found the opposite to be the case.

Much of the extant literature focuses on the orientation and strategy of the acquiring firm. Yet, there have been some notable exceptions. For example, Graebner and colleagues (Graebner, 2009; Graebner & Eisenhardt, 2004) used a qualitative, multiple case study approach to examine the importance of the seller within the M&A dyad. This focus on the seller is pertinent to the A/E industry as practitioners frequently argue that the seller's strategy tends to drive levels of M&A activity due to ownership and leadership transition challenges, financial challenges (or gain), the desire to increase the firm's and its employees' exposure to new opportunities, or simply the personal decisions of the owner (e.g., Conlin, 2018; Parsons, 2019; Santilli, 2000). Other research has also shown the value of focusing on sellers since the acquired firm's shareholders tend to make out better than the buyers in M&A transactions (Haleblian et al., 2009; Haspeslagh & Jemison, 1991). Moreover, sellers often partner with those firms they trust, where a previous relationship has formed; however, Graebner (2009) also highlights that significant trust asymmetries, and even deception, can exist through the courtship and consummation process between buyers and sellers. Stahl, Larsson, Kremershof, and Sitkin (2011) also point out that collaboration history and pre-acquisition performance differences may be poor predictors of trust. In fact, they highlight that the speed of integration, resisting the temptation to impose one's culture on the target firm, improving communications quality, and offering various monetary

incentives are the best predictors of trust dynamics contributing to improved M&A outcomes. Additional qualitative research on entrepreneurially oriented companies by Graebner (2004), highlights that whether the sale is driven by buyer or seller, oftentimes serendipity plays a significant role in the M&A process when unexpected, positive outcomes result, not originally envisioned within the original strategy.

In summary, whether the process is driven by buyer strategy, seller strategy, or even chance, individual-level factors such as trust play a significant role in the eventual outcomes of successful M&A transactions. This implication emphasizes Marks and Mirvis (2001) supposition that the strategy behind M&A, including firm selection, is interwoven with the eventual PMI strategy. This is of even greater importance when considering the driving forces behind M&A in PSF industries, wherein people are firms' primary assets.

Antecedents to Successful M&A within Professional Service Firms

Broad-ranging summary analyses of M&A in the services industry are rare. McCann (1996) conducted a review of 174 CEOs that drove M&A activity in a variety of significant service firms (beyond PSFs – including transportation and travel, retail, financial services, and communications/information services). The primary drivers behind the transaction were found to be: (1) increased market share; (2) new service offerings (a distant second), except for PSFs that valued talent acquisition as their second highest rationale in making acquisitions; (3) added name/brand recognition (*reputation*); (4) more efficient resource allocation, although this was not highly rated by PSFs as they are less capital-intensive and typically desire to be so; and, (5) economies of scale. The most significant challenges were rated as follows: (1) merging disparate cultures; (2) integrating different staff policies (e.g., compensation and benefits); (3) price premiums and the legacy impact; (4) lack of strategic coordination (understanding the need to

maximize synergy yet recognizing the need for cost efficiencies); and, (5) debt/deal financing (*affordability*).

Outside of the M&A literature, Greenwood and colleagues (2005) identified the distinctive strategic and organizational challenges for PSFs in a framework of PSF partnerships. Following McCann's summary assessment of the unique importance of reputation and brand building in service-related industry M&A, these authors examined the impact of reputation, diversification strategy, and employee retention/job satisfaction on resultant financial performance and found a clear, positive relationship between reputation and performance and a marginal relationship between balanced diversification and performance. According to these authors, as PSFs diversify they must do so in a significant, rather than incremental manner (e.g., M&A) because of the risks of image contamination and "reputation stickiness" – what matters is how clients perceive the legitimacy of a diversified portfolio.

Consequently, diversification strategies have received much attention in the PSF M&A strategy literature that finds managerial capability and capacity constraints significantly limit the opportunity for firm financial performance from both geographic and service area diversification strategies (Hitt, Bierman, Shimizu, & Kochhar, 2001). Such results are further emulated in studies of law firms providing evidence that diversification strategies often result in decreased profitability (e.g., Eckhardt & Skaggs, 2018; Kor & Leblebici, 2005). Here, even top-line revenue benefits were limited for both legal and accounting firms while diversification strategies were positively related to M&A activity (Eckhardt & Skaggs, 2018). However, as pointed out in the practitioner literature for A/E PSFs, this may be attributable to the limited economies of scale available in the industry, highlighting that the profitability of firms tends to decrease on a percentage basis as firms grow and increase in size (e.g., AEC, 2019; EFCG, 2020).

Most assessments of PSFs in the A/E industry have been conducted throughout Europe, and the United Kingdom in particular. These studies highlight the distinguishing strategy propositions of the surveyed firms, wherein organic growth through alliances and joint ventures are often preferred; yet, in certain instances M&A are seen as useful options (Kreitl, Urschitz, & Oberndorfer, 2002). Interestingly, Kreitl et al. also found that the increase of the firm's top-line or revenue growth was a strong influence on corporate development, more so than the focus on growth of market share or the growth of profit, and a focus on enterprise value was even less significant. Kreitl and Oberndorfer (2004) added that the most important motive for undertaking an acquisition was the penetration of new services and new client markets, followed by the penetration into new geographic markets. Other important motives included the acceleration of the firm's growth, broadening the client base for existing services, and the acquisition of expert talent. In sum, not unlike their legal, accounting, or other service industry counterparts, it appears that A/E firms engage more in diversification strategies than other industry sectors. Echoing these meaningful distinctions of PSFs, Connaughton and Meikle (2013) pointed to the need for a better understanding of growth strategies used by A/E companies, not only because limited attention is paid to PSFs, but also because much of the PSF literature is focused on the legal and accounting community, where partnership models are more prevalent.

On a global scale, Jewell and colleagues (2014), analyzed information contained in the Engineering News Record (ENR) for 17 out of the top 25 international consulting firms and conducted interviews resulting in a compilation of detailed company timelines for M&A activity. The study provided evidence confirming that PSFs typically engage in M&A for diversification and penetration into new client markets and geographies. Specifically, results suggest the intent is to gain market share and provide growth acceleration through vertical and horizontal

diversification, based on five key influencers on the scope and scale for growth: (1) the importance of (revenue) growth as a driver; (2) the firm's focus on the optimization of resources (e.g., human capital and economics of scale/scope); (3) the need to meet client demands drives strategy decisions; (4) geographic location, specifically localization; and, (5) the influence of ownership on growth and risk decisions. These authors surmised that strategic decisions relative to growth, and thus M&A activity, are heavily influenced by ownership (capital) structure, a hypothesis that had not been adequately addressed in previous research.

Connaughton, Meikle, and Teerikangas (2015) extended this line of thought by presenting an elegant method for analyzing growth strategies in A/E PSFs based on the level and willingness for acquisition activity, largely determined by the company's ownership (capital) structure. In other words, consistent with global analyst views (Wittman & Hauke, 2017), serial acquirers were expected to be mostly publicly owned, large companies. Even large-scale, privately owned A/E PSFs, especially those viewed as the most successful in terms of their business differentiation, were viewed as conservative in their approach to M&A. Smaller companies, almost always privately owned, typically resorted to organic growth strategies. Connaughton et al. further concluded that many of these smaller companies would likely be acquired given current industry consolidation trends.

To summarize the preceding material, the extant M&A literature is rich, containing a preponderance of varying, and sometimes conflicting, theories about the strategies and antecedents required for M&A success. For A/E PSFs, it is interesting to note the significant attention that has been given to brand reputation and diversification strategies, as well as the need for talent acquisition to ensure top-line growth, and looking for economies of scale to enhance bottom-line performance. European-based literature, however, rarely mentions

enterprise value creation (financial arbitrage), risk factors, or sell-side drivers relative to M&A intentions. Even more, the attainability of economies of scale in the PSF industry has been questioned by industry experts. Additional evidence suggests that to differentiate and create competitive advantage, PSFs tend to grow through diversification strategies even when the preponderance of literature argues for growth through complementary strategies and synergy building on core services of the acquirer.

In the following sections, varying theories surrounding PMI processes focusing on the individual employee will be highlighted and discussed in relation to integration management capacity within knowledge-based industries. In the following chapter, hypotheses regarding an overarching and holistic theory for M&A and alternative growth strategies in the A/E industry will be presented, followed by proposed concepts regarding individual-related concerns and potential mediation and moderation impacts to the PMI process.

The Importance of the Post-merger Integration (PMI) Process to M&A Outcomes

As described above, a host of theories have been applied to M&A strategies. The same can be said for scholarship focusing on the PMI process. Here, a significant emphasis has been on the multifaceted challenges of integrating different organizational cultures during the integration process, as well as the fact that PMI inherently involves individual behaviors and actions within a social setting (Cartwright & Cooper, 1993). As such, previous scholarship has evoked theories such as social identity theory (Tajfel, 1981; Turner, 1982) and stakeholder theory (Freeman, Harrison, Wicks, Parmar, & DeColle, 2010). Social identity theory holds relevance to the PMI process because it demarcates how individuals relate to the perceived membership of a group, whereas stakeholder theory is pertinent because it imports that multiple constituencies are impacted through the behaviors and actions of other individuals and groups.

Both theoretical lenses have been applied to help explain the variability in M&A outcomes as part of the PMI process. For example, Colman and Lunnan (2011) applied social identity theory in a qualitative study and found that some level of disruption and integration difficulty was needed to achieve stronger operational outcomes, whereby greater value creation was derived from taking longer to assimilate and directly facing difficult and complex integration challenges. Cording, Harrison, Hoskisson, and Jonsen (2014) applied stakeholder theory to posit the role that organizational authenticity plays in the effects of M&A on performance outcomes. These authors found that organizational authenticity, which is the consistency between a firm's espoused values and actual behavior in terms of over- or under-promising expectations to employees and customers, enhanced employee productivity and was eventually related to positive long-term merger performance and synergistic value creation.

Beyond highlighting the importance of authenticity in merging companies, Marks and Mirvis (2011a) emphasized change management theory in assessing the cultural impact in successful M&A transactions. These authors argued that managers underestimate sociocultural influences during M&A activities, and as such, are significant contributors to potential failure largely due to social identity theory factors such as positive bias toward members of their own group and an "us versus them" mentality. These authors also contend that a moderate degree of cultural difference can be managed to stimulate problem-solving and innovation, as these differences can serve to rejuvenate companies and break rigidities existing in the predecessor acquirer. Relatedly, the Theory of Relative Standing (Frank, 1985; c.f. Hambrick & Cannella, 1993) has been applied to better understand how perceptions of superiority by the acquiring firm might shape the PMI process. For instance, Very, Lubatkin, Calori, and Veiga (1997) found that autonomy removal and culture clash significantly impacted PMI outcomes. Interestingly, their

results suggested that autonomy removal may be more detrimental to PMI outcomes, and that cultural differences, if managed properly, could have positive results on PMI transactions.

Furthermore, the empirical results from Very et al. suggest that culture clash may be overstated and could be more of a U.S.-based phenomenon.

The potential importance of cultural influences was reinforced in a meta-analysis by Stahl and Voigt (2008) where they speculated that “sociocultural integration outcomes may be a missing link in our understanding of cultural differences in M&A” (p. 173). Results from this meta-analysis of 46 studies and 10,710 M&A transactions, however, revealed somewhat low effect sizes. This evidence suggests that cultural differences can affect M&A outcomes, but in different and sometimes opposite ways. In turn, the authors recommended more precise examinations of cultural differences, such as autonomy-related factors (Weber, 1996), firm and shareholder value (Chatterjee, Lubatkin, Schweiger, & Weber, 1992), and leadership behaviors (Kavanagh & Ashkanasy, 2006), as well as how these features relate to people-oriented factors that come to shape successful PMI. Such features are thought to be important because they form the development of trust in M&A, which is highly dependent on integration process variables, such as the speed of integration, the quality of communication, and the degree of multicultural flexibility of the acquiring firm (Stahl, Larsson, Kremershof, & Sitkin, 2011).

Lamont et al. (2019) extended the notion that firm growth is predicated by managerial limitations, a facet of Penrose Theory, to suggest that leadership capacity plays a significant role in the PMI process. By focusing on knowledge-based acquisitions in particular, these authors proposed that PMI success is driven by the integration capacity of management. Schweizer and Patzelt (2012) also highlighted that the speed of integration motivates employees to stay, and that transformational leadership enhances this effect. Similarly, Nemanich and Keller (2007)

provided evidence that transformational leadership and organizational climate are critical in the acceptance and performance of acquisitions, through job satisfaction and supervisor-related performance. Other studies have further shown the value of transformational leadership on post-acquisition performance (Nemanich & Vera, 2009; Vasilaki, 2011).

Finally, recent efforts to understand the PMI process have also taken a grounded theory approach. For example, Teerikangas and Thanos (2018) used grounded theory through a detailed longitudinal assessment of eight multinational acquisitions by Finnish companies. Using a detailed managerial interview process spanning several years, these authors found that: (1) integration-related antecedents of process, behavioral, and cultural factors are separately mediated through core functions (e.g., operations) and support functions (e.g., human resources, information technology, and finance), as opposed to being direct moderators in the aggregate integration-performance relationship; (2) acquiring firm leadership need to gauge their willingness and capability for some level of reverse integration to maximize value capture; (3) the “softer sides in M&A ...[can] act as sources of post-acquisition value leakage” (p. 378); and, (4) integration speed needs to be assessed to balance ongoing business and integration strategies. Thus, while highlighting similar findings to previous studies, Teerikangas and Thanos discovered additional detail in the need for reverse integration and the fact that integration activities should be differentiated between functions that involve core business activities and those involving business activities that support the core business.

In sum, the PMI process has been explained by theories relating to social identity theory, stakeholder theory, theory of relative standing, as well as change management theory. Perhaps because of the complexities of the sociocultural constructs involved in PMI, however, concepts related to autonomy and leadership capacity (as conceptualized by Penrose Theory) have yet to

receive direct empirical treatment and have been recommended for further research. As such, those elements of the PMI process that are especially germane to the PSF industry are now reviewed.

The PMI Process within Professional Service Firms

A review of the literature on M&A between PSFs illustrates the integration challenges relative to size differential, organizational culture, management style, and corporate governance associated with both internal conflict (Buono & Bowditch, 1989, 2003; Nahavandi & Malekzadeh, 1988), as well as potential performance implications (Weber, 1996). Other work has shown that low staff morale and disaffection can take place immediately following a merger within approximately 1 year as staff are exposed to cultural differences, even to the point of resistance to implementation efforts (Ashkanasy & Holmes, 1995; Greenwood, Hinings, & Brown, 1994; Klimkeit & Reuhlen, 2016; c.f. Pickering, 2017). The summary review by Pickering (2017) further pointed out that increased client attrition rates can occur in the second to fourth years after an acquisition, when key personnel exit the organization. This latter implication is particularly relevant to PSFs where a critical concern is the loss of company knowledge and clientele concomitant with the firm's employees (Morris & Empson, 1998).

Several scholars have called attention to the importance of speed-to-completion when it comes to integration in PSFs. This importance derives from the capacity to accelerate to a steady state condition and focus on the base business in order to decrease financial performance risk and to curb deteriorating commitment and enthusiasm for the merger (Greenwood et al., 1994; Schweizer & Patzelt, 2012; Stahl et al., 2011). From the perspective of employee attrition, however, turnover rates post-PMI in PSFs were not found to be necessarily high by industry standards (Ashkanasy & Holmes, 1995; Greenwood et al., 1994). In fact, some have noted that

the exiting of staff or restriction of autonomy may be necessary for effective integration that leads to improvements in firm-level performance (e.g., Bilgili, Calderon, Allen, & Kedia, 2017; Empson, 2000).

This extant literature once again highlights that a variety of impacts have been witnessed from the PMI process in PSFs, largely resulting from perceived cultural differences, loss of autonomy, and leadership actions. None of the current theories surrounding these results, however, are complete nor have they been addressed in the target industry of the A/E PSF domain. Moreover, the mixed results for the effects of cultural differences, including the ambiguity surrounding its definition in the PMI process, leads to additional challenges. For example, Greenwood et. al (1994) conclude “culture, in short, may not be amenable to managerial action” (p. 253), and citing Buono and Bowditch (1989, p. 163) that “there may well be limitations as to what managers can accomplish with respect to cultural change...culture may manage us much more than we can manage it.” This, in part, could be one of the foundational explanations of the small effect sizes for cultural effects to the integration process illustrated by the Stahl and Voigt (2008) meta-analysis, and the driver of ensuing recommendations to look beyond generalized cultural issues (e.g., Sarala, Vaara, & Junni, 2019; Very et al., 1997) and instead to identify those crucial issues that underly culture such as examining the leadership capability and capacity relevant to PMI in knowledge-based M&A situations (Lamont et al., 2019). In this sense, theories related to autonomy and leadership capacity show promise and, as recent practitioner reviews in the A/E industry trade publications attest, “the pace of M&A activity may be moderated by the lack of management resources needed to assimilate new acquisitions” (p. 60; Parsons, 2019).

Autonomy and the PMI Process within PSFs

Self-determination Theory (SDT) applied to the workplace (Deci & Ryan, 2008; Gagné & Deci, 2005) stipulates that optimal human functioning and motivation are based on a person's need for competence, relatedness, and autonomy. As described earlier in this manuscript, PSFs can differ significantly from other industry counterparts in their management behaviors, due to the nature of highly competent and compensated professionals providing consulting advice to their clients, while operating with a high level of intrinsic motivation and autonomy (Suddaby et al., 2008). Others also note that PSFs include a decentralization of authority, characterized by a minimally structured hierarchy with a high level of individual discretion and task autonomy (Empson, 2000; Greenwood et al., 1990; Malhotra & Morris, 2009). This is significant when viewing the firm-level of performance as well, because employees with highly complex jobs that include a significant level of autonomy, such as those in PSFs, are likely to exhibit a strong correlation between individual-level job satisfaction and job performance compared to other job classifications (Judge, Thoresen, Bono, & Patton, 2001). Such evidence further suggests that changes in individual-level autonomy that result from a PMI process in the professional services industry are likely to have a corresponding effect on an employee's job attitudes and behavior (e.g., job satisfaction, organizational commitment, job performance, etc.). Stakeholder theory implies that this impact could be felt on follow-on employee networks outside of the PSF organization, such as the ultimate clients of these organizations, as well.

The most current literature review summarizing previous works related to autonomy in M&A (Degbey, Rodgers, Kromach, & Weber, 2020) depicts autonomy as a significant influence in the PMI process. Degbey et al. characterize this influence as:

“A greater degree of autonomy does yield a positive effect on employee retention within an acquired firm, as it increases the relative decision-making opportunity of acquired firm employees and facilitates their ability to maintain greater control over their environments. In fact, being able to maintain a greater control over one’s surroundings may particularly be salient in the case of knowledge-intensive M&As (aimed at acquiring new knowledge, skills and capabilities), where highly skilled professionals or knowledge workers, such as engineers and scientists tend to desire/require relatively high degrees of autonomy” (p. 5).

While from an employee perspective, complete autonomy may be ideal, firm integration requires synergies that potentially alter individual-based autonomy and thus job outcomes in some fashion (Pablo, 1994). For example, Angwin and Meadows (2015) described five common structures for PMI processes with variable depths of integration – intensive care, absorption, symbiosis, reorientation, and preservation. These authors noted that evidence suggests the negative impact of organizational culture takes place through a loss in autonomy with increased levels of firm integration. Steigenberger (2016) further argued that the depth of integration, or how much autonomy is retained in the acquired organization, can have a significant influence on PMI outcomes. More specifically, higher levels of autonomy help to retain independent thinking, which is necessary for knowledge-driven M&As that characterize PSFs. Consistent with stakeholder theory, the depth of integration also implies a decrease in employee retention and customer loyalty. Greenwood and colleagues (1994) further found that during the courtship stage, many organizational fit compatibilities are not as explicitly detectable, and only surface during the PMI phase of PSF-related M&A. These authors also purport the difficulties of top-down approaches in PSF M&A, especially under wide-scale partnership or employee ownership structures, those relying on intense communication strategies for effective PMI. This fact brings

light to the development of parallel integration approaches, both top-down from executive leadership, and a decentralized, organizationally driven employee approach at a “middle management” level (Eriksson & Sundgren, 2005). Such a focus on leadership is congruent to recent studies demonstrating that leadership effectiveness in both acquiring and target companies is important for the success of M&A, especially senior leadership in the acquiring companies and the middle management leadership of the targeted companies (Dunbar, 2014).

Weber (1996) also assessed the relationship among cultural fit, autonomy removal, and manager commitment in predicting effective integration strategies across industries and argued that the loss of autonomy within management can create negative attitudes and eventual failure. Citing the work of Hambrick and Cannella (1993), Weber emphasized that autonomy removal can reduce managerial relevance, leading to higher turnover and lower financial performance. Surprisingly, however, Weber also found that autonomy removal for some executives of the acquired firm led to improved financial performance over time. More specifically, autonomy removal for the acquired firm’s management was positively related to subsequent financial performance, suggesting that higher synergies and more cost efficiencies could be realized with the removal of autonomy from top executives of the acquired firm.

A recent meta-analysis by Bilgili and colleagues (2017) adds nuance to autonomy removal and level of leadership, suggesting a key difference between the separation of the top manager of an acquired firm (i.e., the CEO) as compared to the top management team when examining subsequent performance, demonstrating that retention of the top management team members was associated with greater M&A outcomes. Along these lines, it is also known that ineffective management is often removed from firms that are acquired in attempts to improve performance (Nyberg, Fulmer, Gerhart, & Carpenter, 2010), and other research has demonstrated

the destructive effects of disparate organizational cultures on shareholder value (e.g., Chatterjee et al., 1992). Yet, the latter influence has also been characterized as inconsequential to financial performance (Weber, 1996). These equivocal findings are particularly relevant in service-related organizations as they tend to weigh cultural differences more heavily than other industries such as manufacturing (Pablo, 1994).

In the case of PSFs, in particular, a significant challenge for senior leadership is the motivation of its employee base for the advantage of the firm and its shareholders (Empson & Chapman, 2006), especially due to the significant levels of autonomy expected across all levels of the firm. It follows from the previous discussion that perhaps the most critical variable in measuring the success or positive outcomes of M&A integration in knowledge-based firms, such as PSFs, is how *autonomy is managed* throughout the PMI process, let alone the organization as a whole. This strategy may be more responsive to managerial and leadership actions than broader forms of cultural identification and associated management, which has shown mixed results in the literature. As opposed to expansive, diversified, and multiple-industry M&A activity, I propose that professional services will likely be limited by significant cultural separation due in part to industry relatedness, but even more so, due to the relatedness among the A/E professionals themselves and the identification they hold to both their organization and their profession.

Harvard scholar Jay Lorsch, one of the foremost experts in the study of PSFs, highlights that it is the “power to persuade” which is unique to PSF leadership where active professionals grow through the organization and serve as “producing managers” of largely autonomous staff, maintaining proximity to firm revenue through the development of relationships with their own clientele. Eventually, it is normally those who are perceived as credible in their profession that

develop the trust required to lead and manage the organization (Lorsch & Tierney, 2002). It is potentially this management connectivity that transcends the organization and provides the interdependency in understanding how activities in the PMI process can impact company organizational strategy and performance, and vice versa.

Chapter 3. Hypothesis Development

As stated in the Introduction, the scope of the proposed research is to determine what is behind successful M&A in knowledge-based companies, explicitly A/E consulting firms based in North America. In addressing this main question, the proposed research is broken down into three more specific assessments: (1) what are the key antecedents and outcomes of successful M&A as presented in the broader strategy literature; (2) based on this information, what is the generalizability and applicability of these factors to the PSF domain; and lastly, (3) how do the factors obtained from the broader literature regarding the PMI process apply to the firm and individual-level outcomes that are important to A/E PSFs? In particular, this research looks to contribute to the existing literature by evaluating the antecedents and resultant outcomes of M&A growth strategies, through both qualitative and quantitative exploratory analyses of A/E industry-level activity since the last economic recession of 2008. And, perhaps through the process, we may find that more generalizations exist, than less, when evaluating those variables critical to M&A success between the A/E PSF domain and its other industry peers.

A Summary Framework of Antecedents to Firm-level M&A Strategy

As reviewed in the previous section of this manuscript, a host of theories and antecedents have been proffered to underpin behavior surrounding M&A activity, even as they relate to PSFs. Yet, as Hitt et al. (1998) aptly note:

“Unfortunately, none of these theories is able to capture the essence of the complex phenomenon of acquisitions, because they are incomplete. Thus, we have an inadequate understanding of acquisitions ... little research has focused on helping us better understand how acquisitions can be successful” (p. 94).

The expansive scholarship reviewed in the preceding sections suggests several important strategies relative to successful M&A outcomes. At the center of the model is the Resource Based View of the Firm and predecessor theories (Barney, 1991; Penrose, 1959), where leadership capacity and cash and capital flows yield an affordable means to a competitive advantage through differentiation and the accumulation of necessary talent. For A/E PSFs, talent acquisition and top-line growth through market, service area, geographic, and client complementarity, as well as through diversification strategies, are the primary drivers. While the cross-industry literature provides caution to diversification-level strategies, they are indeed a primary factor in PSF M&A. In addition, while cross-industry studies suggest financial gain can be attributed to the management of economies of scope and scale, this is questionable with regard to PSFs. Moreover, it is interesting to note that while enterprise value creation was a primary strategy in cross-industry scholarship, it received relatively little coverage in the European-based A/E PSF literature. However, this could simply be due to the fact that enterprise value creation was an assumed outcome. Also, while risk-related factors were mentioned, little exposure of the risk-reward profile associated with PSF M&A was noted. This profile is particularly important to A/E companies, where firms can carry significant litigation and other risks associated with the management and design of large-scale projects and programs used in the public rights of way.

Other externalities have received very limited attention in the PSF literature as well, including overall economic or market conditions, sell-side drivers, and even personal leadership/management precursors. Yet, multiple practitioner publications highlight the heightened level of M&A activity in the A/E PSF industry, and the potential impact of these drivers since the last economic recession of 2008, reaching a maximum level of 534 transactions

in 2018 (Parsons, 2019). A resultant tabular summary of the key antecedents and the primary source of these drivers as obtained from the extant literature (i.e., cross-industry, general PSF literature, and the European-based A/E PSF literature) is provided in Table 1. Also provided are the typical outcome variables investigated using a balanced scorecard approach. It is important to note that outcomes related to revenue and revenue growth in this analysis are largely commensurate with associated effects as portrayed by market share and brand reputation in the form of industry rankings. Top-line revenue growth will also have a direct impact on the proxy measure for profitability. Thus, many of the hypotheses tested are highly related to top-line revenue growth returns, post-acquisition.

Furthermore, although many of the cross-industry failures of M&A transactions are known to result from the post-merger integration process, especially believed to be linked to organizational culture differences, the proposed research focuses on the role of managing individual-level autonomy. Autonomy is a critical and basic need of all employees, but as articulated earlier, it is particularly important to PSF staff. Using SDT, Penrose Theory (management capacity), as well as authentic leadership and organizational justice tenets as the basis for determining mediating/moderating outcomes of the PMI process, a theory for sustainable growth strategies is developed and tested for the A/E PSF industry in North America.

Organic Growth Versus M&A-oriented Strategies and Industry-level Antecedents

Applying a resource based view of the firm, Hitt et al. (1998) argue that companies with significant cash flows will invest them in a manner to build competitive advantage, gaining economies of scope for core competencies, while potentially overpaying due to the asymmetry in accurately understanding the resources of the acquired firm. Commensurately, the A/E PSF industry contains a hierarchy of firms that would suggest that the smaller, private firms of less

than US\$100 million in annual revenue do not employ significant M&A strategies, and instead, rely on partnerships, alliances, joint ventures, and groupings of strategic hires (or sometimes referenced as micro-acquisitions) for company growth. Thus, M&A strategies and consequential transactions are largely dictated by larger private or private equity controlled firms, but more so by publicly controlled companies sometimes in the form of “serial acquirers” or those who rely on multiple acquisitions for attaining shareholder growth expectations when companies reach a certain size and scale (Connaughton, Meikle, & Teerikangas, 2015; Jewell, Flanagan, & Lu, 2014; Shuster, 2011; Wittman & Haucke, 2017). In addition, since only approximately 150 companies in the A/E industry are larger than US\$100 million in annual revenue according to ENR (Tulacz, 2018), it is estimated the majority of acquisition activity is compounded by these firms, especially in consideration of the total M&A activity (534 acquisitions in 2018 alone) that has occurred in the A/E industry since the 2008 recession. Thus, it is anticipated that:

Hypothesis 1: There is a positive, and potentially nonlinear, relationship between the acquiring firm size (measured in terms of annual revenue) and acquisition activity (as measured by the amount of revenue and employees, or assets, acquired), with the critical threshold for nonlinear growth beginning at a point past US\$100 million in annual revenue for the acquiring firm size.

As a corollary to firm-specific economics, industry-related factors may also play a role in the rate of M&A activity in the A/E PSF industry (refer to Externalities and Other Management Factors in Table 1). While available data regarding the specifics surrounding sell-side factors, managerial herding/envy, or even the identification of overconfidence and leadership self-interest would be difficult to ascertain, it is generally known that such factors could be an additive effect in explaining the “wave” of industry-wide M&A activity that has transpired since

2008 (Jovanovic & Rousseau, 2008; Yaghoubi et al., 2016a, 2016b). For example, leadership succession challenges have surfaced over the past two decades as a result of generational circumstances (a number of private A/E companies were founded post-World War II), and the ownership transition of these companies has likely played a significant role in the level of M&A activity in the A/E PSF industry (Hembrough, 2019a; 2019b; Parsons, 2019; Santilli, 2000). Similarly, other managerial factors, such as envy, herding, and hubris would logically imply a contribution to M&A activity that is positively associated with the aggregate economic conditions related to the pace of growth in the A/E PSF marketplace. Thus, overarching economic drivers (e.g., Gross Domestic Product [GDP]) or overall A/E industry growth rates may be a generalized antecedent of M&A activity. This supposition could at least partially explain the reason for a prevailing level of A/E-related M&A activity during market peaks since the 2008 recession. Considering the above scholarship, as well as a resource-based view of the firm that stipulates human resources and talent acquisition create competitive advantage (Hitt et al., 2001; Pfeffer, 1998), which would be increasingly evident during periods of peak M&A activity and industry growth, I offer the following hypotheses:

Hypothesis 2a: U.S. GDP growth within a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.

Hypothesis 2b: The overall growth of the A/E market in a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.

Hypothesis 2c: The overall volume of A/E M&A activity in a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.

Firm-specific Growth Strategy Antecedents and Outcomes in Professional Services

In addition to the externalities and other management factors discussed previously, firm-specific growth strategies derived from the extant literature are also summarized in Table 1.

Under the assumption that companies look to create enterprise value through M&A activity, it is anticipated that firm-specific strategies will largely be based on the following antecedent pairs: (1) asset accumulation, through the acquisition of necessary talent and top-line (client/contract acquisition) growth; (2) differentiation (and even reputational) strategies that include market, service area, and client complementarity, through associated levels of geographic expansion, in addition to vigilant levels of market/service diversification; followed by (3) managing economies of scope and scale that will provide greater shareholder value through A/E PSF M&A transactions. Key employee and managerial resources should be a primary antecedent to M&A activity as talent acquisition underlies firm-level strategy and performance for PSFs. Moreover, this is even more likely to be the case during the peak period of economic activity that has spurred the “war for talent” since the recession of 2008. I thus offer the following hypothesis:

Hypothesis 3: Talent acquisition is positively associated with top-line revenue growth, 1 to 2 years post-acquisition.

More so, of the potential six primary antecedents outlined in Table 1 (talent acquisition, top-line revenue drivers, geographic expansion of core capabilities, diversification to new markets and services, and managing economies of scope and scale), it is anticipated that four will show significant associations with increased top-line revenue, or revenue growth, 1 to 2 years post-acquisition. The exceptions are the factors of managing economies of scope and scale. I argue that when considered simultaneously with the other antecedents, these factors will be inconsequential because (a) economies of scope are likely to overlap, or be confounded with, the

assessment of the other antecedents presented, and (b) economies of scale benefits will largely be directed to bottom-line, not necessarily top-line, results. I therefore formally hypothesize:

Hypothesis 4: When all six primary antecedents are considered simultaneously, employee acquisition, top-line revenue (client) acquisition, geographic expansion, and diversification strategies will be significantly associated with top-line revenue growth of the acquiring firm over a 1- to 2- year period, post-acquisition.

Lastly, A/E PSFs appear to heavily utilize diversification strategies for company growth, even though long-standing, cross-industry literature highlights the importance of service complementarity in successful M&A (Bauer & Matzler, 2013; Hitt et al., 1998; Jurich & Walker, 2019; Larsson & Finkelstein, 1999), and others have pointed out a similar need for market and service area focus in maximizing firm performance in PSF M&A transactions (Eckhardt & Skaggs, 2018; Hitt et al., 2001; Kor & Leblebici, 2005). Relative to enterprise profitability, scholars such as Wernerfelt & Montgomery (1988) further suggest that “narrowly diversified firms do better than widely diversified firms” (p. 246). Therefore, I expect that A/E-related PSF firms will likely have an inverted-U model as it pertains to the number of primary markets entered as compared to firmwide profit measured by revenue per employee. This speculation is consistent with Nippa, Pidun, and Rubner’s (2011) summary review of corporate portfolio management in which they argue that inverted-U models seem to have the most support in meta-analyses. I therefore make the following hypotheses:

Hypothesis 5a: There will be an inverted U-shaped relationship between the number of primary markets engaged by a company and its profitability (revenue per employee).

Hypothesis 5b: There will be a negative relationship between diversification, or dispersion, and profitability (revenue per employee).

In addition to the logic and previous research described to support the previous hypotheses, the prevailing literature for A/E-related PSFs illustrates that profit motives through M&A are mixed, and that pricing structures of most A/E-related PSFs are limited in terms of variable profit potential (Malhotra & Morris, 2009). Therefore, it is likely to be highly difficult for A/E firms to obtain significant increases in profitability as measured by revenue per employee through specific M&A activity. Moreover, the A/E practitioner literature portends that economies of scale may be difficult to obtain in the industry. Along these lines, I posit the following hypothesis:

Hypothesis 6: When all six primary antecedents are considered simultaneously, only employee acquisition, top-line revenue (client) acquisition, and geographic expansion of core services will be significantly associated with the profitability change of the acquiring firm over a 1- to 2-year post-acquisition period.

PMI and Individual-level Outcomes

This section addresses the third research question, regarding how the factors obtained from the broader literature regarding the PMI process apply to the firm and individual-level outcomes that are important to PSFs. As discussed earlier, SDT posits that job satisfaction is predicted by competency, relatedness, and autonomy (Deci & Ryan, 2008; Gagné & Deci, 2005). This theory should thus be applicable for understanding A/E PSF executives and employees within the acquiring or the acquired firm transitioning through organizational change as represented by a PMI process. More so, from the general organizational behavioral literature, several other factors that play a role in individual-level outcomes such as job satisfaction, organizational commitment, and turnover intentions, have been documented and are additionally

relevant to the proposed research. In the paragraphs that follow I integrate previous theory and research to build hypotheses for these individual-level outcomes during the PMI process.

“Autonomy in the context of acquisitions, can be described as the amount of day to day freedom that the acquired firm management is given to manage its business.” (p. 31; Datta & Grant, 1990). This definition can be extended to the individual level by considering the amount of freedom or discretion an employee has in his or her respective work environment, as the acquiring company culture can influence the day-to-day decision-making process of individuals and the level with which justification for managerial and individual actions can change as a result of the PMI process (Hambrick & Cannella, 1993). Datta and Grant (1990) describe autonomy as a “major motivator” for individuals because it provides organizations with the necessary flexibility in responding to environmental and marketplace needs, both of which are critical to M&A strategy. At the same time, the need to create synergistic benefits from the PMI process assumes some level of integration depth and change of organizational and individual control to optimize the results of the predominant M&A strategy (Angwin & Meadows, 2015; Pablo, 1994). In turn, the removal of autonomy can create negative job outcomes resulting from the loss of control in an individual’s job environment, providing lower levels of motivation, job satisfaction, and organizational commitment, even to the extent of anger, resentment and destabilizing behavior (Buono & Bowditch, 1989; c.f. Datta & Grant, 1990). Autonomy removal is different from levels of autonomy, in general, because it reflects a downgrading or reduction of autonomy and thus involves a comparative perception of change on the part of employees (i.e., has my autonomy been reduced during PMI?). Most of the prevailing M&A research focuses on levels of autonomy or autonomy removal among executives, but it is important to understand the depth of this phenomenon related to the change in autonomy at all levels of a

people-centric organization, especially PSFs, to understand how the dominance exhibited by the acquiring firm can impact individual-level outcomes, such as job satisfaction, organizational commitment, and possible turnover intentions.

Job satisfaction is defined as "...a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (Locke, 1976, p. 1304), revealing both feeling (affect) and thinking (cognitive) dimensions. As it relates to the organizational change process, detailed summary-level analyses (Armenakis & Bedeian, 1999; Oreg, Vakola, & Armenakis, 2011) highlight a multitude of factors and pre-change antecedents inherent in the change transition process that predicts job satisfaction at an individual level. These include an individual's personality traits, needs, coping styles, and job autonomy as well as the firm-based context of organizational justice and a supportive work environment that engenders trust and commitment. In addition, Cunningham and colleagues (2002) also found that employees with higher decision latitude and control, or autonomy in their work environment, report higher readiness for change, and prior research has provided evidence of improved reactions to organizational change events when employees feel a sense of control, or autonomy, over the change process, resulting in improved acceptance (Wanberg & Banas, 2000) and increased job satisfaction (Martin, Jones, & Callan, 2005).

In general, organizational commitment or "the relative strength of an individual's identification with and involvement in a particular organization" (Porter & Smith, 1970; c.f. Mowday, Steers, & Porter, 1979, p. 4) has been found to buffer, or dampen, organizational change related negative impacts, such as stress, as well as change recipients' job satisfaction and intent to stay with the firm (Begley & Czajka, 1993; Oreg, Vakola, & Armenakis, 2011). As past studies related to organizational change have often viewed the assessment of job satisfaction and

organizational commitment in concert, it is not surprising that meta-analytic work by Meyer, Stanley, Herscovitch, and Topolnytsky (2002) demonstrated a significant and positive correlation between organizational commitment and job satisfaction across 69 studies. Lau and Woodman (1995) further found evidence to support that highly committed employees are more accepting of organizational change, as long as it is viewed to be positive and beneficial. In addition, citing the work of Iverson (1996) and Guest (1987), Vakola and Nikolau (2005) argued that “employees with high organizational commitment are more willing to put more effort in a change project and, therefore, it is more likely to develop positive attitudes towards organizational change” (p. 163). In summary, organizational commitment has been found to be an important outcome for employees navigating organizational change, which suggests its relevance to change events such as PMI activities.

In their detailed meta-analysis across 155 studies, Tett and Meyer (1993) found that there is a large-effect size and negative correlation between job satisfaction ($r = -.58$), organizational commitment ($r = -.54$) and resulting turnover intentions, where turnover intentions are defined as a conscious and deliberate willingness to leave an organization (Tett & Meyer, 1993). A large body of scholarship demonstrates that positive attitudes and acceptance of organizational change tends to benefit organizational commitment and job satisfaction, wherein negative attitudes, feelings, and resistance to change can enhance turnover intentions (Fedor, Caldwell, & Herold, 2006; Herold, Fedor, & Caldwell, 2007; Rafferty & Griffin, 2006; Wanberg & Banas, 2000; c.f. Oreg, Vakola, & Armenakis, 2011). In other words, an inverse relationship exists between job satisfaction and organizational commitment and relative turnover intentions. In addition, past research also provides evidence that job insecurity is positively correlated with turnover intentions following a change event (Fried, Tiegs, Naughton, & Ashforth, 1996; Johnson,

Bernhagen, Miller, & Allen, 1996). Inherent in the PMI process is the intervening concern of the loss of key staff, which is exacerbated in PSFs where the acquisition of talent is a primary antecedent of M&A, and people are the principal asset.

Specific to the M&A organizational change process, Ullrich and Van Dick (2007) found that a lack of organizational identification following the PMI process led to lower levels of job satisfaction and increased probability for turnover. In addition to the significant potential for key employee attrition due to a loss of autonomy resulting from the M&A PMI process previously summarized, Martin, Butler, and Bolton (2017) also state that “employees experience uncertainty surrounding acquisitions because they do not know what the merged organization will mean for their employment and income security. Post-acquisition uncertainty has been linked to job strain, increased employee absenteeism, turnover and decreased job satisfaction” (p. 380).

Therefore, in alignment with SDT and based on the previous empirical evidence described above, I posit the following hypotheses:

Hypothesis 7a: Higher levels of autonomy in the work environment are positively related to employee outcomes during PMI.

Hypothesis 7b: Autonomy removal at the employee-level is negatively related to employee outcomes during PMI.

Leadership and Organizational Justice Main Effects on the PMI Process

As described in the Literature Review, perhaps the most critical component in measuring the success, or outcomes, of the PMI process in knowledge-based firms is how autonomy is managed. As indicated, various groups or individuals may react to organizational change very differently, but in essence, it has long been known that the success of a merger could pivot on the PMI process by which change is executed (Haspeslagh & Jemison, 1991). In addition, the more

recent work of Dunbar (2014), highlights that motivating, influencing, and developing others, building relationships, acting with integrity, and illustrating adaptability while maintaining focus on client/customer needs through the process, are the leadership competencies that best predict M&A success. These leaders must be equipped to handle change in a positive and incremental manner, employing qualities such as compassion, communication, and transparency, and instilling a high level of dignity during the change process for individuals to gain acceptance and move on (Kavanaugh & Ashkanasy, 2006).

These leadership tenets closely resemble that of authentic leadership (Avolio & Gardner, 2005), which is a form of positive leadership similar to that of transformational leadership (Bass & Riggio, 2006) that has shown evidence of effectiveness during change-oriented processes such as PMI efforts (Nemanich & Vera, 2009; Nemanich & Keller, 2007; Schweizer & Patzelt, 2012; Vasilaki, 2011). Authentic leadership consists of four dimensions: self-awareness; internalized moral perspective; balanced processing; and relational transparency, the result of which allows followers to integrate themselves into the broader social environment and provide superior performance in unstable work environments through adaptive and proactive work behaviors where individuals experience autonomous motivation (Leroy, Anseel, Garner, & Sels, 2015; Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2007). Importantly, Avolio and Gardner (2005) suggest that authentic leadership is the “root” of positive forms of leadership with its basic premise that an open and transparent climate will empower leaders and their followers to be more resilient and accomplish their work more effectively, especially in the midst of uncertainty in the surrounding environment as is common to PMI contexts.

Meta-analytic studies have highlighted the close association between transformational and authentic leadership, the result of which has shown evidence of large-effect sizes with

individual-level job outcomes, as well as smaller effects on task performance wherein transformational leadership tends to have greater impacts on individual-level outcomes, and authentic leadership shows stronger relationships with group, or organizational outcomes (Banks, McCauley, Gardner, & Guler, 2016). In addition, the same meta-analysis provides clear evidence of large, positive effect sizes between authentic leadership and trust/leadership satisfaction, of critical importance in successful M&A transactions. While authentic leadership has not been empirically tested through a PMI process, nor has transformational leadership or authentic leadership tenets been analyzed with respect to PSF employees who have transitioned through an M&A transaction, I expect the positive findings from previous leadership literature would hold for authentic leadership in the A/E PSF industry. I therefore hypothesize:

Hypothesis 8: Authentic leadership is positively related to employee outcomes during PMI.

Organizational justice tenets are also critical to successful organizational change processes (Oreg et al., 2011). In particular, interactional justice, such as that contemplated throughout the PMI process, can be defined as “the interpersonal treatment people receive as procedures are enacted” (p. 386; Colquitt, 2001, referencing the earlier work of Bies & Moag, 1986). Similar to authentic leadership, Colquitt (2001) goes on to state that interactional justice is nurtured when leaders “treat people with respect and sensitivity and explain the rationale for decisions thoroughly” (p. 386). Interactional justice, the combination of interpersonal and informational justice dimensions of organizational justice, was increased when authority figures were truthful, and not deceptive, as well as respectful and polite, as opposed to being rude and prejudicial (Colquitt, 2001). Organizational justice has been demonstrated to exert medium-to-large positive effects on a number of individual job outcomes, including trust in the organization

and organizational commitment (Colquitt et al., 2013) primarily through social exchange quality and individual-level reciprocation (Blau, 1964).

While not empirically tested using PSF employees, a preponderance of evidence from the M&A literature indicates that employees who are treated fairly through the primary dimensions of organizational justice (procedural, distributive, interpersonal and informational) demonstrate increased or amplified affective commitment to the new firm (Bebenroth & Thiele, 2017; Gomes, Mellahi, Sahadev, & Harvey, 2017; Klendauer & Deller, 2009; Melkonian, Monin, & Noorderhaven, 2011; Seo & Hill, 2005) as well as other positive job and organizational outcomes (Ellis, Reus, & Lamont, 2009). Thus, I posit that:

Hypothesis 9: Organizational justice is positively related to employee outcomes during PMI.

Besides the potential impact of leadership style, Marks and Mirvis (2011b) also purported that integration teams are often ill-equipped to handle the human side of M&A. As an example, integration management teams are assembled with representation from each side and thus, are “frequently marred by conflict, engage in horse-trading, or simply settle for low-common-denominator decisions” (p. 163). Instead, these authors highlighted the need for a partnering mindset to include trustworthy interactions, common interests, spirit of cooperation, and competitiveness, as well as complementary skillsets, perhaps through the use of an interim transition structure (Marks & Mirvis, 2000). Others have noted that, at the very least, a specialized integration team with M&A experienced professionals is needed for successful PMI (e.g., McGee, 2015). Marks and Mirvis also conclude that “a moderate degree of distinction between the partners cultures results in the most successful integrations” (p.165), where the cultural differences are a source of learning and value creation. PMI seems to work best when managers have significant tenure and deep M&A expertise, thus requiring companies to

recognize and develop competency in these areas (Marks & Mirvis, 2011b). Although not empirically tested, recent propositions related to knowledge industry-specific M&A (Lamont et al., 2019) highlight that managerial capacity will be a significant contributor, perhaps even mediate, M&A outcomes. Also, in her summary review of multiple studies regarding the impact of organizational change on employee commitment, Choi (2011) demonstrated that an individual's belief in the company's and leadership's ability to accommodate change, positive employee-manager relationships, and a track record of success for past change projects are critical to understanding the eventual acceptance of large or small-scale organizational change. The preceding logic and empirical evidence suggest that perceptions of the leadership team's capability and capacity will shape individual-level outcomes during PMI. More specifically, I predict that:

Hypothesis 10: A higher degree of perceived capability and capacity amongst the PMI leadership team are positively related to employee outcomes during PMI.

As described earlier and consistent with stakeholder theory (Donaldson & Preston, 1995; Freeman et al., 2010), individual-level outcomes could have a critical downstream impact on individual job performance and subsequent organizational performance for employees and firms transitioning through the M&A PMI process. Such effects are likely due to the interactive relationships among autonomy, job satisfaction, and job performance in highly skilled professionals such as those that comprise A/E PSFs (Judge et al., 2001; Suddaby et al., 2008). Therefore, in addition to the positive impacts that the leadership capabilities should have on individual job satisfaction and organizational commitment, I expect that levels of autonomy, respective job outcomes, and leadership capabilities will be related to perceived levels of organizational performance at an individual level. Or, stated differently:

Hypothesis 11: Individual-level autonomy, job satisfaction, organizational commitment as well as authentic leadership, organizational justice, and leadership capacity, will be positively related to the perceived level of organizational performance for employees who have transitioned through PMI for A/E PSFs.

The Moderating Impact of Leadership Capabilities on the PMI Process

Scholars examining employee behavior through M&A-related organizational change have posited that leadership should serve as a moderating variable between alternative human resource processes and resulting organizational identification during PMI transitions (Vasilaki, Tarba, Ahammad, & Glaister, 2016). Largely citing the work of Nemanich and Vera (2009) and Nemanich and Keller (2007), Vasilaki and colleagues specifically argue that positive forms of leadership build on shared values during turbulent situations by creating trust through creative thinking, openness, participation, and a blending of best practices to gain acquisition acceptance, bringing order and continuity, thereby reducing ambiguity and allowing followers to achieve their goals. In addition, Vasilaki et al. (2016) cite other evidence of positive leadership forms creating a significant effect on employee retention as a result of M&A (e.g., Zhang, Ahammad, Tarba, Cooper, Glaister, & Wang, 2015).

One form of positive leadership that is likely to shape the relationships between individual-level factors during PMI is authentic leadership. Luthans and Avolio (2003) describe authentic leaders as “confident, hopeful, optimistic, resilient, transparent, moral/ethical, future-oriented and gives priority to developing associates...the leader’s authentic values, beliefs and behaviors serve to model the development of associates” (p. 243). Thus, the selflessness emanating from authentic leadership is likely to be viewed as strong and clear social support by employees, especially those who value autonomy. Related research supports this conjecture

where a study using SDT on Belgian service companies found that authentic leadership moderated the relationship between followership and their satisfaction of basic needs largely by providing psychological safety within the work environment (Leroy, Anseel, Gardner, & Sels, 2015). Recent work by Cording and colleagues (2014) further established evidence that employees positively reciprocate through additional effort during the PMI process when they feel a high level of organizational authenticity. With this evidence and logic in mind, I expect that authentic leadership will moderate the relationships between autonomy and employee outcomes during PMI.

Hypothesis 12a: Authentic leadership amplifies, or strengthens, the positive relationship between autonomy and employee outcomes.

Hypothesis 12b: Authentic leadership attenuates, or lessens, the negative relationship between autonomy removal and employee outcomes.

While it could be argued that greater amounts of change could lessen the positive impact of fairness and organizational justice, Fedor and colleagues (2006) found the opposite to be the case. Specifically, they hypothesized that “when change processes are perceived as fair, and the change is favorable...uncertainty, fear of failure, loss of control and sense-making concerns are mitigated.” The authors found evidence of these moderating effects from organizational fairness during work change processes as they relate to organizational commitment, explicitly stating that “under conditions of high amounts of both work unit and job change, fairness and favorableness will become more salient and their effects amplified” (p. 8). In addition, recent research also draws the close connection between authentic leadership and organizational justice, demonstrating that authentic leaders tend to create a fair climate that positively relates to follower well-being and organizational commitment (Kiersch & Byrne, 2015). Consistent with

this extant research, I predict organizational justice will moderate the relationships between autonomy and employee outcomes during PMI.

Hypothesis 13a: Organizational justice amplifies, or strengthens, the positive relationship between autonomy and employee outcomes.

Hypothesis 13b: Organizational justice attenuates, or lessens, the negative relationship between autonomy removal and employee outcomes.

It is important to note that while it is anticipated that a higher degree of perceived capability and capacity amongst the PMI leadership team will have a strong, main effect on resultant individual job outcomes as predicted by Hypothesis 10, a moderating or interaction effect in line with that predicted from authentic leadership and organizational leadership forms (Hypotheses 12 and 13), is not necessarily anticipated. The reason for this prediction is two-fold. First, the recent propositions for leadership capacity established by Lamont and colleagues (2019) have proposed leadership capacity as a mediator, not a moderator, relative to PMI outcomes. Second, the interaction between autonomy and leadership style is likely to have mixed interaction effects as the result of PMI leadership capacity. On one hand, improved leadership capability and capacity may work to facilitate positive job outcomes; however, at the same time, enhanced leadership capacity may suppress autonomy and resulting job outcomes. Thus, while it is important to identify the impact of PMI leadership capability and capacity on job outcomes, especially the impact above and beyond the influence of an individual's supervisor, the moderating influence of leadership capacity at an individual level during the PMI process is unknown. Therefore, the impact of leadership capacity will be explored as both a mediating and a moderating variable as part of the empirical analyses. In total, the proposed moderation model that summarizes Hypotheses 7 through 13, is shown in Figure 1.

Chapter 4. Methods

Data Sources and General Procedure

A multi-method research strategy will be used to examine the proposed hypotheses and holistic framework shown in Figure 2. The first study will leverage firm-level archival data from the top 500 North American companies that report annual market information to the ENR spanning the years 2009-2019. These firms are represented by a variety of ownership structures, including sole proprietors, partnerships, broad-based employee-owned companies, publicly owned enterprises, and even private equity-controlled organizations. The top 500 A/E-related PSFs generally range in size from US\$24 million in annual revenues to greater than US\$10 billion (Tulacz, 2018). Data from ENR will be combined with archival data of public industry M&A transactions as reported in the Thomson ONE/Reuters database. This database comprises over 1,700 M&A and other miscellaneous events in the A/E professional service industry. By using information from the annual ENR reports of industry, market, and company performance for the top 500 firms, as well as the composite M&A transaction information contained within the Thomson ONE database, both cross-sectional and additional longitudinal data (e.g., revenue 1 to 2 years post-transaction) will be used to test Hypotheses 1 through 6. To obtain missing information not provided by ENR or Thomson ONE, public press releases, trade publications, available company information, and interviews with management consultants and other professionals familiar with the transactions will be made. Finally, in support of those M&A transactions provided from public database sources, other management consultant sources will be contacted to retrieve as much information as possible regarding private company transactions in the A/E PSF industry. While 1,709 transactions are contained in the Thomson ONE database over the 11-year time frame, a considerably smaller data sample set will likely be obtained, due

to missing, incomplete, or unobtainable information regarding strategic rationale or other variables. Also, care will be taken to minimize data contamination when a single firm makes multiple acquisitions in a single year, thereby potentially eliminating transactions where it is difficult to assess outcomes from a dyadic event. At a lower boundary, past research in M&A activity has suggested that to maintain a statistical power of 0.80, a minimum of 100 complete observations will be required for multiple regression analyses (Hair, Black, Babin, & Anderson, 2010; c.f. Reich, 2013). This is also consistent with the previous M&A studies included in the literature review (e.g., Bauer & Matzler, 2013).

The primary data for testing Hypotheses 7 through 13 will be an archival dataset comprising questionnaire responses from surveys of experienced A/E-industry professionals who have transitioned through a PMI process. These survey data span at least five A/E consulting firms with very recent acquisition activity and will be obtained from one of the primary management consultant firms who operate in this domain. The survey questionnaires were collected by the management consultants prior to the end of March 2020, just before the significant industry slowdown that occurred as a result of the Coronavirus (COVID-19) pandemic.

Lastly, supplemental archival qualitative data will be used to triangulate the results of the firm-level archival and employee survey analyses. These archival data were collected in conjunction with industry research that entailed interviews of ten North American industry executives. The interviews used semi-structured and open-ended questions. The ten participants in this dataset represent M&A leaders within some of the largest acquiring firms in the industry to smaller firms at the lower range of the Top 500 ENR listing who have received multiple inbound offers for potential M&A. In addition, industry M&A management consultant experts as

well as private equity firms were included in the purposive sampling process, in order to establish a more a holistic and accurate framework for A/E PSF growth strategies in North America. These specialized experts were chosen through convenience sampling, using current industry relationships, searching out for extreme cases and differentiation, in order to leverage qualitative research approaches to supplement the quantitative analyses. These qualitative data will be examined to provide additional insights into the summary framework model described in Table 1 as well as to augment interpretations of results pertinent to the process factors portrayed in Figure 2.

Study 1: Archival Approach

This study will examine the firm-level factors shown in Table 1 and Figure 2 using archival data from previous M&A transactions in the A/E PSF industry over the last 11 years since the 2008 economic recession. More specifically, M&A information contained in the Thomson ONE/Reuters database, and other supplementary databases that were managed by a third party vendor, will be examined to extract as much panel information as possible associated with the proposed variables within the A/E service company transactions. Data regarding individual M&A transactions will include specific variables such as closing/effective date, target firm name, target firm business description, target firm status (public/private), acquirer firm name, acquirer firm business description, acquirer firm status (public/private), value of transaction, strategic rationale (purpose) of transaction (e.g., expansion of core services, diversification of markets/services and economies of scale), target firm sales (Last Twelve Months – LTM), target number of employees, acquirer firm sales (LTM), and acquirer number of employees. Between 2009 to 2019, the M&A database contains a variety of U.S. company transactions that have been reported to the U.S. Securities and Exchange Commission, with a

total of 1,709 transactions in this time frame. Since the primary interest of the study are firms within the ENR Top 500 companies in North America in terms of annual revenue, the data will be sorted to include only those transactions for acquiring firms greater than US\$20 million in annual revenue (in close alignment with the ENR Top 500 Firm database). This selection criterion leads to 607 completed M&A transactions. Of these 607 transactions, only 281 reported the strategy surrounding the deal. These 281 transactions will be a starting point to prepare a dataset of a minimum of 100 completed transactions that provide the most complete data panel in conjunction with the independent and dependent variables under examination.

Additional information will be mined from the ENR annual reports, relative to statistics for the industry (e.g., growth rates) and company performance (e.g., annual revenues and market diversification), among other variable relationships as well. Missing information for completed data panels will be obtained from the company website and other publicly available data sources, whenever possible. The final dataset will note the times of the acquisition closure, which allows for a longitudinal examination that can account for progression to a steady state of operation in PSF mergers (Greenwood, et al., 1994). This is consistent with the extant literature regarding the analysis of cross-industry M&A that looked at post-acquisition change 18 to 24 months post-closure to allow for proper integration time (Datta, 1991; Datta & Grant, 1990); this will be accomplished by demarcating plus 1 to 2 years past the acquisition closure date for use in subsequent tests.

Study 1: Independent Variables. Information relating to the size, structure, and financial health (or *financial viability*) of the acquiring and target firm will be captured from archival data sources along with data on the hypothesized antecedents, largely those referenced in previous studies covering M&A A/E-industry activity in Europe. Data surrounding the

financial viability of the acquirer and target firm, such as *company size* and *capital structure* as indicated by ownership (capital structure), revenue/net sales, and employee base will be obtained directly from the Thomson ONE and ENR databases, among other possible sources. These variables will also be used for the calculation of *relative size and standing* between the acquiring and the acquired firm, which will likely be used in various exploratory and post hoc analyses throughout the research. Known *company financial “health” issues* will also be documented for the acquiring and the acquired firm (using data as contained in the Thomson ONE database or other miscellaneous sources). In addition to data on company financial viability, seven other high-level independent variables will be considered based on the summary review of previous A/E-industry literature. These are described below.

Talent acquisition will be measured in terms of the number of employees acquired. *Top-line revenue acquired* will capture how firms develop client synergies as measured by the top-line revenue of the acquired firm (and/or net sales) based on the projected annual revenue at the time of the closing date for the transaction.

Core/complementary service expansion through geographic means will be assessed from the strategic rationale of the transaction, mined from the Thomson ONE database, management consultant records, and associated press releases. In this case, if a primary driver of the acquisition includes expansion of the core business to new geographies, as opposed to acquisitions to reach new markets and services, then this means of expansion will be broken down into binary or categorical data (depending on data availability).

Diversification strategy will also be assessed from the strategic rationale of the transaction, mined from the Thomson ONE database, management consultant records, and associated press releases. In this case, if a primary driver of the acquisition includes the objective

to obtain new industry markets and services, as opposed to expanding geographies or locations with existing (core) services, then this means of expansion will be broken down into binary or categorical data (depending on data availability). Also, using the ENR top 500 database for those firms engaged in multiple end markets, an aggregate calculation of *diversification* will be determined based on each firm's revenue distribution to the ten primary markets as tracked by ENR. A "service diversification" calculation will be computed using the Herfindahl index of dispersion (Eckardt & Skaggs, 2018). Because the public data for A/E-industry activity is based on the ten primary markets, with an almost limitless number of service offerings that are often not recorded consistently across the industry, this index will be considered a "market diversification" index used to estimate firm-level diversification.

Management of the economies of scope and scale will be determined by the presence of estimated cost synergies typically identified within the M&A strategic rationale for each transaction. Depending on the data availability, this last variable could be in the form of a continuous random variable (e.g., cost reduction estimates for the combined operation) or in the form of a categorical variable related to the emphasis of economies of scale and/or scope in the overall transaction importance.

External market conditions and pace of growth will be captured using factors such as the overall GDP, A/E industry or construction industry growth, including the aggregate number of M&A transactions in a given year as well as interest rates that could impact a company's cost of capital, which could pressure firm management into M&A activity.

Other management factors are those factors that account for significant elements of the M&A strategic rationale yet may not be directly portrayed or measured quantitatively. These will be classified using designations such as significant financial drivers; defensive posturing;

shareholder/leadership pressures; sell-side drivers such as inadequate succession planning or other financial obstacles; tax implications; hubris or personal wealth decisions; risk management considerations; and managerial herding/envy. The variables will be in the form of binary or categorical data from the various data sources mentioned earlier, if available.

Study 1: Dependent Variables. Taking a balanced scorecard approach, available outcome variables that have been addressed in the extant literature (e.g., Greenwood et al., 2005) include: *market share* (or top-line growth), *profitability* (typically viewed in the scholar community by revenue per employee due to the difficulties in obtaining enterprise value for privately held companies), *reputation* (or brand identity, as portrayed by the ENR industry rankings), and the retention of talent or *voluntary turnover*. To the extent possible, these data will be obtained directly from the Thomson ONE, ENR, and other management consultant databases as well as through other individual company information or trade press publications beyond the date of closure (e.g., 1 to 2 years post-acquisition). Absolute values as well as the growth (or decline) rates from the date of acquisition closing will be obtained or calculated.

Study 2: Employee-based Questionnaire Survey

As a result of an annual summit of CEOs within the A/E industry (AEC, 2019), the management consultant sponsoring the event distributed surveys to experienced professionals in the A/E industry who have transitioned through a PMI process. Data from five A/E consulting firms, all with recent acquisition activity, were collected and comprise the archival dataset to be used in the proposed research. This survey was conducted during March 2020.

Study 2: Independent Variables. *Autonomy* was operationalized using the 3-item measure within the *Work Design Questionnaire* (Morgeson & Humphrey, 2006) for decision-making autonomy. This scale assesses the amount of discretion one has in their job role in terms

of task completion. Sample items include, since the beginning of the acquisition integration: I have more chances to use my personal initiative or judgment in carrying out my job; I am able to make more decisions on my own; and I have significantly more freedom in how I choose to do my job. Items were rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). *Autonomy removal* is also commonly associated with the PMI process. In this case, autonomy removal was measured in two ways. The first was based on a subjective one-item measure derived by Hambrick and Cannella (1993), focusing on the organizational level of PMI integration. This measure has proven effective in past M&A analyses and has been well-correlated to other, more complex autonomy removal scales, such as those surrounding “tolerance for multiculturalism” where the scales were determined to be conceptually equivalent (Chatterjee et al., 1992; Very et al., 1997). This measure was based on the overall “level of autonomy provided to the acquired firm” as originally established by Datta and Grant (1990, p. 35) based on a seven-point scale from (1) the acquired firm operates autonomously to (7) the acquired firm is closely integrated with its acquiring firm (i.e., the acquiring firm has primary control of the decision-making authority). The second means for assessing autonomy removal was to compare respondent levels of individual freedom and decision-making autonomy before, and after, the M&A transaction: how much did you have to justify your actions to others? These items were rated from: 1 = no justification needed to 7 = all actions need justification.

Study 2: Moderators (or Potential Mediators). Three potential moderating/mediating variables will be evaluated relative to the survey results of the PMI process. *Authentic leadership* was assessed using the 14-item Authentic Leadership Inventory (ALI) scale (Neider & Schriesheim, 2011). The Authentic Leadership Questionnaire (ALQ) is based on the four dimensions of authentic leadership: self-awareness; internalized moral perspective; balanced

processing; and relational transparency. Scale items were adapted to the individual level, beginning with a prompt to think of PMI leadership during acquisition integration. Items included that leadership: clearly states what they mean; shows consistency between beliefs and actions; asks for ideas that challenge their core beliefs; and they openly share information with others. Items were rated using a seven-point Likert scale (1= strongly disagree to 7 = strongly agree).

Organizational justice was measured using nine items from Colquitt (2001) assessing interpersonal and informational justice dimensions. Sample items began with the prompt “the acquisition leadership has...” and included: treated me with respect; explained the procedures thoroughly; and has communicated details in a timely manner. All items were rated using a seven-point Likert scale (1 = to a small extent to 7 = to a large extent).

PMI leadership capacity will be addressed as a potential moderating or mediating variable using questions that captured capability and capacity in the form of actions taken and the perceived experience of the PMI leadership team. The items were largely gathered from summary-level recommendations provided by Marks and Mirvis (2011b) and Steigenberger (2016). The full list of items is as follows, all rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree) and beginning with the prompt, “the acquiring firm’s leadership...”: has successfully communicated the strategic rationale of the acquisition; has successfully integrated the acquisition; has balanced the needs of employees and customers (clients) alike; has used proven (codified) processes in integrating the acquisition as opposed to using ad hoc or random procedures; has demonstrated previous merger and acquisition integration experience; and appears to be experienced in the industry.

Study 2: Dependent Variables. *Job satisfaction* was measured with a 3-item scale developed by Cammann, Fichman, Jenkins, and Klesh (1979). The items were rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree) and were: all in all, I am satisfied with my job; in general, I don't like my job (reverse coded); and in general, I like working here.

Affective organizational commitment was measured using the scale by Allen and Meyer (1990). Items were rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). Sample items included: I would be very happy to spend the rest of my career with this organization; I really feel as if this organization's problems are my own; and this organization has a great deal of personal meaning for me.

Turnover intentions were assessed using a 3-item scale described by Landau and Hammer (1986). These items measure the intent of an employee to leave their current organization and were rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). The turnover intention items included the following: as soon as I find a better job, I'll leave the organization; I am actively looking for a job outside of the organization; and I am seriously thinking of quitting my job.

Perceived organizational performance was measured using a modified version of the 5-item scale by Lee and Yang (2011). These items ask respondents about how they view their firm's performance outcomes compared to their competitors. Items were as follows: my company's financial performance is better than our competitors; my company's level of customer satisfaction is better than our competitors; my company's quality of products/services is better than our competitors; and my company's level of employee productivity is better than

our competitors. Items were rated using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Study 2: Control Variables. Several additional variables were captured in the survey and will be used as potential controls in subsequent analyses, including the respondent's *age*, *years of work experience*, *tenure with the firm*, as well as *job classification* (i.e., core operations servicing external clients and operations or support functions serving internal clients and operations). These data will be included since there are many evidence-based factors that can lead to turnover considerations or intentions (Allen, Bryant, & Vardaman, 2010); however, Hom and colleagues (2008) found a distinct decrease in employee turnover with increased tenure in an organization, suggesting that an individual's job satisfaction, organizational commitment, and turnover intentions can change with *age and tenure*. In addition, one might expect that age or tenure in a PSF may have a profound impact on an individual's level of job autonomy and resultant job outcomes, as more senior, tenured people tend to carry leadership positions, or they may hold highly technical positions that allow greater levels of job flexibility and autonomy.

Because the proposed research examines the effects of PMI leadership activities, *leader-member exchange* will also be included to control for the personal and working relationship between the employee and their immediate supervisor (Judge & Piccolo, 2004). This variable was assessed using the 11-item scale by Liden and Maslyn (1998), with responses that vary on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). Sample items include: I like my supervisor very much as a person; I do work for my supervisor that goes beyond what is specified in my job description; and I respect my supervisor's knowledge of and competence on the job.

Other items will also be used to structure the data for analysis. These include items that asked: were you part of the acquiring firm or acquired firm; what was the relative size difference between firms; and, what length of time has elapsed since the closing of the acquisition? The literature further indicates that the *relative size* difference between firms (Kusewitt, 1985; Very et al., 1997) can have a significant impact on M&A activity and resultant outcomes. Pratt and Beaulieu (1992) also provide evidence of significant cultural differences between sizes of PSFs in the accounting industry, wherein the relative size difference between firms (or acquirer assets to acquired firm assets) could display significant differences in sociocultural impacts and associated job outcomes in PSF-related M&A activity.

To support the assessment of autonomy, constructs related to *role overload* and *role ambiguity* (Eatough, Chang, Miloslavic, & Johnson, 2011) were also queried from the respondents, using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). Regarding *role overload*, sample items consist of, since the beginning of the acquisition integration: my workload seems like too much for one person; I never seem to have enough time to get everything done at work; and the amount of work I'm expected to do is too great. In a similar vein, *role ambiguity* items consist of, since the beginning of the acquisition integration: my goals and objectives are not as clear; I'm not sure what my primary responsibilities are; and I'm confused about what people expect from me.

The complete employee questionnaire survey has been reproduced in Appendix A.

Supplemental Qualitative Dataset and Assessment

A guiding question of the proposed research is what is behind successful M&A in knowledge-based companies, specifically A/E consulting firms? To augment interpretation of the quantitative analysis of archival data as well as verify the scope and completeness of the

framework provided in Table 1 and Figure 2, a supplemental qualitative dataset was examined. The study was completed using a semi-structured, open-ended interview approach (Bachiochi & Weiner, 2004) with ten North American-based management consultant, private equity, and industry executives.

These executives have operated at the extreme ends of the M&A spectrum in the A/E PSF industry. CEOs/COOs (existing or former) of three smaller firms were selected for their experience in working with limited capital resources and how that limitation sets the foundation for any potential company growth strategy. At the other end of the scale, representatives of three larger firms, including representation from one of the largest firms in the industry, were interviewed primarily due to their reputation for being a “serial acquirer.” These firms were either publicly traded or supported financially by private equity. In addition, informants from these firms ranged from the leader of the corporate development function (or organization responsible for all M&A activities) to current board members of the other two firms, both of whom have recently served as industry CEOs. In addition, a private equity investor was also interviewed due to their growing interest in the A/E industry, especially since the economic recession of 2008. Other unique perspectives were also gained from two informants whose companies fiercely rely on independence and organizational autonomy. More important, these individuals have become acutely familiar with the environment surrounding the strategy for future acquisitions, while also having participated in being acquired through a previous acquisition themselves. These leaders consist of one board chair and former CEO, and the other who leads their company’s corporate development, or M&A function. The final informant was an industry analyst from one of the most well-respected management consulting firms representing both sell-side and buy-side clients in the A/E PSF M&A process. This individual

has experience with some of the most significant North American M&A activity in recent years, which includes a greater understanding of the granular details leading to eventual M&A outcomes.

The final qualitative research study is provided in Appendix B. The applicable findings and results will be presented in Chapter 7 covering the complete dissertation discussion summary and conclusions.

Chapter 5. Analysis and Limitations

Hypotheses 1 through 6 pertain to industry and firm-level M&A antecedents and outcomes. Descriptive statistics and correlations were calculated. Hypotheses were examined using bivariate and multiple regression analysis. Other analytical techniques, such as hierarchical regression analysis (considering annual and firm-level fixed effects) were also conducted. Hypotheses 7 through 13 pertain to individual-level factors during the PMI process and were tested using the employee questionnaire survey data. Descriptive statistics, scale reliabilities, and correlations were calculated. These hypotheses were also examined using multiple regression and hierarchical multiple regression techniques using SPSS.

The supplemental qualitative dataset (refer to Appendix B) was examined using a content analysis approach, focusing on the identification and frequency of themes presented by the informants (Lee, 1999). As suggested by Bachiochi and Weiner (2004), results were summarized manually, using a minimum of two analysts. Inter-rater agreement was determined by comparing and adjusting the resultant assessment until the raters were satisfied that full consensus had been reached (O'Reilly, Paper, & Marx, 2012). As noted earlier, these data will serve to augment the quantitative results and allow for a verification of the summary framework depicted in Figure 2.

Limitations

There are five primary limitations of the research contained herein, based on the proposed research methods and associated data collection effort. First, since both the archival analysis and questionnaire-based study of exploratory and predictive analyses of M&A activity cannot be based on a true experimental (randomized) condition, the ability to establish strong causal inferences is limited. While the data sources were rich with information regarding the strategic

intent of M&A activity in the professional services industry, identifying strong cause-and-effect relationships was constrained.

Second, it was important to establish consistency in the personal judgment process when assembling the data, especially with respect to identifying the strategic intent of the various acquisitions. In the case of ambiguity, multiple raters were consulted. Because of the nature of the archival data from the various database sources, the results involve some level of personal interpretation and possible measurement error. Similarly, the employee surveys and studies and the associated variable measures and (scientifically accepted) constructs were used to produce a high level of reliability and validity (α ranges from .86 to .93). Very few measures have been developed solely for this study, and most have been used in multiple studies regarding organizational behavior or previous M&A research, specifically.

Third, following from the above, much of the information contained in the archival databases was provided by self-reporting measures, either through industry analysts or the individual companies themselves. Thus, some level of measurement bias was likely introduced in the data. Where possible, cross-checking against multiple sources was made. While measurement bias associated with self-reported archival measures was considered a limitation on quantitative evaluations (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986), these methods continue to be used widely in M&A and PSF research, as summarized throughout the literature. While the data reported in ENR is self-reported by the various companies, not only is it the best available information obtained through publicly available means, often times it illustrates managerial intent and strategy. For example, while total revenue numbers will likely be highly accurate, the breakdown of activity to individual markets may be quite variable depending on the strategic intent and branding strategy for the individual firm. However, this

will still serve the purpose for the desired research as it is the relative weights of the underlying strategic intent (as described by the Herfindahl index) that is desired as opposed to the absolute numerical values of the reported market-based revenues.

Fourth, the sampling was based on available data, or convenience samples. Again, this may provide some limitations to the generalizability or external validity of the results. However, as long as consistency and documentation of the qualitative and quantitative data collection and statistical analysis process are robustly maintained, the results should be highly reliable, and representative, based on the acquired data and reasonably valid given the ability to triangulate between the three study designs. In addition, Study 2 is limited due to the reliance on obtaining PMI data from the M&A process at opportune moments in time; as such, the ability to obtain pretest and posttest measurements, as well as defining a control group, was not possible. The resulting employee survey sample used for the PMI assessment was largely based on a senior-level grouping of employees, and future studies would benefit from a larger and broader sample. Nonetheless, even with the limitation of convenience sampling, the level of industry insight and resulting data will be extensive and is a first-time occurrence for North American A/E industry scholarly research.

Lastly, additional limitations in the overall research on M&A activity have been cited in the literature review. That is, the theories, antecedents, mediators, and moderators presented to address M&A activity represent rather complex processes that can cover multiple years or even a decade to report actual outcomes. While detailed, longitudinal analyses are always desired, the scope and scale of the current research program required completion of the work within a 2-year window. However, using the archival analyses for Study 1, data points across multiple years are addressed to the extent feasible. Based on the literature review and the results from the

qualitative assessments from experienced industry professionals, as well as through the author's experience in the industry, a detailed summary for further research consideration will be proposed.

Summary and Practical Implications

The research questions, subsequent literature review, and forthcoming results are highly relevant to practitioners in the A/E-based professional services industry in both North America and globally. Industry consolidation has been significant since the 2008 economic recession, and continued alliances and M&As are likely to continue. Moreover, with private equity and other adjacent industry companies taking a significant interest in A/E PSFs, non-traditional arrangements will likely continue to form, making the need to better understand the conditions for which successful M&As take place even more important. The research clearly highlights the various factors that can lead to the success or failure of M&As; however, it should be noted that there is no generalized "recipe" for success that can be translated to practice. That said, the research results contained herein provide a significant advancement to the theories behind successful M&A, as well as alternative growth strategies in the A/E-based PSF industry, using the extant literature and the newly developed quantitative and qualitative research resulting from this study.

Chapter 6. Results

Study 1 - Archival Study: Industry-level Sample Overview

In order to assess the impact of macroeconomic indicators on M&A activity in the A/E industry, the Reuters/Thomson ONE database was used to obtain the number of transactions (transaction activity) and transaction volume (purchase price of all assets on an annual basis), dating back to 1990 (through 2019). United States GDP data for the equivalent analysis period were also obtained from the same source. In addition, data on A/E industry business volume and supplementary public/private sector M&A transaction activity were obtained from *ENR* and the *Environmental Business Journal* (EBJ), respectively, with ENR data covering market information dating back to 2002. EBJ data were available in different forms from various input sources, including M&A activity summarized from private firm transactions (not necessarily contained in the Reuters/Thomson ONE database), dating from approximately 2008 to 2019. Transaction volumes from the extensive Reuters/Thomson ONE database ranged from a minimum of US\$224 million in a given year to a maximum of US\$9.56 billion, with an average of US\$2.74 billion and a standard deviation of US\$2.31 billion, annually.

The number of M&A transactions in the Reuters/Thomson ONE database ranged from 61 to 223 in a given year, with an average of 120 transactions annually ($SD = 46.2$). The transactions covered by EBJ accounted for a range of between 290 to 420 total A/E industry M&A transactions in a year since the economic recession of 2008. It is important to note that the aggregate transaction format supplied by both the Reuters/Thomson ONE database and EBJ provide a representative subset of the details surrounding industry activity. The Reuters/Thomson ONE database is heavily weighted to detailed and larger public company transactions, whereas the EBJ database is predisposed to a summary-level representation of

industry-level deals, more inclusive of private company transactions. Thus, no single database presents a complete picture of the M&A transactions in the A/E industry.

In order to assess the impact of aggregate market diversification activity on individual A/E firm performance, total revenue and market penetration data were obtained from ENR for the most recent reporting year (2019). The data include information from publicly held and privately controlled firms. Where available, current employment statistics were obtained from various sources (company reports and annual 10K summaries, internet sources, and personal contact with individuals familiar with company employment levels) in order to allow a revenue per employee profit proxy calculation for as many firms in the industry as feasible. Then, a review by a management consultant familiar to the industry was made to identify outliers or areas where the profit proxy data may be misleading, or inaccurate, as compared to what was known relative to actual performance (while maintaining company confidentiality). Through that review, seven adjustments to firm revenue or employee information, or simply removing the firm from further consideration, were made to prevent the outliers from influencing overall results. In most cases, firms were removed because it was difficult to differentiate construction-level revenue and employment activity from professional services-based information for those firms who performed both.

Ultimately, a complete dataset was obtained for 131 representative firms spanning the top and bottom of the ENR Top 500. Sample firms ranged in size from US\$31 million in total annual revenue to US\$20.6 billion, with a mean of US\$670 million ($SD = US\2.14 billion). Employee counts for the representative firms ranged in size from 129 employees to nearly 87,000, with an average of 3,192 ($SD = 10,353$).

Study 1 - Archival Study: Firm-level Sample Overview

The Reuters/Thomson ONE database, supplemented by data maintained in the ENR Top 500 annual summaries (North American-based companies only), provided the primary sample for all firm-level analyses. As indicated in the Methods chapter, a minimum of 100 transactions was explored to provide the most comprehensive assessment of the individual transaction strategies and supplemental details to construct a thorough, and time-based, data panel.

A total of 119 public and private company-led transactions provided a complete data set of M&A transactions that would allow for follow-on top-line (revenue) and bottom-line (profitability) analysis for a 2-year period (post-acquisition closure) beginning in 2009 through calendar year 2017, which allowed for an assessment of revenue/profitability accretion for the following 2 years through 2019. This comprehensive data panel contained pre-acquisition company status/activity, transaction strategic rationale, and resulting revenue and profitability results for 93 acquisitions by those companies considered to be “serial acquirers,” or those firms who would commonly make multiple acquisitions in a given year. The remaining 26 transactions in the data panel were made by firms that would only periodically complete acquisitions. These deals were selected to maximize the amount of information that could be obtained from readily available and reliable sources with minimal interpretation required.

Moreover, an additional 51 transactions were analyzed between 2009 and 2019 to provide supplemental detail for the analysis of aggregate market-level, buyer and seller information, with a focus on obtaining acquirer and target size (both annual revenue and employees), as well as the relative standing (size) among firms. These transactions did not have sufficient detail for a complete assessment of strategic rationale or further specifics to the extent of the other 119 transactions.

In all, 170 transactions were reviewed to test the first hypothesis associated with determining the relationship between acquiring firm and target firm size. Acquiring firms ranged in size from US\$22 million to nearly US\$14.5 billion in annual revenue, with a mean of approximately US\$2.5 billion ($SD = US\3.3 billion). Similarly, target firms ranged in size from US\$800,000 to US\$10.5 billion, with a mean of US\$215 million in revenue, annually ($SD = US\$979$ million). Employee counts ranged from 100 to 80,800 for acquiring firms and from 2 to 50,000 employees for the target firms. Average values were 14,485 employees for the acquirer to 1,188 individuals for the target firm. Approximately 70 percent of the acquirers were public firms and 87 percent of the acquired firms were privately held.

After compiling the complete transaction dataset, the data compilation and accuracy of the associated entries were reviewed by a management consultant who specializes in M&A consulting and ownership succession – comments regarding company activity, strategic rationale, and other clarifications to the input variables used in the analysis were incorporated into the final data panel.

Archival Study Results

Hypothesis 1 posited that there is a positive, and potentially nonlinear, relationship between the acquiring firm size (independent variable measured in terms of annual revenue) and acquisition activity (dependent variable measured by the amount of revenue and employees, or assets, acquired). The critical threshold for consequential, or even nonlinear, growth was projected to begin at a point past US\$100 million in annual revenue for the acquiring firm size, indicating the point where individual firm cash flows would, in general, allow for more substantive levels of acquisition activity. Using the 170 individual, firm-level transactions, data were plotted with the acquiring firm size (revenue) on the x-axis with *cumulative* revenues from

the target companies provided on the y-axis. Similarly, data were ordered for the acquiring firm size in terms of revenue, and the resulting *cumulative* employees acquired (Figure 3).

Using the model estimation function within SPSS, the cumulative acquired (or target) revenue and employee models were tested for linear, quadratic, and cubic forms, with the R^2 terms for each model approaching unity ($R^2=.97$) for all cases. The linear model provided the highest F-ratio ($F(1, 168) = 5,388.8, p < .01$) of the three model forms. The cumulative data sets (for both revenue and employees acquired) and the linear model of acquirer-target transactions also allows for easy determination of the critical threshold for which acquirer revenue becomes consequential (the x-intercept), in alignment with testing the first hypothesis. As a side note, the relationship between the acquiring firm revenue and target firm revenue and employees for the *individual* transactions was also determined to be significant using a linear model ($F(1,168) \geq 10.985, p < .01$, depending on whether target revenue or employee data was used as the model basis or if transaction amounts were converted to 2019 dollars: $\beta = .25, .24$ if all dollars were converted to 2019; $R^2=.06$, in all cases).

Although the dataset was focused on Reuters/Thomson ONE transaction data that are more heavily oriented to large-scale, public-sector transactions, a reasonable number of small-scale private acquisitions were included in the overall dataset ($N=170$). Within the revenue-based and employee-based linear models, the x-intercept, or the estimated point of an acquirer's annual revenue where acquisitions become more consequential, was determined to be between US\$112 million and US\$199 million, depending on whether cumulative revenues or employees were used as the dependent variable and whether revenue estimates were converted to 2019 dollars. In addition, based on the sample transactions, 95 percent of the target asset volume (revenues or employees) was provided by acquiring firms of greater than US\$1.0 billion in size, regardless of

whether target revenues or employees were used as the basis of estimate, or whether legacy transactions were converted to 2019 dollars. In all cases, the point of consequential and significant M&A activity occurred past the threshold of \$100 million in annual revenue for the acquiring firm in support of Hypothesis 1.

Hypothesis 2a proposed that the aggregate economy as portrayed by U.S. GDP levels positively relate to transaction activity in subsequent years (years, $t+1$ and $t+2$). Results using the Reuters/Thomson ONE database of industry-level annual activity indicated that there was a significant time-based relationship between aggregate GDP and the number of individual transactions, 1 year ($r = .74, p < .01$) and 2 years ($r = .72, p < .01$) post-GDP baseline (year $t=0$), providing evidence that the A/E industry M&A activity level takes place during economic peaks. Similarly, transaction volume (based on cumulative asset purchase price) was also positively related to GDP, 1 year ($r = .50, p < .01$), and 2 years ($r = .45, p < .05$) post-baseline GDP activity. These results support Hypothesis 2a.

Hypothesis 2b proposed that A/E industry-related market volume and growth can positively relate to transaction activity in subsequent years ($t+1$ and $t+2$). There was a significant correlation between GDP and A/E market volume ($r = .90, p < .01$ and $r = .94, p < .01$, post-2008 economic recession), thereby leading to similar results achieved when using GDP, or aggregate economic data. In addition, there was a significant relationship between A/E market volumes and future year transaction activity and corresponding volume (Activity: $r_{t+1} = .61, p < .01$; $r_{t+2} = .52, p < .05$; Volume: $r_{t+1} = .60, p < .01$; $r_{t+2} = .51, p < .05$). It should also be noted that conventional wisdom stipulates that A/E market volumes tend to lag the general economy by 1 to 2 years; the correlation results also provide some preliminary evidence to support this conjecture. While the differences were minor, the correlation between GDP and future A/E

market volumes did improve, 1 to 2 years post-baseline (year $t=0$), with correlations of $r_{t+1} = .93, p < .01$; $r_{t+2} = .94, p < .01$, compared to the relationship in the baseline year, $r_0 = .90, p < .01$. These results support Hypothesis 2b.

Results were also supportive of Hypothesis 2c where evidence showed that the number of M&A transaction activities in a given year were positively related to the number of transactions in successive years ($r_{t+1} = .72, p < .01$; $r_{t+2} = .55, p < .01$). Such results suggested that “activity begets activity.” These findings were also consistent with preceding results where the economy and market volumes have a close correlation with future year M&A activity. Significant results were also found between transaction activity in a given year and future transaction volumes, as measured by the cumulative price of M&A transactions in future years, 1 to 2 years post-baseline ($r_{t+1} = .48, p < .01$; $r_{t+2} = .44, p < .05$). In fact, the significant relationship between M&A activity in 1 year, by comparison to activity in the following year, tended to hold even after controlling for the level of underlying GDP and A/E market growth between the baseline year and year $t+1$ ($F(2,25) = 12.69$; $\text{Adj. } R^2 = .46$; $p < .01$; and $F(2,13) = 4.05$; $\text{Adj. } R^2 = .29$; $p < .05$, respectively). In other words, successive year M&A transaction activity occurred above and beyond what would be expected from the underlying economic or market growth. While this evidence is limited and not robust, it does suggest that some level of managerial herding or envy may be part of the explanation for the number of M&A transactions in the A/E industry.

Hypothesis 3 highlights that the acquisition of talent, or employees, in conjunction with the acquisition of associated client (contracted) revenue, are the primary drivers for M&A activity in the A/E industry. In particular, talent acquisition should be positively associated with future top-line revenue for the acquiring firm, 1 to 2 years post-acquisition. The complete correlation table summarizing the individual transaction analyses is provided in Table 2, which

displays correlations between the strategic intent (or rationale) variables, and the resulting top-line and bottom-line returns, 1 to 2 years post-transaction for the completed firm-level M&A data panel ($N=119$). Hypothesis 3 was fully supported for the relationship between employees acquired and aggregate top-line growth 1 and 2 years out ($r_{t+1} = .27, p < .01$; $r_{t+2} = .22, p < .05$), including when the top-line growth was *adjusted* to account for the specific impact of individual acquisitions after 2 years ($r_{t+2(Adj.)} = .20, p < .05$). Moreover, these significant relationships held, even after controlling for the underlying market volume growth and fixed effects resulting from potential systematic inconsistencies due to variation with the annualized data or the specific influence of unmeasured variables at the firm level (such variation was accounted for by dummy variables to represent each year's activity and for each acquiring firm, similar to past professional service firm strategy analysis – Eckardt & Skaggs, 2018, for example). Using hierarchical regression and controlling for underlying market growth, as well as yearly and acquiring firm-level fixed effects, target employee acquisition positively related to future year top-line growth after the first year ($\beta_{t+1} = .27, p < .01$) and the subsequent year ($\beta_{t+2} = .26, p < .01$) following an acquisition, with a higher correlation provided (95% confidence intervals did not overlap) when accounting for the specific impact of each acquisition ($\beta_{t+2(Adj.)} = .49, p < .01$), providing medium to large effect sizes.

Hypothesis 4 proposed that of the various antecedents leading to A/E M&A strategy, employee and associated top-line (client revenue) acquisition, geographic expansion of core services, and market or service diversification strategies, considered together, would all be significantly related to top-line revenue growth for the acquiring firm, 1 to 2 years post-acquisition. In alignment with Hypothesis 3, acquisition of the employee base and the top-line revenue of the target firm, independently, showed significant correlations with top-line revenue

accretion, 1 to 2 years post-acquisition (Table 2). The near perfect collinearity between the target employee and target revenue variables is generally accepted; however, in this instance it is exacerbated by the fact that conversions between the two were used in the data collection effort to infill missing data or to verify information from multiple sources. Thus, there was also a positive and significant correlation 1 to 2 years post-closing for acquired revenue from the target firm and the acquirer top-line growth ($r_{t+1} = .33, p < .01$; $r_{t+2} = .28, p < .01$; $r_{t+2(Adj.)} = .23, p < .01$).

In addition, strategies of expanding on the acquiring firm's core service, or geographical expansion, was positively and significantly related to top-line growth for the acquirer 2 years post-acquisition ($r = .23, p < .01$) when accounting for the nuances of the individual M&A transactions for the acquiring firm (as opposed to simply viewing the aggregate growth rates of the acquirer). As shown in Table 2, core strategies also tended to increase with the target firm employee base ($r = .19, p < .05$), suggesting that larger acquisitions are, at least in part, primarily related to core expansion strategies as opposed to diversification strategies. No significant zero-order correlations were found between diversification strategies and top-line revenue growth, or any other variables for that matter, with the lone exception of an expected inverse relationship with the number of core strategies invoked ($r = -.53, p < .01$).

The significant correlations between economies of scope/scale and target firm size were largely related to the *expected* economic efficiencies, which were only reported for larger scale acquisitions; thus, significant positive relationships were found between target firm revenue ($r = .59, p < .01$) or employees ($r = .57, p < .01$) and economies of scope/scale. This, in turn, led to medium effect sizes for top-line market growth related to economies of scope and scale ($r_{t+1} = .30, p < .01$; $r_{t+2} = .26, p < .01$; $r_{t+2(Adj.)} = .27, p < .01$). Table 2 also reflects the fact that the

underlying market growth in year one and year two can impact the acquiring firm's top-line revenue resulting from the impact of individual M&A transactions, which form the overall aggregate growth in year two, as represented by the adjusted growth correlations ($r_{t+1} = .24, p < .01$; $r_{t+2} = .25, p < .01$).

To determine the strength of the various strategies considered collectively, a multiple regression analysis was performed similar to previous analyses of professional service firm growth strategies (Eckardt & Skaggs, 2018), and consistent with the analysis of Hypothesis 3. In this case, however, a hierarchical regression analysis was performed to assess the impact of the various strategies above and beyond all yearly and firm-level fixed effects as well as underlying market volume growth. Dummy variables were used to represent each year of analysis (Model 1) and acquiring firm-level fixed effects (Model 2), followed by control variables to account for the underlying growth of the aggregate market (Model 3), and the final model was represented by the predictor variables in question (Model 4). Model 4 was the final model in the hierarchical regression and thus represented alternative strategy details of acquiring target firm assets (employees or revenue), core or geographic-related expansion strategies, and diversification strategies, considered simultaneously. Note that economies of scope/scale were removed from the regression analysis as the dataset presented a bias of this variable toward large-scale acquisitions (as previously discussed). In addition, as stated in the Methods chapter, this variable may be more relevant to acquiring firm bottom-line, as opposed to top-line, impacts. Table 3 provides results from these regressions and indicates that only the variables associated with target acquisition size (i.e., revenue or employees) are significant, above and beyond the fixed effects and control variables considered. Diversification and core expansion strategies were not significant in the final regression model. Thus, Hypothesis 4 was only partially supported,

highlighting the paramount importance of target firm size (and underlying market growth) on acquiring firm top-line revenue growth, with core or diversification strategies being insignificant to top-line outcomes, when considered together with the acquisition of target assets.

Hypothesis 5 posited that market diversification, or dispersion, negatively relates to firm profitability, or performance, as measured by the revenue per employee (profit proxy) metric. Moreover, Hypothesis 5a anticipated that a nonlinear relationship (e.g., inverted U-model, or quadratic form, for firms that diversified beyond one niche market) exists between firm diversification and profitability. Using the model estimation function within SPSS, it was determined that a cubic model provided the best fit for all companies ($N=131$) in the complete sample ($F(3, 127) = 5.559, p < .01$) with 12 percent of revenue per employee variance (R^2) explained by the level of diversification. Similarly, for firms serving more than one market ($N=118$), a cubic model provided the highest R-squared (model $R^2 = .05$), yet a *(negative) linear relationship* provided the most significant model form ($F(1, 116) = 2.885, p < .10; R^2 = .02$), highlighting the impact of a higher level of profitability for one and two-market service providers. In fact, rather than illustrating that an optimum level of markets served exists as predicted by the inverted-U model common across industries (Hypothesis 5a), the data for the A/E industry strongly suggests that “simpler is better” with regard to the number of markets served. This is even more evident when considering that the model form predicting profitability drops at the highest levels of firm diversification.

Hypothesis 5b posited that firm diversification, as reflected by the Herfindahl index for market dispersion, inversely (negatively) predicts profitability. Results were supportive of Hypothesis 5b as the regression weight, model F-Ratios, and t-statistics were significant ($\beta = -.26, R^2 = .07, F(1, 129) = 9.654, p < .01; t = -3.107, p < .01$). In fact, this relationship

(Figure 4) was maintained even after controlling for the revenue and employee attributes of firm size (independently and collectively) that account for possible economies of scale ($F(3,127) = 11.545, p < .01$; Adj. $R^2 = .20$; $t = -3.097, p < .01$). In summary, Hypothesis 5 is partially supported since the relationship between diversification and profitability is best represented by a cubic (not a quadratic) model, across all companies (Hypothesis 5a is not supported). Whether single market (non-diversified) firms are omitted, the resulting linear, negative relationship between diversification and profitability highlights that simplifying an organization's approach by focusing on a limited number of core markets provides higher levels of profitability (revenue per employee basis) than a widely diversified approach (Hypothesis 5b is supported).

Hypothesis 6 proposed that when collectively considering the various antecedents leading to A/E M&A strategy (i.e., target contract revenue, target employees, core/diversification strategies, and economies of scope/scale), employee and associated top-line (client revenue) acquisition, and geographic expansion of core services, would be significantly related to profitability growth on a revenue per employee basis for the acquiring firm, 1 to 2 years post-acquisition. As highlighted in the correlation table provided in Table 2, acquisition of the top-line revenue ($r = -.26, p < .01$) and employee base ($r = -.27, p < .01$) of the target firm, independently, showed significant correlations with acquirer profitability growth, 1 year post-acquisition. However, the negative correlations illustrate that as the target firm size increased, profitability of the acquirer dropped in the following year. The remaining profitability correlations with target firm size were not significant, but in general, the results suggest that profitability (on a relative basis) for the acquirer decreases as target firm size increases. Moreover, the aggregate market conditions in years $t+1$ and $t+2$ showed significant correlations with associated aggregate profitability gains in the same year ($r_{t+1} = .19, p < .05$; $r_{t+2} = .20, p <$

.05). Also, top-line growth for the acquirer in year two was positively related to profitability in the same year ($r_{t+2} = .20; p < .05$), highlighting the flow-down importance of top-line revenue gains to improving probability. When taking into account the specific top- and bottom-line growth associated with each acquisition transaction, there was also a strong correlation in year two ($r_{t+2} = .38, p < .01$), and the correlation increased further when considering the relationship between acquiring firm top-line revenue associated with the individual transactions and the aggregate bottom-line improvement (not just that related to specific acquisitions) of the acquiring firm in the second year ($r_{t+2} = .46, p < .01$).

In summary, these data suggest that the top-line gains achieved, through M&A or underlying market growth, are critically important to any bottom-line strategy and thus place a significant priority on revenue as the driving factor to obtaining bottom-line growth, perhaps suggesting why diversification strategies are so important to service organizations. That said, strategies of expanding on the acquiring firm's core service, or geographical expansion, was positively and significantly related to bottom-line accretion in the second year, whether considering the aggregate profitability return of the acquirer ($r = .24, p < .01$) or when taking into account the profitability that could be associated with the specific acquisitions ($r = .23, p < .01$). No significant zero-order correlations were found between diversification strategies and profitability growth, as expected. Also, no significant zero-order correlations were found for the relationships between (planned) economies of scope and scale and bottom-line profitability.

To determine the strength of the various strategies, considered together, a multiple hierarchical regression analysis was performed for bottom-line profitability as the dependent variable, similar to that used for top-line growth under Hypothesis 4. In this instance, however, no significant hierarchical regression models were found since the ΔF in the final models were

not significant ($p > .05$) and thus Hypothesis 6 was not supported. However, when reviewing the final multiple regression models (which were significant, $p < .01$, based on the aggregate model F-ratios), core strategies were found to be significant and positively correlated to profitability in the second year, post-acquisition ($\beta_{t+2} = .23, p < .05$), similar to the zero-order correlation results provided above. In addition, similar to the zero-order correlations, the final multiple regression models provided significant, and negative, relationships between target firm size and profitability after year $t+1$ ($\beta_{t+1} = -.28, p < .05$). This additional evidence suggests that target firm size appears to have an inverse relationship to acquirer firm profitability growth, after accounting for fixed effects and underlying market growth while core strategies can positively relate to profitability.

In total, limited evidence would suggest that when considered collectively, some level of underlying market and top-line growth, combined with core acquisition strategies, appears to have a greater positive relationship to bottom-line performance. Moreover, while gaining top-line revenue is highly important in any profitability model, the potential negative relationship of the size of target firm with profitability gains provides additional evidence to suggest a lack of economies of scale in the A/E industry, as the data indicate that relative profitability decreases when acquiring larger firms (using revenue per employee as a proxy for profitability).

Study 2 – Questionnaire Survey Study: PMI Participants/Sample Overview

Surveys were distributed by a management consulting firm specializing in the A/E industry to employees at five different North American medium to large size organizations, both public and private, each of whom had recently progressed through an acquisition within the last few years. Each of the respondents was an employee of the target, or acquired, firm. The surveys

were distributed during the month of March 2020, and data collection was suspended due to the onset of the COVID-19 pandemic. By the end of March, 92 surveys had been received.

Participants ranged in age from 18-24 (1.2 percent), 25-34 (9.9 percent), 35-49 (34.6 percent), 50-64 (46.9 percent), and 65 and older (7.4 percent), corresponding to an average age of 49.2 years, indicating a sampling of primarily senior-level employees. Just over 59 percent of the participants declared themselves to be male (59.3 percent), 37.0 percent declared themselves female, and the remaining participants (3.7 percent) chose not to respond. Nearly 5 percent of participants (4.9 percent) indicated their highest level of education as high school, 61.7 percent indicated an undergraduate degree as their highest level of education, and 33.4 percent held a graduate degree. Of the survey participants, 18.5 percent of the participants identified as an owner or executive management, 49.4 percent held a middle manager or front-line leader position, and 32.1 percent identified themselves as holding non-managerial positions.

Relative to the tenure in the respective organizations, participants had a mean of 10.97 years ($SD = 8.95$). Participants also had a mean level of 26.04 years of experience in the industry ($SD = 11.72$). While predominantly a senior-level sample, experience ranged from 2.5 years to 58 years in the industry, and tenure with the firm ranged from 6 months to 39 years. 63 percent of the respondents reported to be a part of the mainstream operation working with external clients, and the remaining 37 percent classified their role as an internal one or working primarily with other employees inside the firm. The average size of the firms surveyed, relative to the acquiring firm's size, was approximately 18 percent.

The survey was administered via email, anonymously and online, to the employees of these companies, as previously described. Instructions were provided to the participants, who indicated their agreement to participate by completing the online survey. Participants were the

common source for both the predictor and criterion variables. Prior to completing the survey, participants were informed they were able to withdraw at any time without penalty. They were assured all data would be anonymous, and that the results would only be reported in aggregate form. Anonymity was critical in attempting to reduce evaluation apprehension, common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003), and self-reporting bias (Donaldson & Grant-Vallone, 2002). Alleviating a potential concern that managers might gain access to their responses, a cause of self-report bias, the data were collected and housed by the management consultant who did not have an association with the individuals from the participating companies.

Questionnaire Survey (PMI) Results

Individual responses were consolidated across the five confidential companies in order to conduct correlational and regression analyses for testing study hypotheses. Descriptive statistics, correlations, and alpha reliabilities among the variables of interest are provided in Table 4. Note that the significance level of the zero-order correlations in Table 4 are based on a more conservative two-tailed test even though the proposed hypotheses were unidirectional in nature. Hypothesis 7a proposed that individual autonomy is positively related to job satisfaction and organizational commitment, respectively. Corresponding results support these predictions ($r = .48, p < .01$, in both cases). Hypothesis 7a also proposed that individual autonomy is negatively related to turnover intentions. Results support this hypothesis ($r = -.37, p < .01$). Thus, these results fully support Hypothesis 7a, with autonomy having a medium-to-large effect size on job outcomes, job satisfaction, and organizational commitment, in particular.

Similarly, Hypothesis 7b posits that individual autonomy removal, measured by the level of justification needed for an employee's actions post-integration compared to pre-integration

levels, was negatively related to job satisfaction and organizational commitment. Results support these projections ($r = -.39, p < .01$ and $r = -.26, p < .01$, one-tailed, respectively). However, Hypothesis 7b also included a prediction that individual autonomy removal would be positively correlated to turnover intentions, and while the correlation was in the direction anticipated, the statistical results were not significant ($r = .15, ns$).

One of the more interesting results of the study pertained to *organizational autonomy removal* as perceived by individual employees. Here, it was predicted that organizational autonomy removal was negatively related to job satisfaction and organizational commitment and positively related to turnover intentions, in accordance with previous multi-industry research. Using a widely implemented one-item scale, often referred to as a measure of the operational or multicultural differences between the acquiring firm and target firm, there was no significant correlation with perceived *organizational autonomy removal* and any of the *individual* job outcomes. Therefore, there is only partial support for Hypothesis 7b.

Moreover, considering the results of the individual-level impacts of autonomy and autonomy removal as compared to organizational-level autonomy, this suggests that job outcomes are much more dependent on transactions at an individual level than what may be portrayed organizationally (i.e., the “what’s in it for me” adage). Alternatively, this could suggest that the organizational differences between acquirer and acquiree may not be as significant, or complete, when accounting for individual-level responses to PMI transitions. Or simply, the level of organizational autonomy removal is too vague to measure or define at an individual level. It was also interesting to note that the impact of organizational autonomy removal was only significantly related to one other item gathered from the survey – an important finding was

that as PSFs become *closer in size*, the greater the degree of integration with the acquired firm (and organizational autonomy removal) as perceived by employees ($r = .48, p < .01$).

To bolster understanding of the impact of the PMI process on individual employees, as well as augment the measurement of autonomy and autonomy removal, individual-level role ambiguity and role overload were also measured against individual job outcomes as part of the survey process. While role overload was positively related to turnover intentions ($r = .32, p < .01$), role ambiguity had a more robust relationship with all job outcomes. In fact, role ambiguity had medium-to-large effect sizes on job satisfaction ($r = -.44, p < .01$), organizational commitment, ($r = -.61, p < .01$) and turnover intentions ($r = .50, p < .01$), highlighting the critical importance of removing ambiguity throughout the PMI process. In fact, role ambiguity had a stronger impact than autonomy removal on organizational commitment ($Z\text{-score} = 2.64, p < .01$) as well as turnover intentions ($Z\text{-score} = 2.37, p < .05$).

Relative to PMI leadership tenets and its impacts to job outcomes for employees navigating through M&A transitions, Hypothesis 8 projected that authentic leadership would have a positive impact on job satisfaction and organizational commitment, and conversely, a negative correlation with turnover intentions. Results fully support this hypothesis as authentic leadership showed significant positive effects on job satisfaction ($r = .44, p < .01$) and organizational commitment ($r = .63, p < .01$), as well as a negative effect on turnover intentions ($r = -.40, p < .01$).

Similarly, organizational justice was projected to have congruent impacts with job outcomes as described by Hypothesis 9. Results also fully support this hypothesis with similar results to authentic leadership whereby job satisfaction was positively related ($r = .37, p < .01$) to

organizational justice, as was organizational commitment ($r = .60, p < .01$). Organizational justice was negatively related to turnover intentions ($r = -.38, p < .01$).

Finally, for the last of the main effect hypotheses, Hypothesis 10 proposed that the PMI leadership capacity and capability would be related to individual job outcomes in the same manner as the previous two leadership tenets. Hypothesis 10 was fully supported as leadership capacity was positively related to job satisfaction ($r = .41, p < .01$) and organizational commitment ($r = .55, p < .01$), and was inversely, or negatively, related to turnover intentions ($r = -.34, p < .01$).

In the vein that satisfied and committed employees and positive levels of PMI leadership traits (measured by capacity, authenticity, and organizational justice elements) should result in increased levels of perceived organizational performance, Hypothesis 11 was also fully supported. Autonomy ($r = .39, p < .01$), job satisfaction ($r = .47, p < .01$), organizational commitment ($r = .48, p < .01$), authentic leadership ($r = .58, p < .01$), organizational justice ($r = .47, p < .01$), and leadership capacity ($r = .52, p < .01$) all provided medium-to-large effect sizes with the perceived levels of organizational performance.

Across the main effect hypotheses, there is consistency with SDT in that autonomy and positive leadership forms led to medium-to-large effects on individual job outcomes, especially job satisfaction and organizational commitment, as well as perceived firm performance. In addition, as an antecedent to job autonomy, role ambiguity has even a larger impact than autonomy removal on organizational commitment and turnover intentions based on the study results. And, in fact, autonomy removal and role ambiguity appear much more relevant at the individual level than what may be perceived to take place at the organizational level. This could imply that perceived (or actual) organizational, operational, and even cultural differences

between the acquirer and acquiree are difficult to define and measure at an individual level, or that the level of perceived organizational autonomy removal does not influence individual behaviors and responses in the same way as it is portrayed organizationally.

With a few exceptions, the results provide strong support of the main effect Hypotheses 7 through 11. We now turn to the potential mediating or moderating impact of positive leadership forms on individual job outcomes. We start with the exploratory analysis of the impact of leadership capacity. As stated in the Hypothesis Development chapter, arguments could be made for leadership capacity serving as a potential mediator or moderator in the relationship between autonomy/autonomy removal and individual job outcomes after controlling for known findings (e.g., leader-member exchange) and other control variables (e.g., age/experience, tenure, and relative size difference between firms). Also, because the three different leadership forms are closely correlated ($r = +/- 0.8, p < .01$), detailed analysis of the potential impact of leadership capacity will likely shed light on the important variable relationships across all leadership forms for the proposed PMI model, as depicted in Figure 1.

Results indicate that there is evidence, although not strong, of a moderating impact from leadership capacity on the relationship between autonomy and job satisfaction ($\beta = .165, p < .10$) as shown in Table 5. While the moderation model accounted for 31 percent of the variance, the main effect accounted for 29 percent of the variance, leaving 2 percent of the variance associated with the interaction term ($F(7, 69) = 5.768, p < .01; \Delta F = 2.743, p < .10$). A second step of the moderated regression was conducted, testing for simple slopes. Results indicate that at a high level of leadership capacity (1 *SD* above the mean) the relationship between autonomy and job satisfaction was significant ($\beta = .35, p < .01$), providing evidence that higher levels of leadership capacity strengthen the impact between an individual's level of autonomy and job satisfaction.

However, at low levels of leadership capacity (1 *SD* below the mean) the relationship between autonomy and job satisfaction was not significant ($\beta = .13$, *ns*). Figure 5 illustrates the form of this moderation and shows that the relationship between autonomy and job satisfaction is strengthened for employees witnessing a high level of leadership capacity and insignificant for employees experiencing lower levels of leadership capacity. For the relationships between autonomy or autonomy removal (at an individual level), and even role ambiguity and the various job outcomes, no other significant moderating model results were found. For the most part, the moderator terms were in the direction anticipated for the interaction (positive or negative); however, the interaction term values were not significant. In fact, where the signs were opposite to those anticipated, they were isolated to the relationship between autonomy/autonomy removal/role ambiguity and organizational commitment, suggesting the relationship between these variables may in fact not be a moderating relationship at all.

To that end, exploratory mediation analyses were made for the relationship between autonomy/autonomy removal/role ambiguity and all of the individual job outcomes, using leadership capacity as the mediator. While mediation was not found for outcomes related to job satisfaction and turnover intentions, significant mediation models were found for the relationships between the various forms of job autonomy and organizational commitment (Table 6 contains the results). As shown in the three individual model mediation results for each autonomy-related independent variable evaluated against organizational commitment (Tables 7 through 9), significant partial or full mediation through leadership capacity was found, as explained further below. Based on the exploratory moderation and mediation results, it is likely that leadership capacity is more substantive as a moderating variable to job satisfaction, and at

the same time, has a stronger impact in a mediating role between autonomy and organizational commitment.

In testing whether the leadership capacity variable truly mediated the relationships between autonomy, autonomy removal and role ambiguity with organizational commitment, results suggested partial mediation for both autonomy and role ambiguity, and full mediation for autonomy removal. Further, the independent and mediating variables explain a significant variance in organizational commitment as explained by the model R^2 values and F -statistics contained in the mediation results summary tables. In each case, a Sobel test was conducted to confirm the indirect effect of the three autonomy-related variables on organizational commitment, and these results were also supportive of an indirect effect. Thus, it appears that there is strong evidence (medium-to-large effect sizes) to support leadership capacity, and likely other positive leadership forms, as a mediator between autonomy/autonomy removal/role ambiguity and organizational commitment. These relationships appear to be even stronger than the small effect size moderating relationship of leadership capacity on job satisfaction outcomes. It is also interesting to note that leadership capacity fully mediates the relationship between autonomy removal and organizational commitment, stressing the importance of how autonomy removal is managed by the ultimate PMI leadership team.

All of the hierarchical regression models considering the relationship between the various forms of autonomy and positive leadership forms with job satisfaction and organizational commitment provided medium-to-large effect sizes (with the Adj. R^2 ranging between .23 and .55, and all F -ratios $p < .05$). These impacts occur above and beyond other known effects associated with leader-member exchange and other control variables shown in Figure 1. However, relative to the predictions for the moderating impacts associated with authentic

leadership and organizational justice (Hypotheses 12 and 13, respectively), significant moderation effects were not found. Thus, Hypotheses 12 and 13 were not supported.

When reviewing the hierarchical regression summaries, and by identifying the significant variables ($p < .05$) provided in the final hierarchical regression models, some interesting patterns arise to explain these findings as shown in Table 10. First, when the relationship between autonomy/autonomy removal/role ambiguity and job satisfaction was significant, leader-member exchange was also significant in the final hierarchical regression, but the variables associated with the positive leadership forms were not. Similarly, for the models associated with organizational commitment and the various forms of autonomy, the variables associated with the positive leadership forms were significant, but the variables associated with leader-member exchange were not.

None of the hierarchical regression models provided evidence that both the PMI positive leadership forms and the known findings associated with leader-member exchange were concurrent against any of the job outcome variables when autonomy/autonomy removal/role ambiguity were significant in the final hierarchical regression model. This explains the lack of moderation as it relates to the autonomy-related independent variables; instead of a multiplicative effect, there appears to be a parallel (either/or) impact. Therefore, the influence of an individual's supervisor has a dominant impact to job satisfaction, whereas the influence of the PMI leadership team is more substantive for organizational commitment outcomes.

It should be noted that the small sample size and the seniority of the sample may have limited the variation in identifying moderating impacts. Also, when the sample was broken down further between operational and support staff, as the literature has suggested that the PMI process and associated transactions are moderated differently between operational-related and

administrative, or back office, support activities, the strength of the models improved but the moderation models were still not statistically significant.

It would be interesting to repeat the assessment with a larger, more diverse sample. Also, analogous to the exploratory findings for leadership capacity, it appears that the positive leadership forms of authentic leadership and organizational justice serve as a mediator to organizational commitment, as opposed to a moderator. It should be noted that the variables associated with age/experience and the relative size difference between firms did play a role in some of the final hierarchical regression models, especially those related to organizational justice (Table 10).

A complete tabular summary of the research results as compared to the tested hypotheses is provided in Table 11.

Chapter 7. Discussion and Conclusions

Overview

Both the scholarly and practitioner literatures on M&As have produced results that vary extensively depending on the domain of study. Moreover, the focus often centers on the perceived failure modes of these expensive company transactions. The current research sought to extend the lens of inquiry beyond simply summarizing M&A success or failure within a single stream of literature (e.g., strategy, management, finance, organizational behavior, etc.). Instead, I sought to invoke a more holistic, cross-disciplinary, and multi-industry approach. More importantly, this approach avoids the oversimplification of M&A outcomes whereby one constrains the focus to a binary (pass/fail) metric for examining a rather complex organizational change process. This methodology aligns itself with past scholars who have noted that large-scale organizational change outcomes can vary dramatically due to the specific parameters included and the lens from which the transaction is viewed (Hughes, 2011).

While there is a feeling that professional services may operate differently from their manufacturing and other industry counterparts, the present research suggests there are indeed many similarities. And, while few overarching theories can be universally applied to successful M&A, it does appear that selecting the right partner with the right deal structure through strategic fit, providing complementary benefits to the core business, and integrating cultural and administrative elements of the combining companies are vitally important (Jemison & Sitkin, 1986) when it comes to professional services as well.

The following discussion provides a general summary of the results and conclusions of this research, including those that can be drawn from the quantitative studies described in the previous chapters combined with the germane outcomes of the qualitative study provided in

Appendix B. In the sections that follow, I first review the general and broad conclusions drawn from the extant literature and their application to what was found relative to the A/E PSF industry-level outcomes. Next, I cover the primary theoretical and literary contributions to the extant, scholarly research. More specifically, this discussion centers on the holistic and integrated framework describing the primary drivers toward M&A as an alternative growth strategy, followed by the unique and significant results of the individual-level PMI analyses. Third, the firm-level practical implications of the model framework, including relevant aspects of a leadership-driven PMI strategy, are discussed in further detail. Finally, implications and recommendations for future research are provided, prior to providing the study's general summary and conclusions. Important in this assessment is the understanding that the present research was focused on the primary drivers, or antecedents, for M&A as a growth strategy; therefore, recommendations specific to partner selection and/or the associated cost and deal structure surrounding individual M&A transactions were not part of the research scope.

Growth Strategies through Mergers and Acquisitions

M&As have served as a long-standing organizational development intervention to effectively improve a business enterprise by aggressively obtaining the requisite resources for competitive advantage. As summarized from the extant literature, M&A interventions include: (1) a long-term firmwide strategy, accounting for the risks and opportunities associated with a changing market landscape and other external and internal factors, which establishes the objectives and requirements for potential M&A transactions; (2) a specific acquisition logic that identifies complementary needs, fit, and justification and considers both financial and non-financial factors; (3) target

assessment(s) that include formal due diligence and financial valuation(s) leading to an appropriate deal structure; and, (4) specific target integration planning and implementation consistent with strategic intent to accommodate identified synergies (Epstein, 2005).

Due to the complex nature of M&A activities, there are multiple approaches to value addition and the required focus areas for successful transactions. For example, the traditional financial or capital markets view has centered around the general conclusion that M&As do, in fact, create economic value. However, M&A traditionally benefits the acquired firm's shareholders more so than the acquiring firm, and some have argued that M&A strategy needs to move away from "financial engineering" to instead focus on the leadership and managerial-driven processes, including PMI, that lead to long-term value creation, not simply value capture through economies of scope and scale (e.g., Haspeslagh & Jemison, 1991).

A review of the cross-industry literature also highlights that strong and experienced PMI leadership can have a significant impact on the outcomes of successful M&A transactions. Results from the present research suggest that PMI leadership, examined as a leadership capacity construct, must successfully integrate the target acquisitions by: (1) clearly communicating the strategic rationale of the acquisition (who, what, where, *why*, and how); (2) balancing the needs of employees and customers (clients) alike; (3) using proven and codified processes in integrating the acquisition as opposed to using ad hoc or random procedures; and, (4) demonstrating previous M&A integration experience at an individual level, not necessarily firm-level, as well as experience in the A/E PSF industry being additionally beneficial. These findings are consistent with the extant literature that emphasizes PMI communication clarity, adequate and dedicated integration resources, clear accountability, and effective change management

systems and processes as vitally important requirements for any M&A transaction (Steigenberger, 2016).

Unfortunately, practitioner publications in the A/E industry argue that PMI leadership capacity is lacking and may be the key limiting feature to future M&A success (e.g., Parsons, 2019). Results of the present research are consistent with these practitioner views, as the data suggest that PMI success is shaped by the ultimate acquiring company's PMI leadership. However, an additional finding of this research is the importance of front-line leadership of the target, or acquired, firm and its relationship to eventual M&A outcome success. This finding is consistent with other recent research that finds both senior level and lower levels of leadership are essential to M&A success (Dunbar, 2014).

Taking a Long-term and Holistic View. While the longitudinal aspects of this study were limited, the extant literature points to post-mortem analyses summarizing lessons learned through individual M&A transactions serving as an effective tool for future strategy development and implementation. In fact, past research shows that it is not until a second stage of assessment and restructuring takes place that M&A transactions are often optimized, thus setting the platform for future growth and profitability. Moreover, those firms that are most successful treat M&A as a portfolio management exercise, or long-term program, rather than a “one-off” event, that includes the need to “prune” and even divest or restructure business activities for maintaining a competitive advantage (Barkema & Schivjen, 2008). This approach is consistent with current A/E PSF CEO and management consultant views (AEC, 2020). Redeploying capital to higher-margin, steady growth markets is a prudent competitive strategy for any company.

The extant literature also provides evidence that more often than not, M&A is initiated as a strategic intervention due to a company's need to sustain and enhance revenue growth and shareholder value creation by adding new products and services, expanding or deepening market share with selected customers/clients, geographic expansion, and establishing a hedge for talent as well as the acquisition of other industry assets. These functions also coincide with the desire to create enhanced economies of scope and scale. At the same time, M&A should accomplish "balanced scorecard" goals directed at managing enterprise risk as well as enhancing customer/client satisfaction and employee growth opportunities, beyond the financial metrics, which is often the focus.

Are A/E PSFs Really Different? Given the findings from existing scholarship, the current research sought to identify commonalities with previous cross-industry studies and identify other circumstances that might be exclusive to the A/E industry. As a unique, foundational element of the PSF purview, previous research indicates that highly autonomous professionals often serve in roles as the primary revenue producing asset for an organization, while also serving in managerial and leadership roles (Lorsch & Tierney, 2002; Suddaby, Wilderom, & Greenwood, 2008). Also, it is known that job satisfaction, organizational commitment, and retention of staff are of critical importance in PSFs, as the potential loss of key personnel through an M&A transaction must be minimized because of employee relationships with primary clientele (Morris & Empson, 1998). Moreover, professionals in highly complex jobs have a noticeably greater relationship between job satisfaction and subsequent performance as compared to most other job classifications (Judge, Thoresen, Bono, & Patton, 2001).

Thus, the focus of the present PSF research highlights the importance that leadership must place on the management of autonomy as a central issue throughout the M&A process.

And, where it is “culture” that is typically referenced in this regard, such common frameworks are often used in a broad-based, superficial manner without uncovering the relevant underlying issues or what variables are truly represented by “culture.” The present research suggests that organizational culture in PSFs is girded through the autonomy, competence, and relatedness attributes of SDT (Deci & Ryan, 2008), which then leads to an M&A strategy that is interwoven with eventual individual-level and firm-level outcomes.

Are A/E PSFs significantly different from their other industry counterparts from an M&A perspective? The answer is...*probably not*. Results herein illustrate there is more commonality with other industry approaches than not, although some unique elements of the A/E PSF industry were noted throughout the quantitative and qualitative assessments: (1) the pursuit of strategic growth objectives, especially publicly traded organizations within the industry, may not be met for certain firms by any organic means other than through the acquisition of employee-level talent given the market landscape and traditional industry employee turnover rates; (2) a lack of significant economies of scale in the A/E domain, largely because of the typical contractual terms employed (i.e., hourly billing rates of individual employees), places even more emphasis on the PMI process to maximize acquirer outcomes; (3) the level of autonomy in the PSF domain and its impact on job satisfaction and performance is relatively unique compared to other job categories and industries, and thus management of individual autonomy through the PMI process is critical; (4) the natural, yet substantive, generational leadership transition challenges taking place, especially during the past 2 decades, has led to target firms driving M&A activity and even strategy in many instances (after all, past research has

shown the benefits of M&A to the acquired firm's shareholders); (5) the clearly defined price-to-earnings multiples arbitrage between large and small firms, combined with the succession challenges of private firms, has led to significant private equity participation in the industry since the last major economic recession; and lastly, (6) risk management concerns associated with the inherent project-oriented legal, financial, and reputational risk in the industry, has led to a number of firm transitions to new ownership.

Primary Firm-level Strategy Considerations. Significant "waves" of M&A activity across all industries started as far back as the turn of the 20th century with one of the most significant periods of activity taking place during the 1980s, referred to as "the decade of greed" (Jovanovic & Rousseau, 2008). This elongated wave of activity led to much of the research that has been in place to address successful, and more often, unsuccessful, merger and acquisition behaviors (Friedman, Carmeli, Tishler, & Shimizu, 2015). In fact, a significant wave of M&A activity is happening within the A/E PSF domain since the last economic recession of 2008. While there are a host of antecedents promoting M&A, rationale surrounding talent acquisition and top-line revenue growth, and more important, earnings growth leading to enterprise value creation, tend to lead the list as the primary drivers behind A/E M&A PSF activity. That said, a host of other factors, such as the overall economic and industry growth trajectory, regulatory and technology changes, and even a company's internal cost accounting (e.g., cost of capital or tax consequences), can play a role in a given strategy toward cross-industry M&A. Additional factors, such as defensive posturing, risk management, shareholder/leadership pressures, managerial herding/envy, hubris, or sell-side drivers (e.g., firm-level succession planning, industry fragmentation, and consolidation pressures), as well as personal wealth decisions, are

also noted as contributing elements across industries as noted throughout the literature (Haleblian, Devers, McNamara, Carpenter, & Davison, 2009).

Within the A/E PSF domain, one could argue from the current study's results that M&A is little more than the quickest means to revenue growth through the accumulation of new client revenue and employee assets, especially during peak periods of industry growth where the need to obtain talent is magnified. Many of the other industry-related factors mentioned previously, outside of long-standing industry fragmentation, risk management, and leadership transition challenges, were not observed to play a significant role in the study of the A/E PSF domain. Some minimal evidence of managerial herding was found, as M&A transaction activity in successive years appears to be predictable from prior year activity, after controlling for economic (GDP) and A/E market volume growth. Also, issues surrounding the need for technology innovation are surfacing in a more substantive way (EFCG, 2020).

Diversification-based strategies must be operationalized with caution due to the lack of managerial capacity/capability to yield clear benefits from such approaches, which is consistent with years of multi-industry research. At the same time, where this study showed some evidence of beneficial return through M&A strategies building on core competencies, it did not provide any clear, significant benefits when compared to simply gaining client revenue and employee resources in the A/E PSF domain. Instead, as a dominant theme in the existing literature across industries, finding complementary opportunities and benefits are key, as opposed to creating completely new businesses or extending strategies with significant overlap between the acquirer and target firm.

In addition, new cross-industry evidence exists to suggest that M&A strategies have improved since the economic recession of 2008 through better corporate governance (Alexandridis, Antypas, & Travlos, 2017). This also appears to be prevalent in the A/E PSF domain, as greater attention to M&A strategy and governance were mentioned in the qualitative interviews during this research. As an example, a best practice from cross-industry research consists of developing an internal corporate development function that focuses on M&A and other significant investment decision-making (Marks & Mirvis, 2011), which is becoming more prominent in the A/E PSF industry.

Theoretical Contributions to the M&A Literature

As discussed previously, the analysis of M&A is broad and deep throughout the extant scholarly and practitioner literatures, with an array of theories and empirical studies that provide mixed results. This manuscript offers a holistic framework for describing alternative growth strategies with a focus on M&A in the North American-based A/E professional services industry, which to date represents a novel and unique contribution. This framework integrates relevant findings from the extant literature with a specific focus on the antecedents of *successful* M&A across industries as well as among PSFs in particular. A mixed methods approach that leveraged both quantitative and qualitative data collection allowed for triangulation of results and helped to establish a more complete framework (Figure 6).

The present research contributes to the literature by providing additional evidence that supports the Resource Based View of the Firm (Barney, 1991) and its predecessor theories related to management capacity (Penrose, 1955; 1959) as the foundation for M&A activity in PSFs. For A/E PSFs, like many other industries, the desire to gain leadership and supporting employee talent, as well as top-line revenue, are the primary drivers for M&A that lead to greater

enterprise value through enhanced scale and earnings capacity. Cash and capital flows are used for M&A to establish differentiation through enhanced reputation and resource capacity in an industry where human capital is the primary asset. In addition, the present research indicates that a “simpler is better” approach to building on core competencies vis-à-vis diversification strategies, similar to the long-standing evidence provided by Wernerfelt and Montgomery (1988) that suggests narrowly diversified firms are less imitable and perform better.

Besides fulfilling the assessment and establishment of a pragmatic framework for successful M&A by reviewing industry-level and firm-level transactions, another primary contribution of the present research is the provision of insight into the critical variables and processes within the PMI routines for PSFs. In particular, this research applied tenets from SDT (Deci & Ryan, 2008) to the importance of leadership in the PMI phase of M&A, especially within industry cultures that preserve a high level of autonomy for their members. Along these lines, this research provides new evidence that aligns with the core components of SDT (i.e., autonomy, competence, and relatedness).

Specifically, it was found that the portrayal of *firm-level operational differences* in terms of the perceived change in organizational autonomy resulting from a PMI process had little or nothing to do with an *individual* professional’s job satisfaction, organizational commitment, and turnover intentions. Instead, individual professionals with high levels of autonomy gauge their response to PMI operations with the often-used adage, “what’s in it for me?” Contrary to the limited individual impact of autonomy, or autonomy removal at an organizational level, employee-level reactions to *individual changes in autonomy or autonomy removal were significant*, resulting in medium-to-

large effect sizes across all job outcomes. While this could be due to the inability to sufficiently measure observed differences in operational routines, or even cultural differences, between firms at an organizational level, it could also suggest that the organizational differences between the acquirer and target firm may be limited (or at least less than sometimes portrayed), possibly due to industry (organizational) and even occupational (individual) relatedness.

The current research also highlights the significant impact of role ambiguity toward an individual's job satisfaction, organizational commitment, and turnover intentions. As a correlate of autonomy removal, role ambiguity can surface due to a lack of understanding of one's role in the combined organization because of vague, overlapping, and even conflicting individual-level responsibilities. Both autonomy removal and role ambiguity were positively correlated ($r = .31, p < .01$) and were significant contributors to the potential degradation of individual-level job outcomes, including perceived organizational performance, due to the PMI process. In fact, role ambiguity was found to have a significantly stronger impact on individual organizational commitment and turnover intentions than individual autonomy removal, pointing to enhanced concerns when M&A strategies incur significant overlap between the acquirer and target firm.

In addition, the current findings are consistent with Penrose Theory relative to management capacity, as well as with recent propositions for technically oriented companies (Lamont et al., 2019) where it is argued that leadership drives individual and eventual firm-level outcomes through successful PMI routines. More specifically, the present research shows that when acquirer PMI leadership considers authenticity and organizational justice, including the reverse integration of people, processes, and values, one can expect medium-to-large positive effects on individual job outcomes for target firm employees who are transitioning through the M&A/PMI process. More importantly, findings further indicate that PMI leadership actions

partially or fully mediated, and on occasion moderated, individual PMI outcomes such as job satisfaction and organizational commitment.

Study results indicate that PMI outcomes can be more successful when the appropriate levels of leadership capacity and requisite PMI resources are provided by the acquiring firm, with experienced professionals who understand the need for authenticity and organization fairness (organizational justice) throughout the process. Grand, transformational vision would be beneficial, but the results found herein suggest that simply being authentic with staff, minimizing the aggregate level of negative individual impacts, and serving forms of organizational justice can successfully convey the relationships between expected levels of individual autonomy and resulting commitment to the organization.

However, while ultimate PMI leadership significantly impacts positive individual outcomes, above and beyond other known factors and controls (Figure 1), moderating influences linked to PMI leadership actions were found to be limited in the present study. Specifically, the influence of an individual's supervisor was found to have a dominant impact to job satisfaction, whereas the influence of the PMI leadership team was more substantial when considering organizational commitment outcomes. Interestingly, the contribution to individual job outcomes from positive PMI leadership forms was not concurrent with the impact from an individual's ultimate supervisor when considering autonomy, autonomy removal, or role ambiguity as significant predictor variables. This explains the lack of positive PMI leadership moderation as it relates to the autonomy-related independent variables; instead of a multiplicative effect with an individual's supervisor, there simply appears to be an additive or even parallel (either/or) impact.

In general, there is substantial past research within M&A and other contexts that provides evidence that competent and fair managers who provide consultative, supportive, and participative leadership forms (both transformative and transactional) can reduce psychological uncertainty, increase organizational commitment and job satisfaction, as well as improve individual and group performance (Judge & Piccolo, 2004; Oreg et al., 2011; Yousef, 2000). The research herein provides additional evidence that effective, positive PMI leadership forms can significantly impact job outcomes above and beyond the control variables evaluated, including the relative size between acquirer and target, the age and tenure of the individual, and the quality of employee-supervisor relationships. This is also consistent with the preponderance of literature identified in the Literature Review and Hypotheses Development chapters surrounding the positive impact of organizational justice, authenticity, and positive leadership forms that drive positive M&A PMI outcomes.

The resulting moderation and mediation findings based on the evidence found herein are summarized in Figure 7. The sections that follow are organized around the practical implications surrounding the models portrayed in Figures 6 and 7. Following the practical implications, recommendations for future research, and a summary of conclusions are presented.

Practical Implications: PSF M&A Model Framework

Organic Versus Acquisitive Growth. Aggregate economic and follow-on A/E market growth creates the most significant M&A opportunities during peak economic periods.

Consistent with analyst views (Wittman & Haucke, 2017), consequential M&A in the A/E industry appears to begin with acquirers of approximately US\$100 million in size, but significant activity in terms of the volume of assets acquired (revenue and employees) is accounted for by larger, private – or more often – publicly oriented capital structures where firm revenues are

greater than US\$1.0 billion. This information is based on the relatively larger (typically public-company-led) transactions contained in the Reuters/Thomson ONE database.

This is not to say that active M&A strategies are unable to be implemented by firms smaller than these thresholds. In fact, as highlighted in the qualitative study and in information provided from management consultant records that include a significantly greater proportion of smaller, employee-owned, company-sponsored deals, which account for nearly 60 percent of all A/E M&A PSF transactions during the last 5 years (AEC, 2020), active M&A programs are resident with companies of approximately US\$50 million in size. The overriding point here is that at some level, even beyond the concept of a revenue-based threshold, successful M&A begins with having an affordable program. Common cross-industry failures in M&A resulted with individual transactions or broader programs that were not affordable as best highlighted by Hitt et al. (1998) in their seminal assessment of M&A success or failure – affordability is paramount.

Asset Accumulation (Top-line Drivers). In line with the need to drive value to the firm through top-line growth, including asset accumulation through revenue from client contracts and associated synergies as well as through talent acquisition, larger firms are naturally inclined to higher levels of M&A activity. This common rationale stems, at least, from the basic tactic of replacing the number of departures from the firm resident in any reasonable industry-wide and firm-specific attrition rates. More so, the archival data analysis points to the fact that higher levels of acquisition activity aligned with industry peaks, likely a result of the “war for talent” and to take advantage of industry opportunities by acquiring talent and associated client revenue.

In fact, employee and client revenue acquisition were the only significant M&A antecedents that produced statistically relevant results when viewing the panel dataset of industry transactions since the economic recession. Firm outcomes thus appear to be highly dependent on the employee-level talent and client revenue assets acquired, independent of the chosen core or diversification strategy. After all, the professional services business is about serving the needs of clients, in whatever form that takes – increasing a company’s position in the value chain with ultimate end-market clients often leads to improved financial returns.

Besides the importance of increasing top-line revenue and driving greater earnings through the control of overhead costs, a post hoc analysis of the publicly based acquirers further showed that shareholder equity provided larger correlations with top-line revenue gains (r values ranged from .21 to .52, $p < .05$). Surprisingly, there was not a significant correlation between bottom-line profitability (based on the revenue per employee metric) and shareholder equity for these publicly held firms. This serves as additional evidence that the drive for top-line revenue to generate potential earnings growth is likely a principal factor within the managerial mindset behind A/E PSF M&A strategy.

Differentiation (Bottom-line Drivers). In general, extant scholarship points to M&A in the A/E industry as more of an organizational change process built on geographic, market, and service area diversification for top-line growth through client synergies, focusing on the acquisition of key clients and staff (Jewell, Flanagan, & Lu, 2014; Kreitl & Oberndorfer, 2004). Findings from the qualitative study provide additional evidence that North American A/E PSFs attempt multiple core and diversification strategies, searching for innovative means to differentiate themselves to develop enhanced reputation and delivery capacity to provide “win-win” relationships with desired clientele and to attract the requisite talent to achieve desired

growth objectives. In fact, the general theme of *differentiation* through M&A activity was prevalent in the qualitative study, creating value through the reciprocal benefit with the client base they desire. Moreover, these firms sought to attract the most highly desired staff in the process. As one informant put it, “first, you diversify for the sake of growth into new areas, until you find what you are best at, then you focus on the core and build to protect what you have.”

Diversification balances the risk associated with being too concentrated in any one market, service, or geographic area. It also allows a firm to grow beyond its traditional boundaries. However, as stated throughout the scholarly literature, these approaches are not without risk, especially when firms diversify into areas outside of their core competencies. In addition, the archival analyses in this research did not indicate any significant top-line or bottom-line benefits through diversification strategies. This finding aligns with the abundance of previous literature that suggests building on core competencies and developing complementary benefits are the most successful means to generate positive M&A outcomes.

When looking at firm-level diversification, clear results were further obtained with regard to market diversification and bottom-line profitability. Here, a linear and negative association highlighted a “simpler is better approach” relative to eventual firm-level diversification. Single- and dual-market firms appear to have clear profitability advantages as measured by revenue per employee, whereas highly diversified firms appear to show greater degradation in profitability. Yet, highly diversified firms are often seen as more resilient to industry volatility. Although less diversified, niche firms have higher profitability levels, the fact that no clear optimum number of markets served was

observed likely means that diversification strategies to yield top-line benefits will continue.

Efficiency-based Antecedents: Economies of Scale and Scope. Perhaps an additional nuance in the A/E PSF industry is the lack of significant economies of size and scale. While many industries look to M&A to garner advantages regarding economies of scale (e.g., reducing overhead cost redundancies, specifically administrative support services), the A/E industry also looks to economies of scope benefits (e.g., enhanced technology or full-service advantages), although these scope-related factors are not as prominent in the domain and are still in experimental stages at some level (AEC, 2020; EFCG, 2020). Multiple informants in the qualitative study went as far as to suggest that the often-cited economies of scale rationale can be misleading in the A/E PSF industry. This is largely due to the fact that A/E industry contracts provide limited profit margin arbitrage when using cost plus fee structures (or fees primarily based on hourly rates), as further illustrated in Figure 8, highlighting the range in actual profitability and firm size (AEC, 2020). The industry also requires that when M&A is employed, additional marketing and sales costs can be incurred, offsetting some of the cost reductions achieved through M&A synergies. Still further, results from the firm-level data aggregated for the present research revealed that there were no significant economies of scale as they relate to firm-level profitability and the size of the firm, based on either revenue or employment levels.

The qualitative interviews also raised the question as to whether a firm can diversify too much and become too large to be efficient and responsive to both employee and client needs, or whether such firms will look to manage their portfolio and “exchange” lower margin revenue for higher-margin returns from services that are more complementary to their core business scope, over time, through a divestiture and acquisition process as witnessed by current industry trends (AEC, 2019). What may hold greater, future value is the innovation through technology and

other economies of scope, largely through managing client risk and return by developing new and alternative services that can provide greater profitability than current industry norms. A significant point made through the informant interviews was that while the last decade started with companies pushing for a full-service offering by combining consulting and construction firms (with limited success), some executives still believed that A/E PSFs will eventually need to get outside of the hourly-rate based consulting model to enhance revenue and margins – just because it has not been handled well in the industry in the past does not mean it cannot in the future. Future industry value creation is likely to exist in a combination of these technology-based and scope-related needs and associated alternative pricing forms so firms can appropriately scale revenue. Regardless, the continued drive for economies of scope and scale efficiencies (or revenue and cost synergies) will continue to be key elements of any M&A transaction.

Externalities: External Market Conditions and Sell-side Factors. The A/E PSF industry in North America has transformed since the 2008 economic recession, with the market recovering from stagnation to a period of robust growth. For instance, 2019 was likely the industry’s best year on record according to industry analysts (AEC, 2019; EFCG, 2020). Although the external environment has led to succession planning and margin-related pressures as well as fierce levels of competition, the industry remains collegial, perhaps stemming from the inherent occupational qualities of architects and engineers getting into the profession to “build a better world” and to satisfy clients. As demonstrated through the hierarchical regression analyses, overall market growth can have a substantive impact on the drivers for M&A and its associated outcomes in the industry with transactions coinciding with market peaks. The attraction of the industry as

“recession-proof” with consistent external growth rates makes it relatively unique, which leads to its overall investor interest level, even from outside the traditional industry acquirers. While the margins may not be leading across industries, the downsides are also minimized.

Industry fragmentation was highlighted by multiple qualitative study informants, suggesting it is a key external factor that fosters increased M&A activity. These sell-side drivers, including personal wealth (or financial concerns/threats) and other personal lifestyle choices, and even owner fatigue, were also cited as well-known factors leading to significant M&A activity. In fact, relative to firm transition, M&A may be the only way to get fair market value for the firm as opposed to other succession opportunities.

Since the 2008 recession, there is also evidence that financial acumen and leadership courage are taking higher priority in North America, according to many of the qualitative study informants. This is also consistent with the introduction of private equity to the industry, which after all, is designed to be a platform for shareholder value accretion. The second generation of smaller engineering firms are transitioning from engineers-as-managers to more financially oriented private and public firms, including private equity-backed companies.

Risk/Reward Profile: Value Creation through P/E Multiples Arbitrage and Risk Management. Beyond the higher level of attention to sell-side drivers, the qualitative study offered new information not reflected in extant scholarship. More specifically, the qualitative study pointed to the importance of risk/reward drivers that surround M&A strategy for A/E PSFs. While the extant literature tends to identify value creation as a significant outcome of the M&A process, in the case of the informant interviews, there is a unique strategy available to mid-size and larger A/E PSF firms in the industry due to the development and refinement over time of predictable P/E multiple ranges based on firm size (Figure 9). P/E multiples arbitrage

occurs when larger or stronger and more versatile organizations with higher P/E ratios acquire smaller, less robust organizations with smaller P/E multiples, thus providing immediate shareholder accretion as indicated in Figure 10. It is also the foundational aspect behind what has been defined as a “buy and build” strategy, which further explains the private equity entry to the A/E marketplace. This value creation theme was not only significant for mid-size to larger firms or due to the influence of private equity, but P/E arbitrage and shareholder value accretion can take place without requiring significant economies of scale. The understanding of P/E arbitrage on the sell-side of the equation is equally important as target firms look to increase in size and scope to generate greater earnings and corresponding enterprise value as well.

This approach of acquiring multiple, relatively smaller companies goes against a traditional perspective that posits firms should focus on limited M&A – ones that substantively “move the needle” – to ensure strategic and operational fit are appropriate and to avoid the distractions of multiple acquisitions (e.g., Kusewitt, 1985). Prevalent M&A theory also suggests that large, public firms should be cautious of buying smaller private firms because of organizational differences (e.g., theory of relative standing; Hambrick & Cannella, 1993) and the likelihood of subsequent cultural integration challenges. Perhaps what is taking place in the A/E industry provides another indicator that operational and cultural *differences* between these related-industry acquisitions may not be as extreme as witnessed within or across other industries. One reason could be the specific occupations that tend to dominate the industry, which are highly professionalized in nature and occupations are known to create rather potent subcultures that can exert more influence than organizational cultures (Dierdorff, 2019). Some management

consultants also indicate there are greater risks when merging two complementary firms of similar size due to the lack of arbitrage in earnings before interest, taxes, depreciation, and amortization (EBITDA) multiples, forcing a higher level of revenue and cost synergies (and reductions in staff) required to make the acquisition accretive. Interestingly, this phenomena of systematically acquiring small to mid-size firms has recently been reported in the M&A practitioner literature for other industries as well (Rudnicki, Siegel, & West, 2019) indicating this strategy may be producing greater shareholder returns as compared to alternate strategies; however, the report stops short on the specific data or rationale behind the value accretion.

Beyond the emphasis on value creation and the focus on cash and capital flows, the informants emphasized that risk management is also a primary driver for both small and large firms alike, which is likely different from other professional services industries (accounting, legal, management consulting, etc.). In part, this is highlighted by the relative adverse reaction to risk from the new, significant entrants to the industry, such as private equity. At the same time, A/E industry firms do indeed face significant reputational and financial (legal) risk because of their project-driven organizations. As pointed out in the qualitative study, one bad project or one bad acquisition can bring a company down or force it into succession through acquisition.

Practical Implications: Post-merger Integration (PMI) Process

The fact that the assessments of the PMI process can vary significantly based on individual perceptions is a significant outcome of the present research, especially given the higher levels of autonomy often provided to A/E industry professionals. It is the attention and care given on an “individual basis” pertaining to autonomy and autonomy removal that appear to outweigh perceived organizational level changes in autonomy. This finding further highlights that acquirer firm leadership has a greater probability for success when individual autonomy

remains unchanged to the greatest extent feasible for key employees in the combined organization.

Moreover, the present research shows that management and the ultimate leadership of the acquiring firm, as well as front-line leadership of the target firm, hold potent influences on job outcomes for those transitioning through the PMI process. In addition, PMI leadership tenets and positive leadership forms of authenticity and organizational justice appear to be important factors that convey these effects onto individual job outcomes through the PMI process. Not only do these leadership behaviors highly correlate with individual job outcomes, but these job outcomes are also associated with perceived organizational performance from the senior-level sample surveyed.

Results from the qualitative study supported these conclusions as well, finding that the key attributes of the PMI process placed a significant emphasis on the need to satisfy individual-level retention. Issues surrounding the management of autonomy/independence as well as individual, group-level, and legacy company identity, maintaining strong relationships with front-line supervisors, stellar communications, some level of reverse integration reflective of organizational fairness, integration leadership capacity, and appropriate change management processes, all surrounding strong and positive leadership (even references to “servant leadership”) were the general themes mentioned by the industry informants. Moreover, as noted in the qualitative study, because of the highly technical nature of the industry, occupation-related professionals must show, and must see in others, a level of competence to ensure trust building. This is also consistent with work showing the importance of competence in trust building (e.g., Mayer, Davis, & Schoorman, 1995). This was reiterated when discussing

how one retains a highly desired level of independence and autonomy in the workplace, stating that performance builds trust, which then allows for a higher degree of autonomy. All of the above provides additional substantiation to the tenets of SDT (autonomy, competency, and relatedness) as a key, foundational philosophy that may underly the understanding of organizational culture in PSFs.

Future Research Recommendations

Going Beyond “Culture” and Partner Selection. While the research herein identified SDT (Deci & Ryan, 2008) and Penrose’s Theory of management (Penrose, 1955; 1959) as two underlying foundations of A/E PSF culture, CEOs in the A/E industry continue to struggle with partner selection issues surrounding cultural compatibility and the resulting conflict that can occur during the integration process (Hembrough, 2019b). Marks and Mirvis (2011) developed a framework to manage culture through the PMI process where they suggest the appropriate management of cultural opposition does not necessarily reside with finding a company with a compatible or even similar culture, as it is managing and optimizing the traditional organizational change process. Perhaps the real question in identifying cultural compatibility between two merging firms lies with finding areas of *incompatibility* to protect from negative future outcomes. Relative to the management of culture at a firm level, scholars examining the impact of culture on organizational performance caution the dialogue surrounding organizational culture has become “faddish, and as such, it has been over-applied and under-specified” (Chatman & Cha, 2003; p. 20). Yet, authors such as these also highlight evidence that long-term organizational success can be obtained by effectively and actively managing culture, citing the need for culture to be strategically relevant and strong, with the embodied culture being one that

must *emphasize innovation and change* while providing individual members *psychological safety* (Chatman & Cha, 2003), which is consistent with the research herein.

Therefore, like the current approach to identify the foundational issues of autonomy, competency, and relatedness, as well as the elements surrounding leadership capacity and their relative importance to M&A PMI strategy, additional research surrounding the identification of cultural *incompatibility* between potential M&A partners specific to the PSF domain would benefit the A/E industry. In addition, pragmatic and definitive organizational change approaches, measures, and antecedents necessary to drive successful outcomes through adaptability to change and driving a culture of innovation and flexibility warrant additional consideration in light of the current research.

Occupational and Industry Relatedness. As a corollary to the future recommendations for additional study surrounding the cultural nuances of the PSF domain and the A/E industry in particular, themes surrounding the occupational and industry-level relatedness were reoccurring events throughout the strategy and PMI elements of this research. Yet, little is known regarding the relative importance or limitations of these concepts. For example, although it has been noted that past experience with combining engineering and construction resources into one entity has had mixed results, to what degree are these and other occupational and industry-related factors incompatible with longer-term, successful M&A outcomes in the A/E PSF domain? Also, current objectives to increase technology-based competencies have been anecdotally met with limited success due to the perceived differences in the approaches

and culture related to technological innovation and experimentation compared to more conventional A/E PSF approaches of “tried and true” business tactics and attitudes. Will these occupational and industry-related differences limit potential economies of scope gains? As indicated in the research, future M&A activity will consist of a variety of partial and full investment strategies, and perhaps areas surrounding differences in occupational or industry-level relatedness may drive the appropriate M&A strategy in these areas.

Objective Firm Performance. While the research provided significant results relating to the conclusions that could be drawn for individual-level outcomes during the PMI process, the resultant firm outcomes were left to limited longitudinal analyses using imbalanced panel data as well as individual perceptions of firm performance. Thus, what is needed are more detailed longitudinal assessments to further explore objective firm performance based on alternative PMI strategies within the A/E industry (e.g., preservation, symbiotic, absorption, reorientation, and intensive care approaches, as further explained by Angwin & Meadows, 2015). Limitations in acquiring private company financial and other human resource metrics suggest that some level of grounded theory and other embedded research approaches may be required.

In addition, the potential sampling bias in the current survey resulting from the COVID-19 pandemic and the fact that the PMI sample was proportionally driven by senior-level employees, suggest that future research that replicate the present findings is needed. While providing some level of comfort that the perceived relationships with organizational performance may be well-founded based on the senior-level sample, future research would be more robust with additional, objective data collection and increased sample sizes that include more variety in individual backgrounds and job responsibilities, such as those from both the target *and* the acquiring organization. This more in-depth view of the PMI process could also initiate a deeper

understanding of the opportunities and constraints surrounding the PMI approach of small to mid-size firms, as compared to the M&A process surrounding the acquisition of larger, more complex organizations.

Lastly, it would be interesting to analyze historic data to explore the outcomes of multiple transformational changes, including M&A, within a representative sample of companies to determine how these myriad changes could impact firm performance over time. For example, the literature is robust in terms of the importance of the PMI process impacts that lead to successful M&A. However, these post-merger analyses are often performed in isolation, and what is largely ignored in the literature is the compounding effects of multiple organizational transformations (e.g., M&A, restructuring or reorganization, etc.) that occur over time and how these concurrent changes could impact M&A and overall firm outcomes. Further studies could track the large-scale transformational changes against resultant (lagged) company financial and non-financial outcomes to investigate whether trends and predictive measures could be tied back to the frequency and magnitude of these alternative and additive transformational change processes, including M&A.

Summary and Conclusions

The present research provides a significant level of transparency and analysis regarding the antecedents to alternative organizational growth strategies, especially those related to M&A prevalent in the A/E professional service community in North America. Taken collectively, the results indicate that: (1) there appears to be a threshold of firm size that serves as a defining limitation for affordable growth through meaningful M&A; (2) there are ten antecedents, beyond price considerations, that seem to contribute most to

the strategy decisions surrounding M&A transactions in the A/E industry, with some being more or less important than others; (3) revenue gains from client contracts and associated employee acquisition, leading to greater increased earnings potential, appear to be the most prevalent and consistent strategies in A/E PSF M&A; (4) the qualitative study provided new evidence for themes surrounding P/E multiples arbitrage for a broad range of companies and capital structures, risk management, and sell-side factors that were more prevalent than what was contained in the existing, scholarly A/E PSF literature; and, (5) the M&A/PMI process within A/E PSFs tends to surface many of the same issues that are witnessed in the extant literature across various industries in terms of concerns regarding both operational synergies (revenue and cost) and cultural compatibility.

The present research also reinforces the stipulation that attributes linked to PMI leadership capacity, both in terms of the ultimate leadership of the acquiring firm and the front-line leadership of the target firm, are critically important in the management of autonomy and eventual job and firm outcomes. Such findings are aligned with the central supposition of SDT where autonomy, competence, and relatedness are primary drivers of individual motivation, as well as the Penrose theory of growth where firm growth is seen as dependent on management capacity. While the organizational context and even the industry within which A/E PSFs reside can differ significantly in their management behaviors, the resulting models contained in Figures 6 and 7 are not likely to be notably different across other industries, and may, in fact, serve as a basis for additional multi-industry research.

References

- AEC Advisors (2020). State of the AEC Industry Analysis & Insights: Full Report. Chief Executive Summit (Virtual Webinar). New York, New York; October 2020.
- AEC Advisors (2019). State of the AEC Industry Analysis & Insights: 2019 KPI Survey Results & AEC Advisors' Chief Executive Summit Conference Summary. Mandarin Oriental Hotel, New York City; September 2019.
- Agrawal, A., Jaffe, J., & Mandelker, G. (1992). The post-merger performance of acquiring firms: A re-examination of an anomaly. *Journal of Finance*, 47(4), 1605–1621.
- Alexandridis, G., Antypas, N., & Travlos, N. (2017). Value creation from M&As: New evidence. *Journal of Corporate Finance*, 45, 632-650. doi:10.1016/j.jcorpfin.2017.05.010.
- Allen, D. G., Bryant, P. C., & Vardaman, J. M. (2010). Retaining talent: Replacing misconceptions with evidence-based strategies. *Academy of Management Perspectives*, 24(2), 48-64.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organization. *Journal of Occupational Psychology*, 63(1), 1-18. doi:10.1111/j.2044-8325.1990.tb00506.x
- Alvesson, M. (1995). *Management of knowledge-intensive companies*. Berlin: Walter de Gruyter.
- Angwin, D. N., & Meadows, M. (2015). New Integration Strategies for Post-Acquisition Management. *Long Range Planning*, 48(4), 235-251. doi:10.1016/j.lrp.2014.04.001.
- Armenakis, A. A., & Bedeian, A. G. (1999). Organizational change: A review of theory and research in the 1990s. *Journal of Management*, 25(3), 293-315.
- Ashkanasy, N.M., & Holmes, S. (1995). Perceptions of organizational ideology following merger: A longitudinal study of merging accounting firms. *Accounting, Organizations and Society*, 20(1), 19-34. Doi 10.1016/0361-3682(94)00024-P.
- Avolio, B. J., & Gardner, W. L. (2005). Authentic leadership development: Getting to the root of positive forms of leadership. *The Leadership Quarterly*, 16(3), 315-338.
- Bachiochi, P. D., & Weiner, S. P. (2004). Qualitative data collection and analysis. *Handbook of research methods in industrial and organizational psychology*, 161-183.
- Banks, G. C., McCauley, K. D., Gardner, W. L., & Guler, C. E. (2016). A meta-analytic review of authentic and transformational leadership: A test for redundancy. *The Leadership Quarterly*, 27(4), 634-652.
- 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. doi:10.5465/amj.2008.33665204.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.

- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Psychology press.
- Bauer, F., & Matzler, K. (2013). 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. doi:10.1002/smj.2091.
- Bebenroth, R., & Thiele, K. O. (2017). When organizational justice matters for affective merger commitment. *Thunderbird International Business Review*, 59(2), 227-241.
- Begley, T. M., & Czajka, J. M. (1993). Panel analysis of the moderating effects of commitment on job satisfaction, intent to quit, and health following organizational change. *Journal of Applied Psychology*, 78(4), 552-556.
- Bies, R. J., & Moag, J. F. (1986). Interactional justice: Communication criteria of fairness. In R. J. Lewicki, B. H. Sheppard & M. H. Bazerman (Eds.), *Research on negotiation in organizations*, (Volume 1, pp. 43-55). Greenwich, CT: JAI Press.
- Bilgili, T. V., Calderon, C. J., Allen, D. G., & Kedia, B. L. (2017). Gone with the wind: a meta-analytic review of executive turnover, its antecedents, and postacquisition performance. *Journal of Management*, 43(6), 1966-1997.
- Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.
- Bouwman, C. H., Fuller, K., & Nain, A. S. (2009). Market valuation and acquisition quality: Empirical evidence. *The Review of Financial Studies*, 22(2), 633-679.
- Bruner, R. F., & Perella, J. R. (2004). *Applied mergers and acquisitions* (Vol. 173). John Wiley & Sons.
- Buono, A.F. & Bowditch, J.L. (1989). *The human side of mergers and acquisitions*. San Francisco: Jossey-Bass.
- Buono, A. F., & Bowditch, J. L. (2003). *The human side of mergers and acquisitions: Managing collisions between people, cultures, and organizations*. Washington, D.C.: Beard Books.
- Cammann, C., Fichman, M., Jenkins, D. & Klesh, J. (1979). The Michigan Organizational Assessment Questionnaire. Unpublished Manuscript, University of Michigan, Ann Arbor, Michigan.
- Capron, L., & Shen, J. C. (2007). Acquisitions of private vs. public firms: Private information, target selection, and acquirer returns. *Strategic Management Journal*, 28(9), 891-911.
- Cartwright, S., & Cooper, C. L. (1993). The role of culture compatibility in successful organizational marriage. *Academy of Management Perspectives*, 7(2), 57-70.
- Cartwright, S., & Schoenberg, R. (2006). Thirty Years of Mergers and Acquisitions Research: Recent Advances and Future Opportunities. *British Journal of Management*, 17(1), S1-S5. doi:10.1111/j.1467-8551.2006.00475.x.
- Chatman, J. A., & Cha, S. E. (2003). Leading by leveraging culture. *California Management Review*, 45(4), 20-34.

- Chatterjee, S. (2009). The keys to successful acquisition programmes. *Long Range Planning*, 42(2), 137-163.
- Chatterjee, S., Lubatkin, M. H., Schweiger, D. M., & Weber, Y. (1992). Cultural differences and shareholder value in related mergers: Linking equity and human capital. *Strategic Management Journal*, 13(5), 319-334. doi:10.1002/smj.4250130502.
- Choi, M. (2011). Employees' attitudes toward organizational change: A literature review. *Human Resource Management*, 50(4), 479-500.
- Colman, H. L., & Lunnan, R. (2011). Organizational identification and serendipitous value creation in post-acquisition integration. *Journal of Management*, 37(3), 839-860.
- Colquitt, J.A. (2001). On the dimensionality of organizational justice: A construct validation of a measure. *Journal of Applied Psychology*, 86(3), 386-400.
- Colquitt, J. A., Scott, B. A., Rodell, J. B., Long, D. M., Zapata, C. P., Conlon, D. E., & Wesson, M. J. (2013). Justice at the millennium, a decade later: A meta-analytic test of social exchange and affect-based perspectives. *Journal of Applied Psychology*, 98(2), 199-236.
- Conlin, B. (2018). Confront Leadership Paralysis. *Canadian Consulting Engineer*, January/February 2018, 32-33.
- Connaughton, J., & Meikle, J. (2013). The changing nature of UK construction professional service firms. *Building Research & Information*, 41(1), 95-109. doi:10.1080/09613218.2013.742366.
- Connaughton, J., Meikle, J., & Teerikangas, S. (2015). Mergers, acquisitions and the evolution of construction professional services firms. *Construction Management and Economics*, 33(2), 146-159. doi:10.1080/01446193.2015.1037325.
- Cording, M., Harrison, J. S., Hoskisson, R. E., & Jonsen, K. (2014). Walking the Talk: A Multistakeholder Exploration of Organizational Authenticity, Employee Productivity, and Post-Merger Performance. *Academy of Management Perspectives*, 28(1), 38-56. doi:10.5465/amp.2013.0002.
- Cunningham, C. E., Woodward, C. A., Shannon, H. S., MacIntosh, J., Lendrum, B., Rosenbloom, D., & Brown, J. (2002). Readiness for organizational change: A longitudinal study of workplace, psychological and behavioural correlates. *Journal of Occupational and Organizational psychology*, 75(4), 377-392.
- Datta, D.K. (1991). Organizational fit and acquisition performance: Effects of post-acquisition integration. *Strategic Management Journal*, 12(4), 281-297. Doi: 10.1002/smj.4250120404.
- 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.
- Datta, D. K., Pinches, G. E., & Narayanan, V. K. (1992). Factors influencing wealth creation from mergers and acquisitions: A meta-analysis. *Strategic Management Journal*, 13(1), 67-84. doi:10.1002/smj.4250130106.

- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie Canadienne*, 49(3), 182-185.
- Degbey, W. Y., Rodgers, P., Kromah, M. D., & Weber, Y. (2020). The impact of psychological ownership on employee retention in mergers and acquisitions. *Human Resource Management Review* (In Press). doi:10.1016/j.hrmr.2020.100745.
- Deltek, Inc. (2018). *Deltek Clarity | Architecture & Engineering Industry Study: 39th Annual Comprehensive Report*. Herndon.
- de Valence, Gerard (2017). Market Structure in Building and Construction. *Construction Industry Economics and Policy*. gerard-de-valence.blogspot.com/2017/08/market-structure-in-building-and.html.
- Dierdorff, E. C. (2019). Toward reviving an occupation with occupations. *Annual Review of Organizational Psychology and Organizational Behavior*, 6, 397-419.
- Digeorgio, R. (2002). Making mergers and acquisitions work: What we know and don't know – Part I. *Journal of Change Management*, 3(2), 134-148. doi:10.1080/714042529.
- Donaldson, S. I., & Grant-Vallone, E. J. (2002). Understanding self-report bias in organizational behavior research. *Journal of Business and Psychology*, 17(2), 245-260.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.
- Dunbar, J. K. (2014). The leaders who make M&A work. *Harvard Business Review*, 92(9), 28.
- Eatough, E. M., Chang, C. H., Miloslavic, S. A., & Johnson, R. E. (2011). Relationships of role stressors with organizational citizenship behavior: A meta-analysis. *Journal of Applied Psychology*, 96(3), 619-632. Doi 10.1037/a0021887.
- Eckardt, R., & Skaggs, B. C. (2018). Service diversification and growth of professional service firms. *Long Range Planning*, 51(1), 111-126.
- 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.
- Empson, L. (2000). Merging professional service firms. *Business Strategy Review*, 11(2), 39-46.
- Empson, L., & Chapman, C. (2006). Partnership versus corporation: implications of alternative governance for managerial authority and organizational priorities in professional service firms. *Research in the Sociology of Organizations*, 24, 139-170.
- Environmental and Financial Consulting Group (EFCG), Inc. (2020). Insight Report: Surviving the Make or Break Moments. *Environmental Analyst* (London). January 2020.
- Environmental and Financial Consulting Group (EFCG), Inc. (2016 and 2017). Annual CEO Reports. New York.

- Epstein, M. J. (2005). The determinants and evaluation of merger success. *Business Horizons*, 48(1), 37-46. doi:10.1016/j.bushor.2004.10.001.
- Eriksson, M., & Sundgren, M. (2005). Managing change: strategy or serendipity—reflections from the merger of Astra and Zeneca. *Journal of Change Management*, 5(1), 15-28.
- Fedor, D. B., Caldwell, S., & Herold, D. M. (2006). The effects of organizational changes on employee commitment: A multilevel investigation. *Personnel Psychology*, 59(1), 1-29.
- Frank, R. H. (1985). *Choosing the right pond: Human behavior and the quest for status*. Oxford University Press.
- Franks, J., Harris, R., & Titman, S. (1991). The postmerger share-price performance of acquiring firms. *Journal of Financial Economics*, 29(1), 81-96. doi:10.1016/0304-405x(91)90014-b.
- Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder theory*. Cambridge: Cambridge University Press.
- Fried, Y., Tieg, R. B., Naughton, T. J., & Ashforth, B. E. (1996). Managers' reactions to a corporate acquisition: A test of an integrative model. *Journal of Organizational Behavior*, 17(5), 401-427.
- Friedman, Y., Carmeli, A., Tishler, A., & Shimizu, K. (2015). Untangling micro-behavioral sources of failure in mergers and acquisitions: A theoretical integration and extension. *The International Journal of Human Resource Management*, 27(20), 2339-2369. doi:10.1080/09585192.2015.1042003.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26(4), 331-362.
- Goel, A. M., & Thakor, A. V. (2010). Do envious CEOs cause merger waves? *The Review of Financial Studies*, 23(2), 487-517.
- Gomes, E., Angwin, D. N., Weber, Y., & Tarba, S. (2013). Critical success factors through the mergers and acquisitions process: revealing pre-and post-M&A connections for improved performance. *Thunderbird International Business Review*, 55(1), 13-35.
- Gomes, E., Mellahi, K., Sahadev, S., & Harvey, A. (2017). Perceptions of justice and organisational commitment in international mergers and acquisitions. *International Marketing Review*, 34(5), 582-605.
- Gorton, G., Kahl, M., & Rosen, R. J. (2009). Eat or be eaten: A theory of mergers and firm size. *The Journal of Finance*, 64(3), 1291-1344.
- Graebner, M. E. (2009). Caveat venditor: Trust asymmetries in acquisitions of entrepreneurial firms. *Academy of Management Journal*, 52(3), 435-472.
- Graebner, M. E. (2004). Momentum and serendipity: How acquired leaders create value in the integration of technology firms. *Strategic Management Journal*, 25(8-9), 751-777.
- Graebner, M. E., & Eisenhardt, K. M. (2004). The seller's side of the story: Acquisition as courtship and governance as syndicate in entrepreneurial firms. *Administrative Science Quarterly*, 49(3), 366-403.

- Grant, R.M. (1991). The Resource-Based Theory of Competitive Advantage: Implications for Strategy Formulation. *California Management Review*, 33(3), 114-135.
- Greenwood, R., Deephouse, D. L., & Li, S. X. (2007). Ownership and performance of professional service firms. *Organization Studies*, 28(2), 219-238.
- Greenwood, R., Hinings, C.R., & Brown, J.L. (1994). Merging professional services firms. *Organizational Science*, 5(2), 239-257. doi:org/10.1287/orsc.5.2.239.
- Greenwood, R., Hinings, C. R., & Brown, J.L. (1990). P² Form Strategic Management: Corporate Practices in Professional Partnerships. *Academy of Management Journal*, 33(4), 725-755.
- Greenwood, R., Li, S. X., Prakash, R., & Deephouse, D. L. (2005). Reputation, Diversification, and Organizational Explanations of Performance in Professional Service Firms. *Organization Science*, 16(6), 661-673.
- Gregerson, J. (2018). Momentum for Industry Mergers and Acquisitions Continues to Grow. *Engineering News-Record*, www.enr.com/articles/44496-momentum-for-industry-mergers-and-acquisitions-continues-to-grow.
- Guest, D. E. (1987). Human resource management and industrial relations. *Journal of Management Studies*, 24(5), 503-521.
- Hair, J. F., Black, W. C., Babin, B. J. & Anderson, R. E. (2010). *Multivariate Data Analysis* (Vol. 5). Upper Saddle River, NJ: Prentice-Hall.
- Haleblian, J., Devers, C. E., McNamara, G., Carpenter, M. A., & Davison, R. B. (2009). Taking Stock of What We Know About Mergers and Acquisitions: A Review and Research Agenda. *Journal of Management*, 35(3), 469-502. doi:10.1177/0149206308330554.
- Hambrick, D., & Cannella, B. (1993). Relative standing: A framework for understanding departures of acquired executives. *Academy of Management Journal*, 36(4), 733-762.
- Hammoud, T. (2020). A new leadership agenda for private equity. *World Economic Forum*. January 31, 2020. Online Newsletter.
- Harding, D. & Schwedel, A. (2018). Why Traditional M&A is Becoming Less Important. May 25, 2018 post. *Harvard Business Review*.
- Haspeslagh, P. C. & Jemison, D. B. (1991). *Managing acquisitions: Creating value through corporate renewal*. New York: Free Press.
- Hembrough, Anya. (2019a). Insight Report: Strategic Imperatives from Diversity to Digitalisation Dominate AEC CEO Summit. *Environmental Analyst* (London). October 2019.
- Hembrough, Anya. (2019b). Global Megatrends in Environmental Consulting 2019. *Environmental Analyst* (London). May 2019.
- Herold, D. M., Fedor, D. B., & Caldwell, S. D. (2007). Beyond change management: A multilevel investigation of contextual and personal influences on employees' commitment to change. *Journal of Applied Psychology*, 92(4), 942.

- Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. (2001). Direct and moderating effects of human capital on strategy and performance in professional service firms: A resource-based perspective. *Academy of Management Journal*, 44(1), 13-28.
- Hitt, M., Harrison, J., Ireland, R. D., & Best, A. (1998). Attributes of Successful and Unsuccessful Acquisitions of US Firms. *British Journal of Management*, 9(2), 91-114. doi:10.1111/1467-8551.00077.
- Hom, P. W., Roberson, L., & Ellis, A. D. (2008). Challenging conventional wisdom about who quits: Revelations from corporate America. *Journal of Applied Psychology*, 93(1), 1-34.
- Hughes, M. (2011). Do 70 percent of all organizational change initiatives really fail? *Journal of Change Management*, 11(4), 451-464.
- International Trade Association (2019). Professional Services Spotlight Fact Sheet. www.selectusa.gov/professional-services-industry-united-states.
- Ireland, R. Duane, Hitt, Michael A., & Vaidyanath, Deepa (2002). Alliance Management as a Source of Competitive Advantage. *Journal of Management*, 28(3), 413-446. doi:10.1016/s0149-2063(02)00134-4.
- Iverson, R. D. (1996). Employee acceptance of organizational change: the role of organizational commitment. *International Journal of Human Resource Management*, 7(1), 122-149.
- Jemison, D. B., & Sitkin, S. B. (1986). Corporate Acquisitions: A Process Perspective. *The Academy of Management Review*, 11(1), 145-163. doi:10.2307/258337.
- Jewell, C., Flanagan, R., & Lu, W. (2014). The dilemma of scope and scale for construction professional service firms. *Construction Management and Economics*, 32(5), 473-486. doi:10.1080/01446193.2013.879194.
- Johnson, J. R., Bernhagen, M. J., Miller, V., & Allen, M. (1996). The role of communication in managing reductions in work force, *Journal of Applied Communications Research*, 24(3), 139-164.
- Jovanovic, B., & Rousseau, P. L. (2008). Mergers as Reallocation. *Review of Economics and Statistics*, 90(4), 765-776. doi:10.1162/rest.90.4.765.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: a meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89(5), 755-768.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction–job performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, 127(3), 376-407. doi:10.1037/0033-2909.127.3.376.
- Jurich, S. N., & Walker, M. M. (2019). What drives merger outcomes? *The North American Journal of Economics and Finance*, 48, 757-775.
- Kavanagh, M. H., & Ashkanasy, N. M. (2006). The Impact of Leadership and Change Management Strategy on Organizational Culture and Individual Acceptance of Change during a Merger. *British Journal of Management*, 17(S1), S81-S103. doi:10.1111/j.1467-8551.2006.00480.x.

- Kelly, J., Cook, C., & Spitzer, D. (1999). *Unlocking shareholder value: The keys to success, mergers and acquisitions*. KPMG Global Research Report.
- Kiersch, C. E., & Byrne, Z. S. (2015). Is being authentic being fair? Multilevel examination of authentic leadership, justice, and employee outcomes. *Journal of Leadership & Organizational Studies*, 22(3), 292-303.
- King, D. R., Dalton, D. R., Daily, C. M., & Covin, J. G. (2004). Meta-analyses of post-acquisition performance: Indications of unidentified moderators. *Strategic Management Journal*, 25(2), 187-200. doi:10.1002/smj.371.
- Klendauer, R., & Deller, J. (2009). Organizational justice and managerial commitment in corporate mergers. *Journal of Managerial Psychology*, 24(1), 29-45.
- Klimkeit, D. & Reihlen, M. (2016). Local responses to global integration in a transnational professional service firm. *Journal of Professions and Organization*, 3(1), 39-61. doi: 10.1093/jpo/jov008.
- Kor, Y. Y., & Leblebici, H. (2005). How do interdependencies among human-capital deployment, development, and diversification strategies affect firms' financial performance? *Strategic Management Journal*, 26(10), 967-985.
- Korman, R., & Rubin, D.K. (2015). Year in Review: Consolidation Reaches New Scale in a Changing Market Landscape. *Engineering News-Record*. www.enr.com/articles/1377-year-in-review-consolidation-reaches-new-scale-in-a-changing-market-landsc.
- Kreitl, G., & Oberndorfer, W. J. (2004). Motives for acquisitions among engineering consulting firms. *Construction Management and Economics*, 22(7), 691-700. doi:10.1080/0144619042000241408.
- Kreitl, G., Urschitz, G., & Oberndorfer, W. J. (2002). Corporate growth of engineering consulting firms: A European review. *Construction Management and Economics*, 20(5), 437-448. doi:10.1080/01446190210139487.
- Kusewitt, J. B. (1985). An exploratory study of strategic acquisition factors relating to performance. *Strategic Management Journal*, 6(2), 151-169. doi:10.1002/smj.4250060205.
- Laamanen, T., & Keil, T. (2008). Performance of serial acquirers: Toward an acquisition program perspective. *Strategic Management Journal*, 29(6), 663-672.
- 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.
- Landau, J., & Hammer, T. H. (1986). Clerical employees' perceptions of intraorganizational career opportunities. *Academy of Management Journal*, 29(2), 385-404.
- 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.
- Lau, C. M., & Woodman, R. W. (1995). Understanding organizational change: A schematic perspective. *Academy of Management Journal*, 38(2), 537-554.

- Laurie, D. L., Doz, Y. L., & Sheer, C. P. (2006). Creating New Growth Platforms. *Harvard Business Review*, May 2006, 80-90.
- Leary, K. (2018). Panasonic's Grand Plan for a Futuristic Smart City Is Taking Shape. *Futurism*. www.futurism.com/panasonics-futuristic-smart-city.
- Lee, C. L., & Yang, H. J. (2011). Organization structure, competition and performance measurement systems and their joint effects on performance. *Management accounting research*, 22(2), 84-104.
- Lee, T. W. (1999). *Using qualitative methods in organizational research*. Thousand Oaks, CA: Sage.
- Leroy, H., Anseel, F., Gardner, W. L., & Sels, L. (2015). Authentic leadership, authentic followership, basic need satisfaction, and work role performance: A cross-level study. *Journal of Management*, 41(6), 1677-1697.
- Liden, R. C., & Maslyn, J. M. (1998). Multidimensionality of leader-member exchange: An empirical assessment through scale development. *Journal of Management*, 24(1), 43-72.
- Locke, E. A. (1976). The nature and causes of job satisfaction. Handbook of industrial and organizational psychology. *Chicago: Rand McNally*.
- Lockett, A., Wiklund, J., & Davidsson, P. (2007). Re-examining and extending Penrose's growth theory: Updating Penrose for the 21st Century. *Frontiers of Entrepreneurship Research*, 27(13), Article 5, 1-14.
- Lockett, A., & Wild, A. (2013). A Penrosean theory of acquisitive growth. *Business History*, 55(5), 790-817. doi:10.1080/00076791.2013.790370.
- Loderer, C., & Martin, K. (1992). Postacquisition Performance of Acquiring Firms. *Financial Management*, 21(3), 69-79. doi:10.2307/3666020.
- Lorsch, J. W., & Tierney, T. J. (2002). *Aligning the stars: How to succeed when professionals drive results*. Harvard Business Press.
- Luthans, F., & Avolio, B. J. (2003). Authentic leadership development. In K.S. Cameron, J.E. Dutton and R. Quinn (Eds.), *Positive Organizational Scholarship: Foundations of a new discipline*, 241-261. San Francisco, CA: Barrett-Koehler.
- Malhotra, N., & Morris, T. (2009). Heterogeneity in professional service firms. *Journal of Management Studies*, 46(6), 895-922. doi: 10.1111/j.1467-6486.2009.00826.x.
- Marks, M. L., & Mirvis, P. H. (2011a). A framework for the human resources role in managing culture in mergers and acquisitions. *Human Resource Management*, 50(6), 859-877. doi:10.1002/hrm.20445.
- Marks, M. L., & Mirvis, P. H. (2011b). Merge Ahead: A Research Agenda to Increase Merger and Acquisition Success. *Journal of Business and Psychology*, 26(2), 161-168. doi:10.1007/s10869-011-9219-4.

- Marks, M. L., & Mirvis, P. H. (2001). Making mergers and acquisitions work: Strategic and psychological preparation. *Academy of Management Perspectives*, 15(2), 80-92. DOI: 10.5465/AME.2001.4614947.
- Marks, M. L., & Mirvis, P. H. (2000). Managing mergers, acquisitions, and alliances: Creating an effective transition structure. *Organizational Dynamics*, 28(3), 35-47.
- Martin, A. J., Jones, E. S., & Callan, V. J. (2005). The role of psychological climate in facilitating employee adjustment during organizational change. *European Journal of Work and Organizational Psychology*, 14(3), 263-289.
- Martin, J. A., Butler, F. C., & Bolton, J. F. (2017). Serendipitous value creation in mergers and acquisitions of entrepreneurially-oriented firms: The moderating role of political skill. *Journal of Managerial Issues*, 29(4), 380-394.
- Masulis, R. W., & Simsir, S. A. (2018). Deal initiation in mergers and acquisitions. *Journal of Financial and Quantitative Analysis*, 53(6), 2389-2430.
- Mayer R. C., Davis J. H., & Schoorman D. (1995) An integrative model of organizational trust. *Academy of Management Review* 20(3), 709–734.
- McCann, J.E. (1996). The growth of acquisitions in services. *Long Range Planning*, 29(6), 835-841. doi:10.1016/s0024-6301(97)82808-7.
- McGee, T. (2015). Why integration is key in Merger Mania. *Financial Executive*, 31(2), 52-54.
- Melkonian, T., Monin, P., & Noorderhaven, N. G. (2011). Distributive justice, procedural justice, exemplarity, and employees' willingness to cooperate in M&A integration processes: An analysis of the Air France-KLM merger. *Human Resource Management*, 50(6), 809-837.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior*, 61(1), 20-52.
- Mitchell, M. L., & Mulherin, J. H. (1996). The impact of industry shocks on takeover and restructuring activity. *Journal of Financial Economics*, 41(2), 193-229.
- Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): developing and validating a comprehensive measure for assessing job design and the nature of work. *Journal of Applied Psychology*, 91(6), 1321-1339.
- Morris, T., & Empson, L. (1998). Organisation and expertise: An exploration of knowledge bases and the management of accounting and consulting firms. *Accounting, Organizations and Society*, 23(5-6), 609-624.
- Mowday, R. T., Steers, R. M., & Porter, L. W. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior*, 14(2), 224-247.
- Nahavandi, A., & Malekzadeh, A.R. (1988). Acculturation in mergers and acquisitions. *Academy of Management Review*, 13(1), 79-90. doi: 10.5465/AMR.1988.4306790.
- Neider, L. L., & Schriesheim, C. A. (2011). The authentic leadership inventory (ALI): Development and empirical tests. *The Leadership Quarterly*, 22(6), 1146-1164.

- Nemanich, L. A., & Keller, R. T. (2007). Transformational leadership in an acquisition: A field study of employees. *The Leadership Quarterly*, *18*(1), 49-68. doi:10.1016/j.leaqua.2006.11.003.
- Nemanich, L. A., & Vera, D. (2009). Transformational leadership and ambidexterity in the context of an acquisition. *The Leadership Quarterly*, *20*(1), 19-33.
- Nippa, M., Pidun, U., & Rubner, H. (2011). Corporate portfolio management: Appraising four decades of academic research. *Academy of Management Perspectives*, *25*(4), 50-66.
- Nyberg, A. J., Fulmer, I. S., Gerhart, B., & Carpenter, M. A. (2010). Agency theory revisited: CEO return and shareholder interest alignment. *Academy of Management Journal*, *53*(5), 1029-1049.
- O'Reilly, K., Paper, D., & Marx, S. (2012). Demystifying grounded theory for business research. *Organizational Research Methods*, *15*(2), 247-262.
- Oreg, S., Vakola, M., & Armenakis, A. (2011). Change recipients' reactions to organizational change: A 60-year review of quantitative studies. *The Journal of Applied Behavioral Science*, *47*(4), 461-524.
- Pablo, A. L. (1994). Determinants of Acquisition Integration Level: A Decision-Making Perspective. *Academy of Management Journal*, *37*(4), 803-836. doi:10.5465/256601.
- Parsons, J. (2019). Recent Mergers Driven by Technology Needs. *Engineering News Record*. May 27/June 3, 2019 (enr.com), 60-63.
- Patel, R. (2012). Applying project management approaches to achieve value creation in post-acquisition integration. *The ISM Journal of International Business*, *1*(4), 1-30.
- Penrose, E. (1959). *The theory of the growth of the firm*. Oxford: Blackwell.
- Penrose, E. (1955). Limits to the Growth and Size of Firms. *American Economic Review*, *45*(2), 531-543.
- Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic Management Journal*, *14*(3), 179-191. doi:10.1002/smj.4250140303.
- Pfeffer, J. (1998). Seven practices of successful organizations. *California Management Review*, *40*, 96-124.
- Pickering, M. E. (2017). Post-acquisition integration processes in publicly owned professional service companies: Senior professional behaviour and company performance. *Journal of Organizational Behavior*, *38*(7), 950-976.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879-903.
- Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management*, *12*(4), 531-544.

- Porter, L. W., & Smith, F. J. (1970). The etiology of organizational commitment. *Unpublished paper, University of California, Irvine.*
- Pratt, J. & Beaulieu, P. (1992). Organizational culture in public accounting: Size, technology, rank and functional area. *Accounting, Organizations and Society, 17*(7), 667-684.
- Preimesberger, C. J. (2017). Cisco Reveals \$1 Billion Program for Smart Cities Infrastructure. eWeek. www.eweek.com/innovation/cisco-reveals-1-billion-program-for-smart-cities-infrastructure.
- Rafferty, A. E., & Griffin, M. A. (2006). Perceptions of organizational change: A stress and coping perspective. *Journal of Applied Psychology, 91*(5), 1154-1162.
- Rahman, M., & Lambkin, M. (2015). Creating or destroying value through mergers and acquisitions: A marketing perspective. *Industrial Marketing Management, 46*, 24-35.
- Reed, M. I. (1996). Expert power and control in late modernity: an empirical review and theoretical synthesis. *Organization studies, 17*(4), 573-597.
doi:10.1177/017084069601700402.
- Reich, R. W. (2013). The Impact of Post-Acquisition Autonomy upon Small to Medium Enterprise Integration Success. Ph. D. Dissertation, Kennesaw State University.
- Renneboog, L., & Vansteenkiste, C. (2019). Failure and success in mergers and acquisitions. *Journal of Corporate Finance, 58*, 650-699.
- Rubin, D. K. (2019). Industry CEOs Note Looming Downturn, Lagging Diversity. *Engineering News-Record*, September 29, 2019. <https://www.enr.com/articles/47634-looming-downturn-lagging-diversity-challenge-industry-ceos>.
- Rudnicki, J., Siegel, K., & West, A. (2019). How lots of small M&A deals add up to big value. *The McKinsey Quarterly (July)*.
- Ruess, M., & Voelpel, S. C. (2012). The PMI scorecard: A tool for successfully balancing the post-merger integration process. *Organizational Dynamics, 41*(1), 78-84.
doi:10.1016/j.orgdyn.2011.12.010.
- Santilli, C. (2000). When to sell. *Civil Engineering, 70*(3), 60-61.
- Sarala, R. M., Vaara, E., & Junni, P. (2019). Beyond merger syndrome and cultural differences: New avenues for research on the “human side” of global mergers and acquisitions (M&As). *Journal of World Business, 54*(4), 307-321.
- Schoenberg, R. (2006). Measuring the performance of corporate acquisitions: An empirical comparison of alternative metrics. *British Journal of Management, 17*(4), 361-370.
- Schweizer, L., & Patzelt, H. (2012). Employee commitment in the post-acquisition integration process: The effect of integration speed and leadership. *Scandinavian Journal of Management, 28*(4), 298-310. doi:10.1016/j.scaman.2012.02.003.
- Scott, W. R. (1987). The Adolescence of Institutional Theory. *Administrative Science Quarterly, 32*(4), 493-511. doi:10.2307/2392880.

- Seo, M. G., & Hill, N. S. (2005). Understanding the human side of merger and acquisition: An integrative framework. *The Journal of Applied Behavioral Science*, 41(4), 422-443.
- Shuster, L. A. (2011). Rise of the Superfirm. *Civil Engineering Magazine*, ascelibrary.org/doi/10.1061/ciegag.0000363.
- Stahl, G. K., Larsson, R., Kremershof, I., & Sitkin, S. B. (2011). Trust dynamics in acquisitions: A case survey. *Human Resource Management*, 50(5), 575-603.
- Stahl, G. K., & Voigt, A. (2008). Do Cultural Differences Matter in Mergers and Acquisitions? A Tentative Model and Examination. *Organization Science*, 19(1), 160-176. doi:10.1287/orsc.1070.0270.
- Steigenberger, N. (2016). The Challenge of Integration: A Review of the M&A Integration Literature. *International Journal of Management Reviews*, 19(4), 408-431. doi:10.1111/ijmr.12099.
- Suddaby, R., Greenwood, R., & Wilderom, C. (2008). Introduction to the Journal of Organizational Behaviors special issue on professional service firms: Where organization theory and organizational behavior might meet. *Journal of Organizational Behavior*, 29(8), 989-994. doi:10.1002/job.552.
- Tajfel, H. (1981). *Human groups and social categories*. Cambridge, England: Cambridge University Press.
- Teerikangas, S., & Thanos, I. C. (2018). Looking into the 'black box' – unlocking the effect of integration on acquisition performance. *European Management Journal*, 36(3), 366-380. doi:10.1016/j.emj.2017.06.002.
- Tett, R. P., & Meyer, J. P. (1993). Job satisfaction, organizational commitment, turnover intention, and turnover: path analyses based on meta-analytic findings. *Personnel Psychology*, 46(2), 259-293.
- Tulacz, G. J. (2018). Worry Despite Strong Markets. ENR The Top 500. *Engineering News-Record*.
- Turner, J. C. (1982). Toward a cognitive redefinition of the social group. In H. Tajfel (Ed.), *Social identity and intergroup relations*, 241-274. Cambridge, England: Cambridge University Press.
- Ullrich, J., & Van Dick, R. (2007). The group psychology of mergers & acquisitions: Lessons from the social identity approach. *Advances in Mergers and Acquisitions*, 6, 1-15.
- Vakola, M., & Nikolaou, I. (2005). Attitudes towards organizational change: What is the role of employees' stress and commitment? *Employee Relations*, 27(2), 160-174.
- Vasilaki, A. (2011). The Relationship Between Transformational Leadership and Postacquisition Performance. *International Studies of Management & Organization*, 41(3), 42-58. doi:10.2753/imo0020-8825410303.

- Vasilaki, A., Tarba, S., Ahammad, M. F., & Glaister, A. J. (2016). The moderating role of transformational leadership on HR practices in M&A integration. *The International Journal of Human Resource Management*, 27(20), 2488-2504.
- Very, P., Lubatkin, M., Calori, R., & Veiga, J. (1997). Relative standing and the performance of recently acquired European firms. *Strategic Management Journal*, 18(8), 593-614.
- Vestring, T., Rouse, T. & Rovit, S. (2004). Integrate Where It Matters, *MIT Sloan Management Review*, 46(1), 15-18.
- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2007). Authentic Leadership: Development and Validation of a Theory-Based Measure. *Journal of Management*, 34(1), 89-126.
- Wanberg, C. R., & Banas, J. T. (2000). Predictors and outcomes of openness to changes in a reorganizing workplace. *Journal of Applied Psychology*, 85(1), 132-142.
- Weber, Y. (1996). Corporate Cultural Fit and Performance in Mergers and Acquisitions. *Human Relations*, 49(9), 1181-1202. doi:10.1177/001872679604900903.
- Wernerfelt, B., & Montgomery, C. A. (1988). Tobin's q and the importance of focus in firm performance. *The American Economic Review*, (78)1, 246-250.
- Wittmann, A. J., & Hauke, J. P. (2017). The Equity Analyst's View, E&C Industry Overview. Baird.
- Yaghoubi, R., Yaghoubi, M., Locke, S., & Gibb, J. (2016a). Mergers and acquisitions: A review. Part 1. *Studies in Economics and Finance*, 33(1), 147-188. doi:10.1108/sef-03-2015-0078.
- Yaghoubi, R., Yaghoubi, M., Locke, S., & Gibb, J. (2016b). Mergers and acquisitions: A review. Part 2. *Studies in Economics and Finance*, 33(3), 437-464. doi:10.1108/sef-07-2015-0165.
- Yousef, D. A. (2000). Organizational commitment: a mediator of the relationships of leadership behavior with job satisfaction and performance in a non-western country. *Journal of Managerial Psychology*, 15(1), 6-28.
- Zhang, J., Ahammad, M. F., Tarba, S., Cooper, C. L., Glaister, K. W., & Wang, J. (2015). The effect of leadership style on talent retention during merger and acquisition integration: Evidence from China. *The International Journal of Human Resource Management*, 26(7), 1021-1050.

Table 1. Critical Success Factors for Firm-level M&A Strategy in the A/E PSF Industry

Category	Antecedent/Outcome	Primary Source
<i>Antecedents</i>		
Asset Accumulation	Talent Acquisition	European A/E PSF Literature
	Client/Contract (Revenue) Acquisition	European A/E PSF Literature
Differentiation/ Reputation	Leverage Core Competencies in New Geographies or in New Client Locations	European A/E PSF Literature (1)
	Market and Service Area Diversification	European A/E PSF Literature (2)
Economies of Scope/Scale	Economies of Scope	European A/E PSF Literature (1)
	Economies of Scale	European A/E PSF Literature (2)
Risk/Reward Profile	Risk Management	European A/E PSF Literature
	Value Creation (Financial Arbitrage)	Cross-industry Literature
Externalities and Other Management Factors	Sell-side Factors	Cross-industry Literature
	Economic/External Market Conditions (pace of growth)	Cross-industry Literature
	Overconfidence or Self-interest Managerial Herding or Envy	Cross-industry Literature Cross-industry Literature
<i>Outcomes</i>		
Enterprise Value Creation	Market Capitalization/Share Price	Cross-industry Literature
Market Share	Assets Acquired/Revenue or Revenue Growth	European A/E PSF Literature
Profitability	Revenue per Employee (Proxy) or Net Income to Total Revenue	Cross-PSF Literature Sources
Reputation/Brand (Proxy for Client Satisfaction)	Industry Ranking (e.g., ENR)	Cross-PSF Literature Sources
Employee Morale	Employee Retention/Turnover	Cross-PSF Literature Sources

Note: (1) The cross-industry literature highlights that M&A economic benefit is based on leveraging core competencies in order to gain synergies and economies of scope/scale; (2) The scholarly PSF literature highlights that diversification strategies could limit economic benefit; however, based on the A/E PSF practitioner literature, this may be based on the fact that economies of scale are difficult to obtain in the industry. Also, diversification will be measured in line with previous PSF research using the Herfindahl index (Eckardt & Skaggs, 2018; Hitt et al., 2001; Kor & Leblebici, 2005).

Table 2. Firm-level Transactions Means, Standard Deviations, and Correlations

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Target Revenue (ln)	3.39	1.697	-											
2. Target Employees (ln)	5.18	1.602	.969**	-										
3. Core Strategy (1)	.82	.383	.176	.191*	-									
4. Diversification (1)	.44	.498	.113	.113	-.525**	-								
5. Economies of Scope/Scale (1)	.13	.333	.585**	.573**	.109	.176	-							
6. Market Growth + 1Yr. (2)	.008	.043	-.095	-.085	.173	-.071	-.066	-						
7. Market Growth + 2Yrs. (2)	.04	.062	-.053	-.052	.101	-.041	-.121	.870**	-					
8. Top Line Growth + 1Yr. (2)	.27	.663	.331**	.270**	.109	-.003	.295**	.001	-.057	-				
9. Top Line Growth + 2Yrs. (2)	.40	.873	.276**	.220*	.116	-.019	.261**	-.027	-.079	.977**	-			
10. Adjusted Growth + 2 Yrs. (3)	1.16	.813	.226**	.203*	.227**	-.111	.269**	.241**	.248**	.201*	.222*	-		
11. Profit Growth + 1Yr. (2)	.002	.091	-.255**	-.269**	.054	-.054	-.070	.187*	.168	-.144	-.119	.300**	-	
12. Profit Growth + 2Yrs. (2)	.03	.111	-.083	-.100	.241**	-.042	.065	.217*	.201*	.132	.199*	.464**	.695**	-
13. Adjusted Profit Growth + 2Yrs. (3)	.31	.909	-.025	-.051	.232**	-.097	.065	.120	.176	.096	.097	.380**	.659**	.736**

Note: $N = 119$; (1) Binary Variable (0 or 1); (2) Growth compared to year $t=0$ (year prior to target integrated into firm results), in decimal form; (3) Categorical Variable: -1 = Decline; 0 = Inconsequential Change; 1 = Accretive Growth (less than double digit per year); 2 = Transformational Growth (greater than double digit per year).

Table 3. Regression Predicting Top-line Revenue

Predictor	$\beta (t+1)$	$\beta (t+1)$	$\beta (t+2)$	$\beta (t+2)$	$\beta (Adj. t+2)$	$\beta (Adj. t+2)$
2010	.25	.26	.17	.17	-.13	-.13
2011	.28	.30	.16	.16	-.18	-.17
2012	.18	.18	.08	.07	-.07	-.08
2013	.18	.17	.04	.02	-.21+	-.23+
2014	.35+	.39+	.23	.25	-.01	.04
2015	.08	.09	.06	.06	.02	.03
2016	.14	.17	.03	.05	.04	.07
2017	.08	.10	.01	.02	-.33+	-.31+
Company ID_2	-.05	-.04	-.02	-.02	.02	.00
Company ID_3	-.04	-.05	-.04	-.04	-.04	-.05
Company ID_4	-.11	-.11	-.11	-.11	-.39**	-.39**
Company ID_5	.00	-.02	.02	.00	.19**	.17**
Company ID_6	.02	.02	.03	.02	.11	.10
Company ID_7	.06	.06	.06	.06	.05	.03
Company ID_8	-.03	-.03	-.02	-.02	.04	.04
Company ID_9	.04	.02	.04	.02	-.08	-.11
Company ID_10	.01	-.03	.09	.06	.21+	.16
Company ID_11	.13	.06	.16	.10	.31**	.24*
Company ID_12	-.08	-.10	-.05	-.07	-.29**	-.31**
Company ID_13	.00	-.03	.05	.03	.20*	.17+
Company ID_14	-.01	-.02	-.01	-.02	-.03	-.03
Company ID_15	-.03	-.04	-.02	-.04	-.01	-.03
Company ID_16	.08	.07	.11	.11	.12	.11
Company ID_17	.11	.10	.08	.07	-.10	-.11
Company ID_18	.57**	.57**	.62**	.62**	.02	.01
Market Growth	-.13	-.14	-.08	-.08	.49**	.49**
Core Strategy	.04	.06	.06	.08	-.01	-.01
Diversification	-.01	.00	-.02	-.01	-.07	-.06
Target Employees (ln)	N/A	.24*	N/A	.22*	N/A	.50**
Target Revenue (ln)	.31**	N/A	.28**	N/A	.54**	N/A
<i>F</i> (29, 89)	3.61**	3.38**	3.71**	3.53**	6.36**	5.97**
<i>Adj. R</i> ²	.39**	.37*	.40*	.38*	.57**	.55**

Note: *N* = 119

+*p* < .10

**p* < .05

***p* < .01

Table 4. Post-merger Integration (PMI) Employee-level Survey Means, Standard Deviations, Correlations, and Reliabilities

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Job Satisfaction	5.64	1.030	.864															
2. Org. Commitment	4.88	1.193	.692**	.912														
3. Turnover Intentions	2.24	1.352	-.671**	-.646**	.880													
4. Perceived Org. Performance	5.03	.988	.471**	.483**	-.380**	.872												
5. Autonomy	4.05	1.489	.478**	.484**	-.367**	.390**	.932											
6. Individual Autonomy Removal	.689	1.805	-.389**	-.262*	.147	-.328**	-.568**											
7. Organizational Integration	4.38	1.644	.134	.054	.022	.110	.206	-.089										
8. Role Ambiguity	3.44	1.529	-.437**	-.609**	.503**	-.374**	-.542**	.307**	-.191	.923								
9. Role Overload	4.05	1.625	-.210	-.194	.321**	.023	-.167	-.039	.038	.290*	.927							
10. Authentic Leadership	4.50	.989	.442**	.629**	-.398**	.576**	.561**	-.430**	.073	-.499**	-.164	.932						
11. Organizational Justice	5.26	1.114	.367**	.597**	-.381**	.474**	.534**	-.326**	.095	-.394**	-.065	.808**	.912					
12. Leadership Capacity	5.07	1.051	.409**	.552**	-.335**	.521**	.417**	-.399**	.185	-.351**	-.137	.790**	.786**	.857				
13. LMX	5.80	.972	.301**	.309**	-.165	.297*	.249*	-.179	.157	-.264*	-.138	.287*	.278*	.332**	.934			
14. Age	3.46	.831	.108	.197	-.251*	.202	-.009	-.114	.122	-.252*	.052	.147	.083	.079	.038			
15. Experience	25.57	11.97	.164	.242*	-.214	.182	-.008	-.139	.176	-.312**	-.058	.155	.028	.073	.046	.892**		
16. Tenure with Org.	10.83	8.838	.119	.219	-.067	.085	.212	-.148	.217	-.205	-.042	.056	.089	.109	.201	.315**	.346**	
17. Relative Size Between Firms	1.88	1.059	-.108	-.137	.113	-.098	.033	-.020	.483**	-.172	-.145	-.091	-.177	-.097	.304**	.204	.230*	.321**

Note: $N = 74$ (listwise); Org. = organizational; LMX = leader-member exchange; two-tailed test significance is provided for convenience even though the hypotheses are unidirectional (greater than or less than zero); Average age of complete sample = 49.2 years; Average relative size between firms: Target = approximately 18% of acquiring firm size; Individual Autonomy Removal = Post Acquisition Action Justification - Pre Acquisition Action Justification; Age and relative size between firms based on ordinal variables - relative size ordinal variable increases as firms are closer in size; Experience and tenure with current firm (pre or post acquisition) are provided in years; All other variables based on 7-point Likert scale; Alpha reliabilities provided on diagonal when applicable.

Table 5. PMI Leadership Capacity as a Moderator between Individual-level Autonomy and Job Satisfaction

Model	B	SE	β	t	p	F
<u>Model 1</u>						
Constant	5.628	.108		52.020	.000	
Experience	.016	.010	.187	1.615	.111	
Tenure	.003	.013	.025	.208	.836	
Relative Size	-.258	.114	-.267	-2.263	.027	
LMX	.403	.119	.384	3.379	.001	
<i>F</i>						3.802**
<i>Adjusted R²</i>						.129
<u>Model 2</u>						
Constant	5.627	.098		57.524	.000	
Experience	.017	.009	.198	1.876	.065	
Tenure	-.008	.012	-.068	-.615	.541	
Relative Size	-.193	.106	-.199	-1.820	.073	
LMX	.256	.116	.244	2.202	.031	
Autonomy	.241	.075	.353	3.206	.002	
Leadership Capacity	.157	.111	.161	1.417	.161	
<i>F</i>						6.120**
<i>Adjusted R²</i>						.288
<i>Change in Adjusted R²</i>						.159
<u>Model 3</u>						
Constant	5.562	.104		53.318	.000	
Experience	.016	.009	.182	1.736	.087	
Tenure	-.011	.012	-.099	-.901	.371	
Relative Size	-.178	.105	-.184	-1.696	.094	
LMX	.253	.115	.241	2.200	.031	
Autonomy	.238	.074	.347	3.196	.002	
Leadership Capacity	.187	.111	.192	1.688	.096	
Autonomy x Leadership Capacity	.104	.063	.165	1.656	.102	
<i>F</i>						5.768**
<i>Adjusted R²</i>						.305
<i>Change in Adjusted R²</i>						.017

Note: $N = 77$; LMX = leader-member exchange.

+ $p < .10$; * $p < .05$; ** $p < .01$

Table 6. Exploratory Analysis of PMI Leadership Capacity as a Mediating Variable

Independent Variable	Mediating Variable	Dependent Variable	Mediation Results
		Job Satisfaction	<i>Ns</i>
Autonomy	Leadership Capacity	Org. Commitment	Partial Mediation/Significant Indirect Effect; $F(6,69)=10.668, p <.01; \text{Adj. } R^2 = .44$
		Turnover Intentions	<i>Ns</i>
		Job Satisfaction	<i>Ns</i>
Autonomy Removal (Post Minus Pre- Acquisition Autonomy)	Leadership Capacity	Org. Commitment	Full Mediation/Significant Indirect Effect; $F(6,69)=8.088, p <.01; \text{Adj. } R^2 = .36$
		Turnover Intentions	<i>Ns</i>
		Job Satisfaction	<i>Ns</i>
Role Ambiguity	Leadership Capacity	Org. Commitment	Partial Mediation/Significant Indirect Effect; $F(6,69)=15.011, p <.01; \text{Adj. } R^2 = .53$
		Turnover Intentions	<i>Ns</i>

Table 7. PMI Leadership Capacity as a Mediator between Individual Autonomy and Organizational Commitment

<u>DV: Leadership Capacity</u>					
<i>IV → Mediator</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
Constant	3.892	.307		12.676	.000
Autonomy	.286	.071	.413	4.011	.000
<i>F</i>			16.087**		
<i>R</i> ²			.170		
<u>DV: Organizational Commitment</u>					
<i>Mediator → DV</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
Constant	1.538	.540		2.849	.006
Leadership Capacity	.654	.104	.576	6.262	.000
<i>F</i>			39.208**		
<i>R</i> ²			.330		
<i>IV → Mediator → DV</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
<u>Model 1</u>					
Constant	4.498	.359		12.537	.000
Experience	.022	.012	.218	1.820	.073
Tenure	.023	.016	.176	1.441	.154
Relative Size	-.245	.131	-.219	-1.867	.066
<i>F</i>			2.991*		
<i>Adjusted R</i> ²			.074		
<u>Model 2</u>					
Constant	1.984	.786		2.523	.014
Experience	.024	.011	.243	2.179	.033
Tenure	.018	.015	.136	1.191	.238
Relative Size	-.373	.127	-.332	-2.928	.005
LMX	.474	.134	.385	3.529	.001
<i>F</i>			5.713**		
<i>Adjusted R</i> ²			.201		
<i>Change in adjusted R</i> ²			.127		
<u>Model 3</u>					
Constant	.474	.723		.655	.514
Experience	.024	.009	.239	2.522	.014
Tenure	.006	.013	.047	.477	.635
Relative Size	-.258	.110	-.230	-2.349	.022
LMX	.224	.122	.182	1.830	.072
Autonomy	.236	.078	.298	3.022	.004
Leadership Capacity	.382	.115	.338	3.317	.001
<i>F</i>			10.668**		
<i>Adjusted R</i> ²			.436		
<i>Change in Adjusted R</i> ²			.235		

Note: *N* = 76; LMX = leader-member exchange; Sobel test *t* = 3.39**; **p* < .05; ***p* < .01.

Table 8. PMI Leadership Capacity as a Mediator between Individual Autonomy Removal and Organizational Commitment

<u>DV: Leadership Capacity</u>					
<i>IV</i> → <i>Mediator</i>	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Constant	5.232	.116		45.199	.000
Autonomy Removal	-.223	.059	-.392	-3.767	.000
<i>F</i>			14.187**		
<i>R</i> ²			.154		
<u>DV: Organizational Commitment</u>					
<i>Mediator</i> → <i>DV</i>	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Constant	1.538	.540		2.849	.006
Leadership Capacity	.654	.104	.576	6.262	.000
<i>F</i>			39.208**		
<i>R</i> ²			.330		
<i>IV</i> → <i>Mediator</i> → <i>DV</i>	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
<u>Model 1</u>					
Constant	4.522	.360		12.568	.000
Experience	.022	.012	.222	1.855	.068
Tenure	.022	.016	.169	1.386	.170
Relative Size	-.252	.130	-.224	-1.928	.058
<i>F</i>			3.066*		
<i>Adjusted R</i> ²			.076		
<u>Model 2</u>					
Constant	1.995	.783		2.548	.013
Experience	.025	.011	.247	2.222	.030
Tenure	.017	.015	.127	1.121	.266
Relative Size	-.380	.126	-.339	-3.010	.004
LMX	.477	.134	.389	3.567	.001
<i>F</i>			5.855**		
<i>Adjusted R</i> ²			.206		
<i>Change in Adjusted R</i> ²			.130		
<u>Model 3</u>					
Constant	.653	.827		.789	.433
Experience	.021	.010	.207	2.060	.043
Tenure	.014	.013	.108	1.058	.294
Relative Size	-.258	.117	-.230	-2.210	.030
LMX	.256	.130	.208	1.968	.053
Autonomy Removal	-.006	.066	-.009	-.086	.932
Leadership Capacity	.500	.121	.442	4.122	.000
<i>F</i>			8.088**		
<i>Adjusted R</i> ²			.362		
<i>Change in Adjusted R</i> ²			.156		

Note: *N* = 76; LMX = leader-member exchange; Sobel test *t* = -3.24**, **p* < .05; ***p* < .01.

Table 9. PMI Leadership Capacity as a Mediator between Individual Role Ambiguity and Organizational Commitment

<u>DV: Leadership Capacity</u>					
<i>IV → Mediator</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
Constant	5.885	.265		22.210	.000
Role Ambiguity	-.242	.071	-.364	-3.427	.001
<i>F</i>			11.746**		
<i>R</i> ²			.132		
<u>DV: Organizational Commitment</u>					
<i>Mediator → DV</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
Constant	1.538	.540		2.849	.006
Leadership Capacity	.654	.104	.576	6.262	.000
<i>F</i>			39.208**		
<i>R</i> ²			.330		
<i>IV → Mediator → DV</i>	<i>B</i>	<i>SE</i>	<i>β</i>	<i>t</i>	<i>p</i>
<u>Model 1</u>					
Constant	4.498	.359		12.537	.000
Experience	.022	.012	.218	1.820	.073
Tenure	.023	.016	.176	1.441	.154
Relative Size	-.245	.131	-.219	-1.867	.066
<i>F</i>			2.991*		
<i>Adjusted R</i> ²			.074		
<u>Model 2</u>					
Constant	1.984	.786		2.523	.014
Experience	.024	.011	.243	2.179	.033
Tenure	.018	.015	.136	1.191	.238
Relative Size	-.373	.127	-.332	-2.928	.005
LMX	.474	.134	.385	3.529	.001
<i>F</i>			5.713**		
<i>Adjusted R</i> ²			.201		
<i>Change in adjusted R</i> ²			.127		
<u>Model 3</u>					
Constant	3.327	.860		3.869	.000
Experience	.009	.009	.094	1.050	.297
Tenure	.016	.011	.122	1.390	.169
Relative Size	-.304	.101	-.270	-3.010	.004
LMX	.180	.113	.147	1.601	.114
Role Ambiguity	-.344	.070	-.446	-4.944	.000
Leadership Capacity	.360	.103	.317	3.500	.001
<i>F</i>			15.011**		
<i>Adjusted R</i> ²			.528		
<i>Change in Adjusted R</i> ²			.327		

Note: *N* = 76; LMX = leader-member exchange; Sobel test *t* = -3.00**, **p* < .05; ***p* < .01.

Table 10. Summary of Hierarchical Regression Results of Authentic Leadership and Organizational Justice between Autonomy, Autonomy Removal, Role Ambiguity, and Individual-level Job Outcomes

Med/Mod Variable	Predictor	Criterion	A/AR/RA	PMI Leadership	LMX	Experience (Age)	Relative Size
Authentic Leadership	Autonomy (A)	Job Satisfaction	X	0	X	0	0
		Org. Commitment	0	X	X	0	X
		Turnover Intentions	0	0	0	0	0
	Autonomy Removal (AR)	Job Satisfaction	0	X	X	0	0
		Org. Commitment	0	X	X	0	X
		Turnover Intentions	0	X	0	0	0
	Role Ambiguity (RA)	Job Satisfaction	X	0	X	0	X
		Org. Commitment	X	X	0	0	X
		Turnover Intentions	X	0	0	0	0
	Organizational Justice	Autonomy (A)	Job Satisfaction	X	0	X	0
Org. Commitment			X	X	0	X	X
Turnover Intentions			X	0	0	X	0
Autonomy Removal (AR)		Job Satisfaction	X	0	X	0	0
		Org. Commitment	0	X	X	X	0
		Turnover Intentions	0	X	0	X	0
Role Ambiguity (RA)		Job Satisfaction	X	0	X	0	X
		Org. Commitment	X	X	0	0	X
		Turnover Intentions	X	0	0	0	0

Note: “X” indicates a significant effect from the final hierarchical regression model ($p < .05$).

Table 11. Summary of Support for Hypotheses

Hypothesis	Results
H1: There is a positive, and potentially nonlinear, relationship between the acquiring firm size and acquisition activity, with the critical threshold for nonlinear growth beginning at a point past US\$100 million in annual revenue for the acquiring firm size.	Supported
H2a: U.S. GDP growth within a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.	Supported
H2b: The overall growth of the A/E market in a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.	Supported
H2c: The overall volume of A/E M&A activity in a given year is positively associated with the number of acquisitions during the following 1 to 2 years in the A/E PSF industry.	Supported
H3: Talent acquisition is positively associated with top-line revenue growth, 1 to 2 years post-acquisition.	Supported
H4: When all six primary antecedents are considered simultaneously, employee acquisition, top-line revenue acquisition, geographic expansion, and diversification strategies will be significantly associated with top-line revenue growth of the acquiring firm over a 1- to 2- year period, post-acquisition.	Partially Supported
H5a: There will be an inverted U-shaped relationship between the number of primary markets engaged by a company and its profitability..	Not Supported
H5b: There will be a negative relationship between diversification, or dispersion, and profitability.	Supported
H6: When all six primary antecedents are considered simultaneously, only employee acquisition, top-line revenue acquisition, and geographic expansion of core services will be significantly associated with the profitability change of the acquiring firm over a 1- to 2-year post-acquisition period.	Not Supported
H7a: Higher levels of autonomy in the work environment are positively related to employee outcomes during PMI.	Supported
H7b: Autonomy removal at the employee-level is negatively related to employee outcomes during PMI.	Partially Supported
H8: Authentic leadership is positively related to employee outcomes during PMI.	Supported
H9: Organizational justice is positively related to employee outcomes during PMI.	Supported
H10: A higher degree of perceived capability and capacity amongst the PMI leadership team are positively related to employee outcomes during PMI.	Supported
H11: Individual-level autonomy, job satisfaction, organizational commitment as well as authentic leadership, organizational justice, and leadership capacity, will be positively related to the perceived level of organizational performance for employees who have transitioned through PMI for A/E PSFs.	Supported
H12a: Authentic leadership amplifies, or strengthens, the positive relationship between autonomy and employee outcomes.	Not Supported
H12b: Authentic leadership attenuates, or lessens, the negative relationship between autonomy removal and employee outcomes.	Not Supported
H13a: Organizational justice amplifies, or strengthens, the positive relationship between autonomy and employee outcomes.	Not Supported
H13b: Organizational justice attenuates, or lessens, the negative relationship between autonomy removal and employee outcomes.	Not Supported

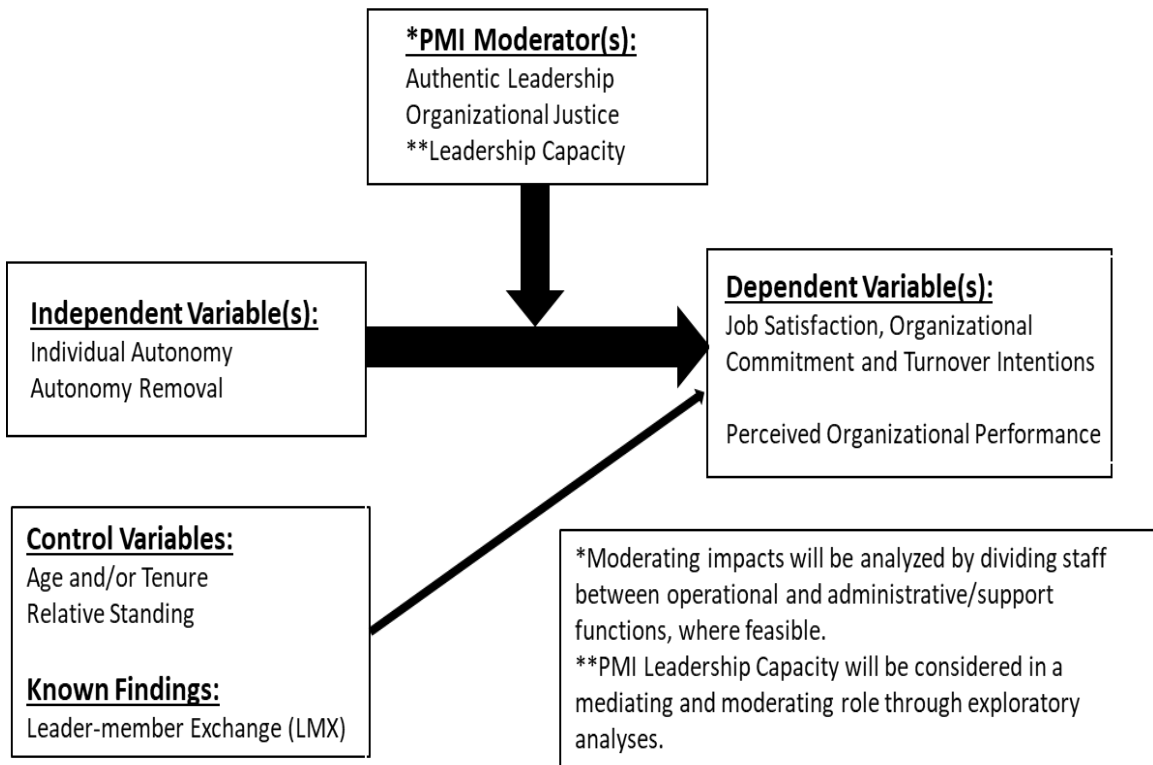


Figure 1. Proposed Moderation Model for A/E-related PSFs Transitioning through the M&A PMI Process

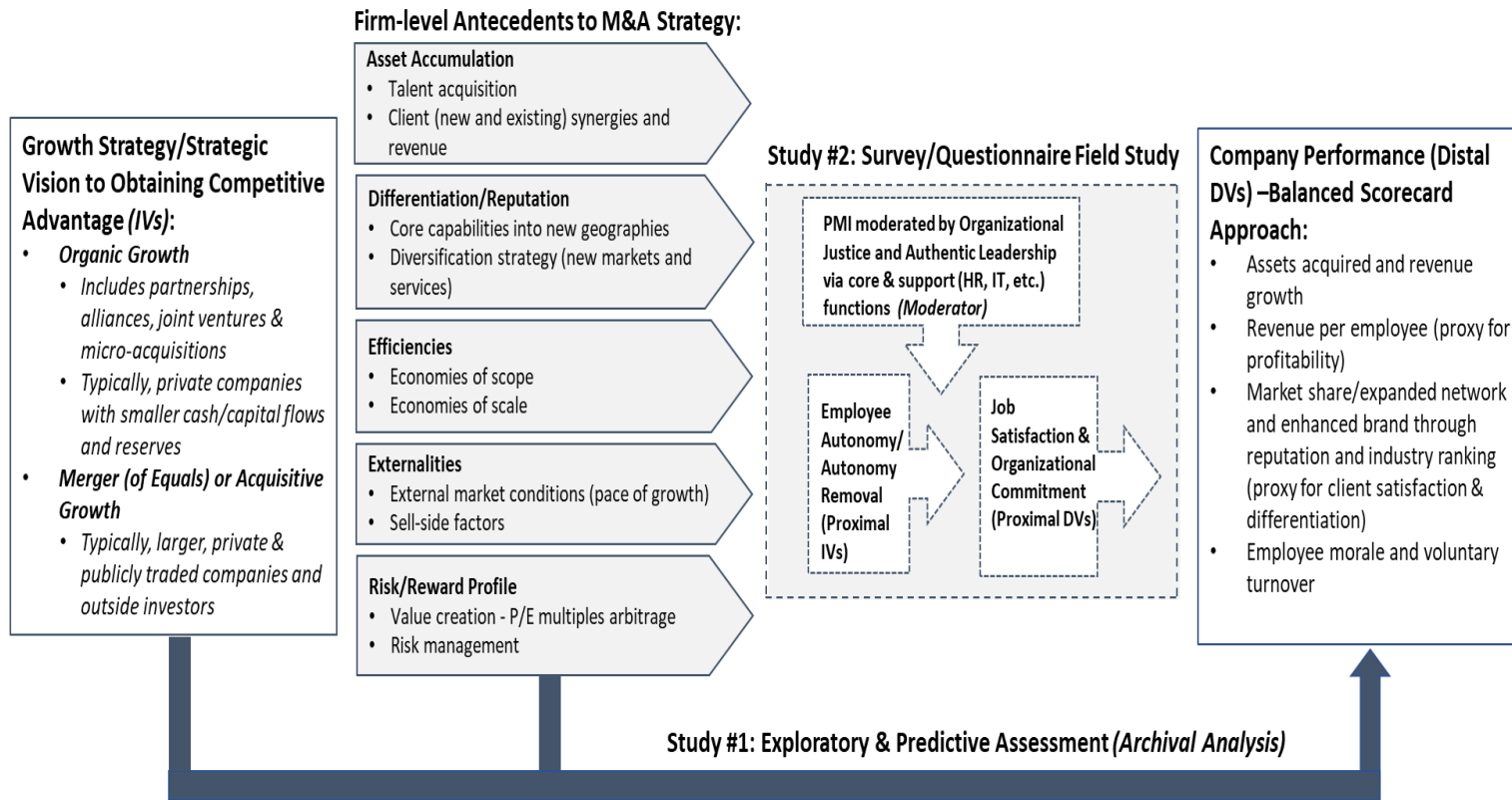
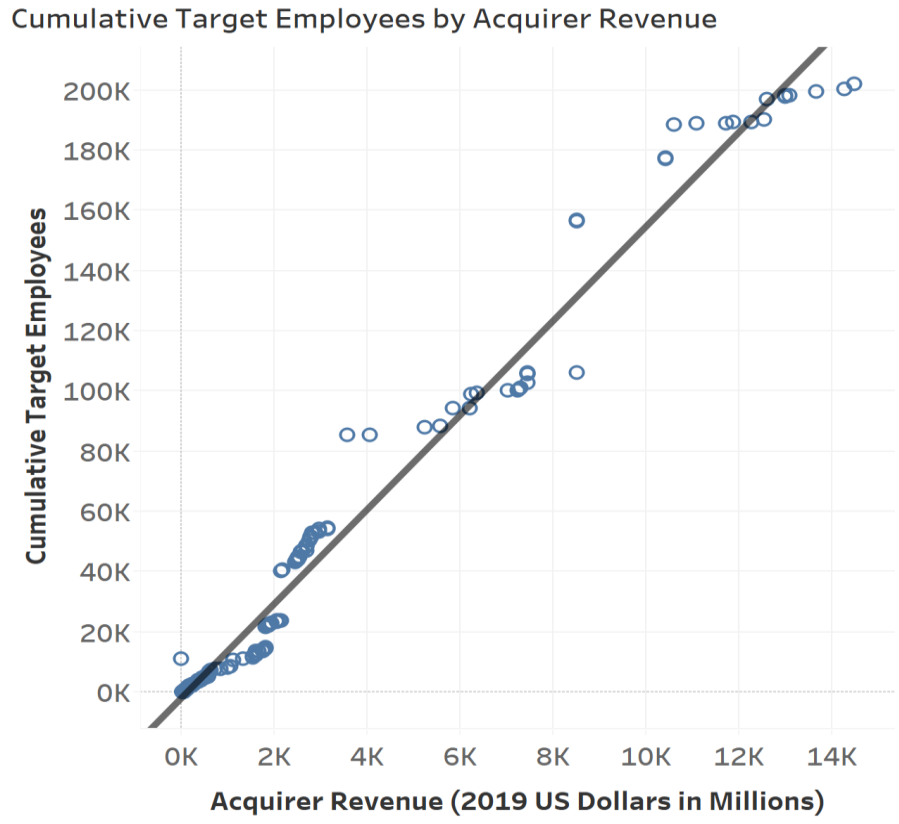


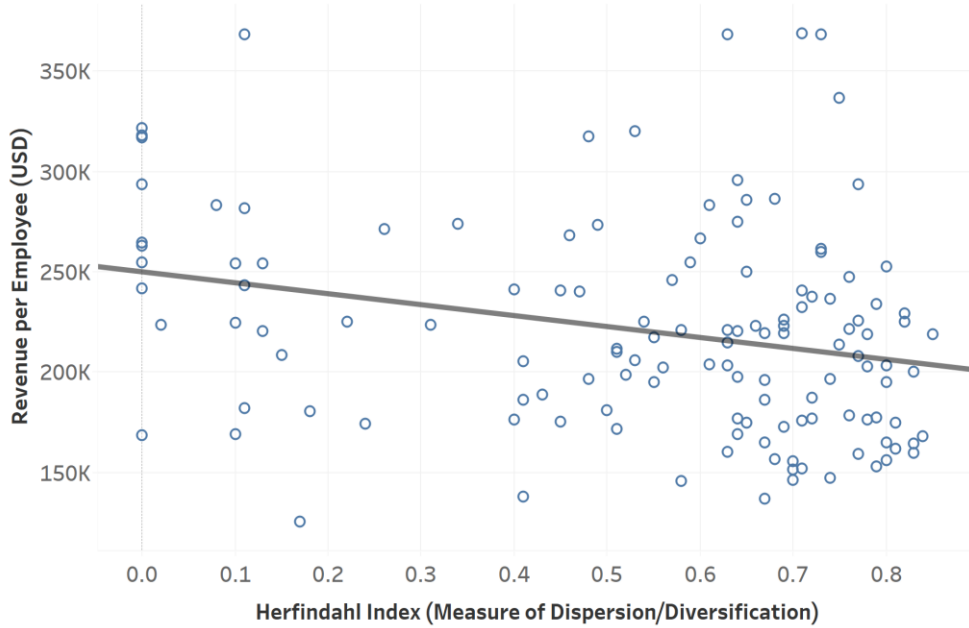
Figure 2. Proposed Summary Conceptual Model of M&A Activity



@2019AcqRevenue vs. Cum.TargetEmp.

Figure 3. Firm-level Relationship between Acquirer and Cumulative Target Employees in the A/E Industry

A/E PSF Diversification and Profitability (Revenue per Employee Proxy)



HI vs. Revperemployee.

Figure 4. Firm-level Relationship between Market Diversification and Profitability

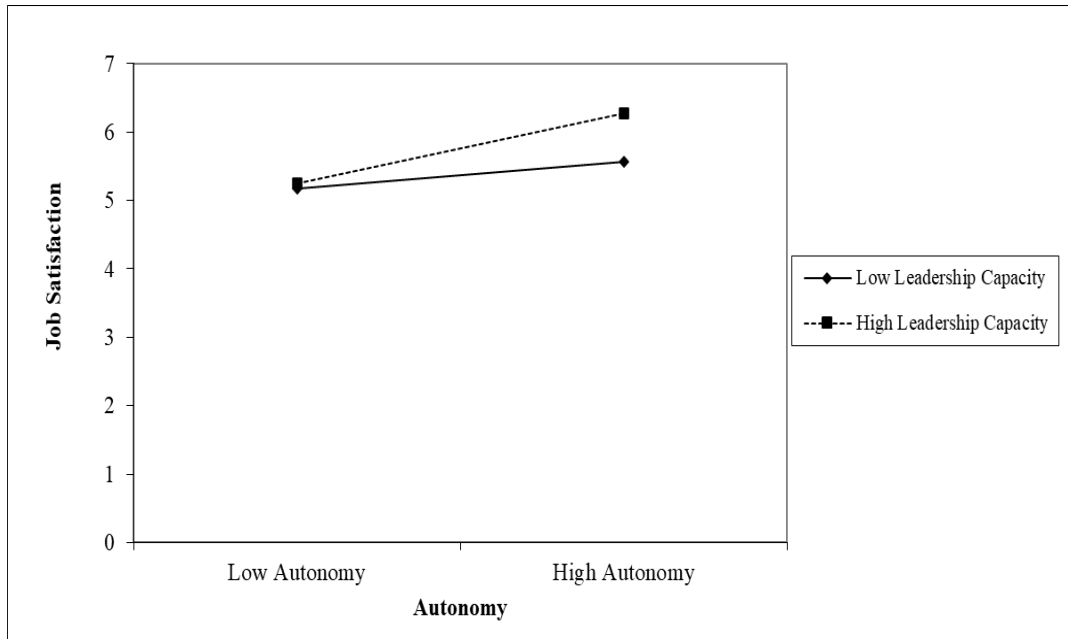


Figure 5. High and Low PMI Leadership Capacity Moderation between Autonomy and Job Satisfaction

M&A as a Programmatic Process

Board-level and executive governance through transformational leadership and organizational authenticity in the pre- and post-merger integration process through stakeholder/change management & codified systems and processes using M&A experienced professionals.

- Pre-merger selection: *Right Partner*, based on strategic and organizational fit/complementarity and cultural/values-based compatibility (courtship, due diligence, and negotiations)
- Post-merger Integration (PMI): structural & communication-based interventions - with attention to capacity, speed, depth and level of reverse integration
- Closure: Re-evaluate core and non-core services resulting in requisite portfolio management, divestitures and restructuring, where necessary

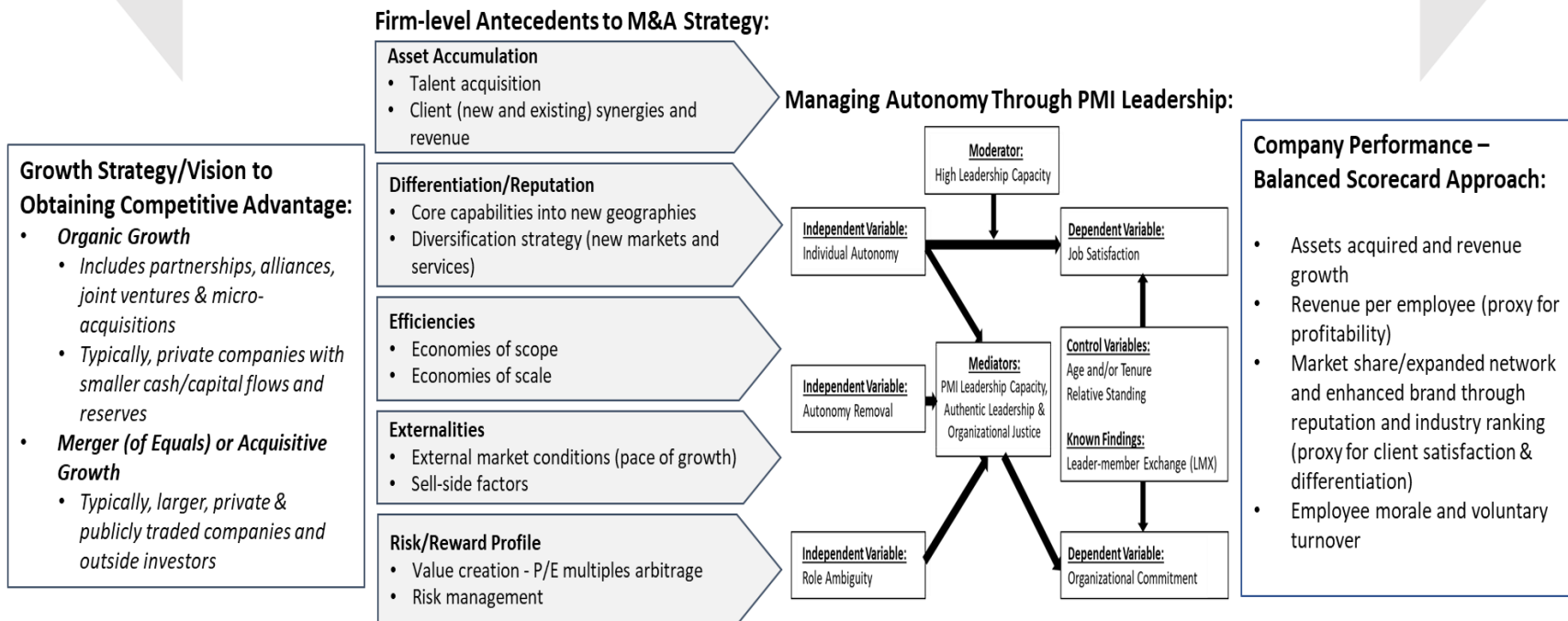


Figure 6. A/E Industry PSF M&A Model

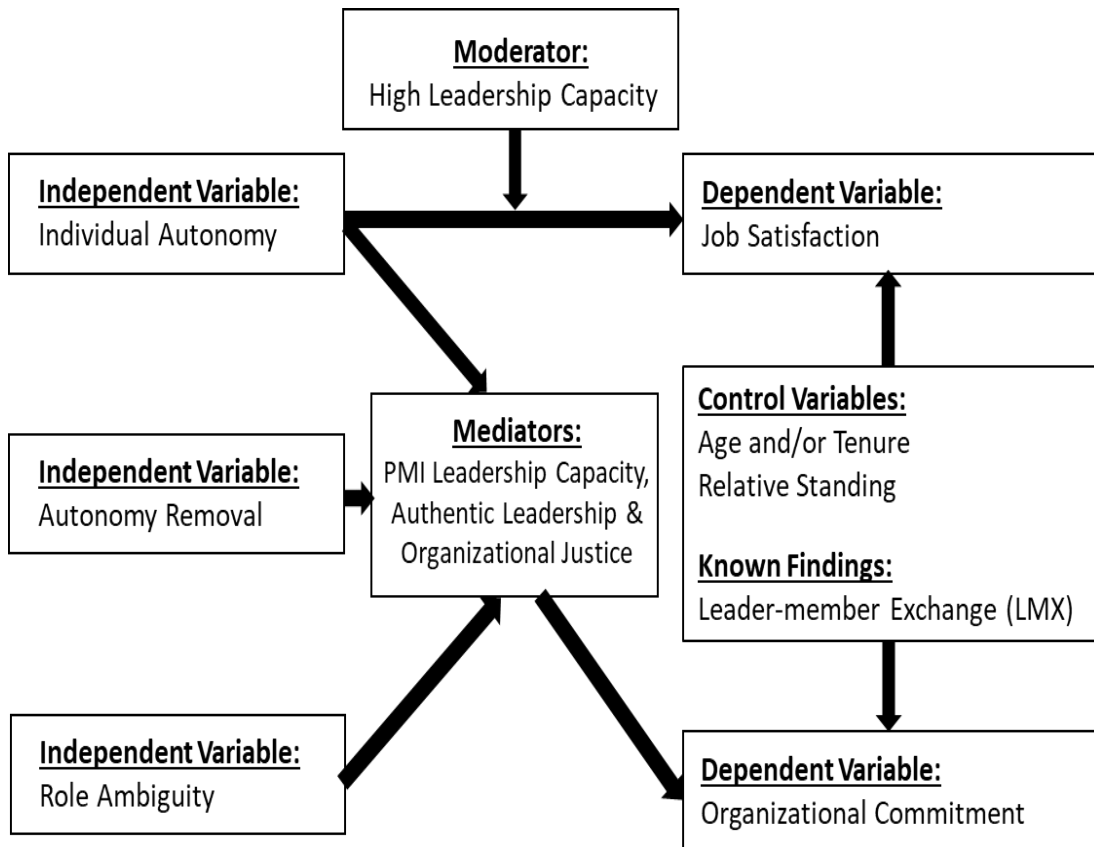


Figure 7. Management of Autonomy and Individual Job Outcomes through Positive Leadership Forms in PSF PMI Processes

Profit Margins by Firm Size *(5 yr. average, medians)*

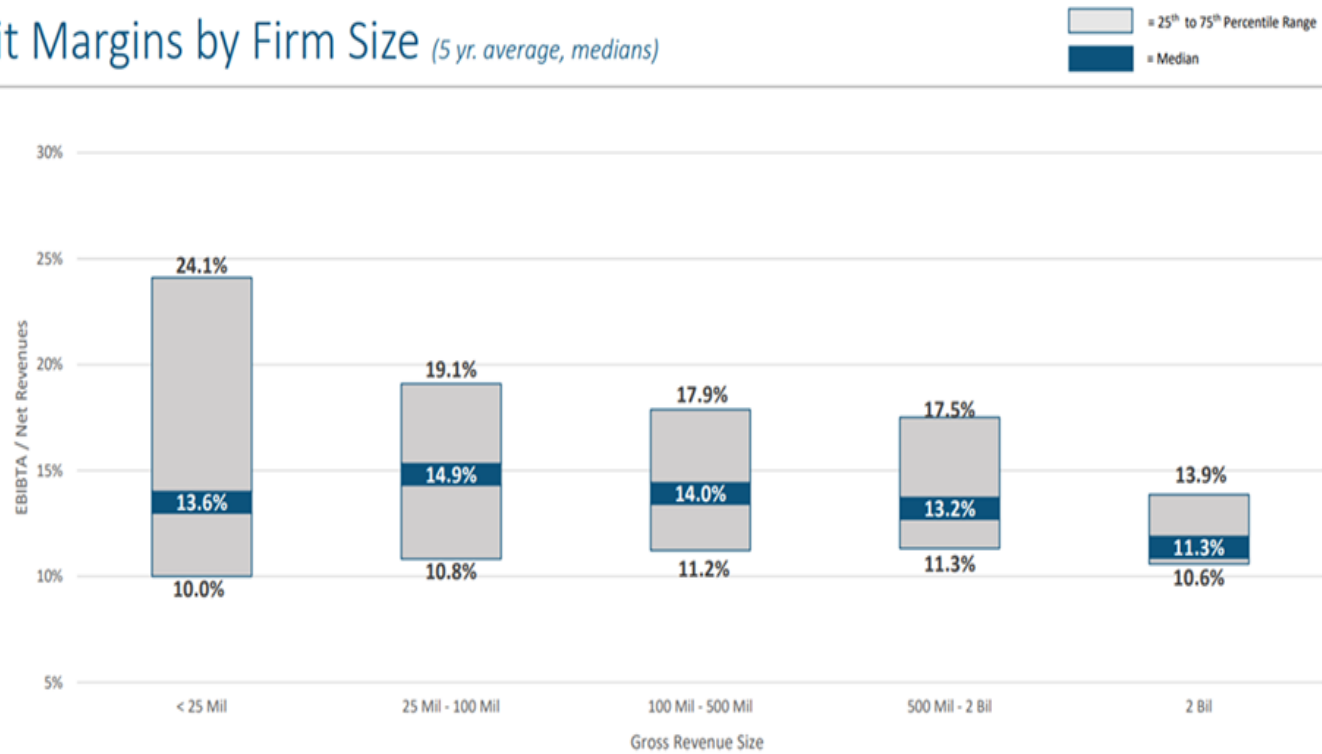


Figure 8. A/E Industry Profitability Based on Firm Size (Source: AEC Advisors, 2020 – Used with Author’s permission)

M&A Valuations (data from 258 transactions over the last four years)

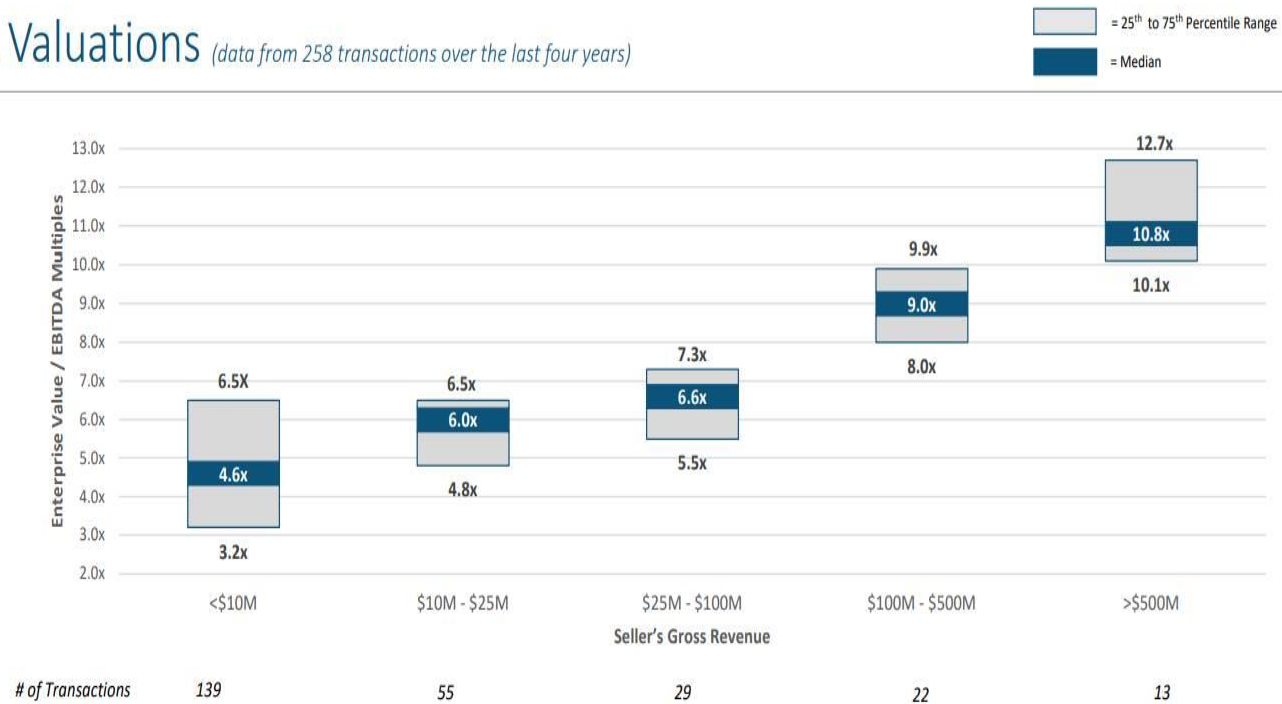


Figure 9. A/E Industry M&A Valuations (P/E Ratios) Based on Firm Size (Source: AEC Advisors, 2020 – Used with Author’s permission)



Figure 10. A/E Industry P/E Multiples Arbitrage to Increase Enterprise Value and Shareholder Accretion – Buyside and Sellside (Source: AEC Advisors, 2019 – Used with Author’s permission)

Appendix A. Employee Questionnaire (Post-merger Integration – PMI) Survey

Survey Introduction

This survey seeks to capture your perceptions, opinions, and attitudes about your role and company, as well as aspects of the merger and acquisition process you have experienced. Please answer as honestly and carefully as possible. Your responses are essential to understanding the factors that are associated with effective mergers and acquisitions. The survey takes approximately **10 - 15 minutes** to complete. Thank you for your participation.

Q1. Think about your current role within the company. Please indicate the extent to which you agree or disagree with each of the statements below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Since the beginning of the acquisition integration, I have more chances to use my personal initiative or judgment in carrying out my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, I am able to make more decisions on my own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, I have significantly more freedom in how I choose to do my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, my workload seems like too much for one person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, I never seem to have enough time to get everything done at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, the amount of work I'm expected to do is too great	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, my goals and objectives are not as clear	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Since the beginning of the acquisition integration, I'm not as sure what my primary responsibilities are	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Since the beginning of the acquisition integration, I'm confused about what people expect from me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q2. Think about the firm being acquired. How much overall autonomy was given to the acquired firm?

Operates Autonomously (1)	(2)	(3)	(4)	(5)	(6)	Very Closely Integrated (7)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q3. Think about your role during the acquisition process. How much did you have to justify your actions to others?

	No Justification Needed (1)	(2)	(3)	(4)	(5)	(6)	All Actions Needed Justification (7)
BEFORE the acquisition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
AFTER the acquisition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q4. Think about leadership (member or team) during the acquisition integration. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
Acquisition integration leadership clearly states what they mean	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership shows consistency between their beliefs and actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership asks for ideas that challenge their core beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership describes accurately	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
the way that others view their abilities							
Acquisition integration leadership uses their core beliefs to make decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership carefully listens to alternative perspectives before reaching a conclusion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership shows that they understand their strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership openly shares information with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership resists pressures on themselves to do things contrary to their beliefs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership objectively analyzes relevant data before making a decision	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership is clearly aware of the impact they have on others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership expresses their ideas and thoughts clearly to others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership is guided in their actions by internal moral standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
encourages others to voice opposing points of view							

Q5. Think about leadership (member or team) during the acquisition integration. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Somewhat disagree	Disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly Agree
Acquisition integration leadership has treated me in a polite manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has treated me with dignity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has treated me with respect	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has refrained from improper remarks or comments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has been candid in their communications with me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has explained the procedures thoroughly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership explanations regarding the procedures have been reasonable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has communicated details in a timely manner	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has seemed to tailor their communications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

to meet my specific needs							
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Q6. Think about leadership (member or team) during the acquisition integration. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Acquisition integration leadership has successfully communicated the strategic rationale of the acquisition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has successfully integrated the acquisition	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has balanced the needs of employees and clients alike	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has followed clearly documented process when integrating the acquisition as opposed to using ad hoc or random procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership has demonstrated previous merger and acquisition integration experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acquisition integration leadership appears to be experienced in the industry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7. Think about the relationship you have with your immediate supervisor. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
I like my supervisor very much as a person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My supervisor is the kind of person one would like to have as a friend	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor is a lot of fun to work with	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor would come to my defense if I were "attacked" by others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor would defend me to others in the organization if I made an honest mistake	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do work for my supervisor that goes beyond what is specified in my job description	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am willing to apply extra efforts, beyond those normally required, to further the interests of my work group	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am impressed with my supervisor's knowledge of his/her job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I respect my supervisor's knowledge of and competence on the job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I admire my supervisor's professional skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q8. Think about your current job and organization. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
All in all, I am satisfied with my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I don't like my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I like working here	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would be very happy to spend the rest of my career with this organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy discussing my organization with people outside it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I really feel as if this organization's problems are my own	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think that I could easily become as attached to another organization as I am to this one	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel like 'part of the family' at my organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel 'emotionally attached' to this organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This organization has a great deal of personal meaning for me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel a strong sense of belonging to my organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As soon as I find a better job, I'll leave the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am actively looking for a job outside of the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am seriously thinking of quitting my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9. Think about your company's performance. Please indicate the extent to which you agree or disagree with each statement below.

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
My company's financial performance is better than our competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My company's level of customer satisfaction is better than our competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My company's quality of products/services is better than our competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My company's level of employee productivity is better than our competitors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10. How many total years of work experience do you have?

Q11. How many years have you been with the firm?

Q12. Who are your primary clients (i.e., whom you serve)?

- Primarily clients external to my firm
- Primarily clients internal to my firm (e.g., other employees)

Q13. Were you part of the acquired firm?

- Yes
- No

Q14. What was the relative size difference between firms involved in the integration?

- The acquired firm was a very small percentage of the acquiring firm's size (less than 10%)
- The acquired firm was between 10% and 25% of the acquiring firm's size
- The acquired firm was between 25% and 50% of the acquiring firm's size
- The acquired firm was better than 50% of the acquiring firm's size

Q15. How long has it been since the beginning of the acquisition?

- Less than 6 months
- 6 months to 1 year
- 1 year to 2 years
- Greater than 2 years

Q16. What is your gender?

- Male
- Female
- Prefer not to say

Q17. What is your age? Please check the range below.

- 18 - 24
- 25 - 34
- 35 - 49
- 50 - 64
- 65 and older

Q18. What is your highest completed level of education?

- High school diploma or equivalent
- Bachelors degree
- Masters degree
- Doctoral degree

Q19. What is your current position within the organization?

- Owner/executive management
- Middle management or front-line supervisor
- Non-managerial position

Appendix B. Qualitative Research Study

Title: Qualitative Research Approach: Semi-structured, Open-ended Interviews with Top Architectural/Engineering Industry Executives

Abstract: Ten North American-based (United States and Canada), architectural/engineering (A/E) industry-experienced professionals were purposively sampled as informants for refining the antecedents that lead to alternative growth strategies in professional services firms (PSFs), specifically those related to mergers and acquisitions (M&A). The primary purpose of performing this qualitative assessment was to provide an enhanced and comprehensive model in support of a proposed framework that had been initially established based on a review of the cross-industry extant literature, including scholarly studies for A/E PSFs largely residing in Europe. Across the informants, primary antecedents aligned with seven themes identified in the extant literature: (1) talent acquisition; (2) broadening or deepening the client base; (3) building on core, or brand, strengths; (4) diversification strategies; (5) economies of scope; (6) economies of scale; and (7) overall market conditions. Moreover, the ten informants highlight that *value creation* (as a driver, not simply an outcome), *risk management*, and *sell-side antecedents* may be more critical and prevalent to M&A activity in the industry than what exists in the scholarly literature for A/E PSFs. Feedback associated with capital structure (largely firm size) and the PMI process was also provided for further quantitative testing and theory evaluation.

Introduction

The guiding question of the proposed research is to ask, what is behind successful M&As in knowledge-based companies, specifically architectural/engineering (A/E) consulting firms? While a separate, detailed review of the scientific literature has been performed to determine what is known regarding the conditions that are associated with the success of M&A across

multiple industries (forthcoming dissertation), this research begins to address how that understanding can be applied to alternative growth strategies of A/E-related PSFs. More specifically, by purposefully reaching out to top industry executives known to have a vast array of industry experience with M&A transactions, the qualitative research contained herein will be used to test the model that has been developed from the literature, as shown in the framework illustrated in Figure 1.

As articulated by Marks and Mirvis (2011) valuable information exists in the industry largely through the experience of management consultants and other industry professionals; however, a more scientific and rigorous process should be developed with the support of these industry practitioners. Using a semi-structured, open-ended interview approach as portrayed by Bachiochi and Weiner (2004), ten management consultant and industry executives were queried to openly discuss the M&A strategy process, using the framework of the projected strategy shown in Figure 1 as a backdrop (while this figure was not provided to the industry informants, the initial qualitative coding scheme was generated using Figure 1 as a starting point).

This research will serve as an additional augmentation step in the final model development and refinement process, as opposed to developing new theory through the more rigorous Grounded Theory approach (Glaser & Strauss, 1967; Strauss & Corbin, 1990). New information from the open-ended practitioner interviews will be generated to refine the model framework contained in Figure 1 in order to be used for follow-on quantitative analyses (described as Study #1 and Study #2 in Figure 1). This will allow the research results to be academically robust, yet practical and pragmatic in nature. Such mixed methods approaches are recommended for organizational-related studies (Rogelberg, 2008) when neither quantitative nor qualitative studies, alone, are enough to address the research question independently (Barbour,

2013). In addition, beyond providing alternative means to typical quantitative analyses directed at M&A research, the proposed interview process addresses the recent call for new qualitative research into M&A to go beyond the traditional dialogue surrounding culture and negative employee reactions (Sarala, Vaara, & Junni, 2019).

Summary-level results were collected from the qualitative interviews using a content analysis approach focusing on the identification and frequency of themes presented by the informants (Bachiochi & Weiner, 2004; Lee, 1999). As suggested by Bachiochi and Weiner (2004), results were summarized manually, using a minimum of two analysts. Inter-rater agreement was determined by comparing and adjusting the resultant summaries until the raters were satisfied that full consensus had been reached (O'Reilly, Paper, & Marx, 2012, also point out a number of cautionary practices for qualitative research when full grounded theory is not used).

Literature Review (relative to A/E PSF M&A strategies)

Most scholarly assessments of PSFs in the architectural and engineering industry have been conducted throughout Europe, and in the United Kingdom (UK), in particular. The studies highlight the unique strategy propositions of the surveyed firms, wherein organic growth (including the use of alliances, or formal cooperation with other companies) is preferred, but in certain instances, M&A can be a useful option to aggressively meet growth objectives (Kreidl, Urschitz, & Oberndorfer, 2002). Interestingly, the authors found that the increase of the firm's size (top-line, or revenue growth) was a strong influence for corporate development, more so than the focus on growth of market share (although one could argue that the focus on top-line growth relates to aggregate market share in some way) or the growth of profit; focus on the firm's value was even less significant. Kreidl and Oberndorfer (2004) added that the most important motive for undertaking an acquisition was the penetration of new services and new

client markets, followed by the penetration into new geographic markets. Other important motives included the acceleration of the firm's growth, broadening the client base for existing services (of the acquiring firm), and acquisition of expert talent. In sum, the authors postulate that firms in professional services engage more in diversification strategies than other industry sectors. Connaughton and Meikle (2013) highlight the need to better understand growth strategies of A/E companies (referenced as Construction Professional Service Firms [CPSFs] in the UK), not only because there is limited attention paid to professional service firms in general, but because much of the PSF literature is focused on the legal and accounting community surrounding partnership models. They cite a significant, changing dynamic (surrounding the 2008 economic recession) with the CPSFs in the UK. As firms grow larger and witness more activity in M&A, companies are changing ownership/organizational structures and governance.

Jewell and colleagues (2014) performed an analysis of information contained in *ENR* for 17 out of the top 25 international consulting firms and conducted interviews resulting in a compilation of detailed company timelines for M&A activity. The study states that CPSFs typically engage in M&A for diversification and penetration into new client markets and geographies. Specifically, the intent is to gain market share and provide growth acceleration through vertical, horizontal, and lateral diversification, based on the following key influencers on the scope and scale for growth: (1) the importance of top-line growth as a driver (if you are not growing, you are dying in a knowledge-based company); (2) the firm's focus on the optimization of resources (new talent acquisition and economics of scale/scope); (3) the need to meet client demands drives strategy decisions; (4) geographic location, specifically localization, is paramount in CPSF strategy; and (5) the influence of ownership on growth and risk decisions. These authors surmise that strategic decisions relative to growth, and thus M&A activity, are

heavily influenced by ownership (capital) structure, a hypothesis that had not been adequately addressed in previous research. In short, this aligns with North American industry analysts who highlight that A/E companies typically do not use their free cash flow for meaningful M&A to satisfy growth needs with service area and geographic expansion until they reach about US\$100 million in annual revenue, whereas smaller firms generally use their free cash flow to fund organic growth and working capital needs (Wittman & Hauke, 2017). In addition, Wittman and Hauke claim that it is not until a threshold of approximately US\$1.0 billion in annual revenue that larger scale M&A is transacted to respond to desired growth intentions in the A/E industry.

Connaughton, Meikle, and Teerikangas (2015) present an elegant method for analyzing growth strategies in CPSFs based on the level and willingness for acquisition activity, largely determined by the company's capital structure (ownership). In other words, consistent with North American analyst views (Wittman & Hauke, 2017), serial acquirers are mostly publicly owned, large companies. Even large-scale, privately owned A/E PSFs, especially those viewed as the most successful in terms of their business differentiation, were seen as conservative in their approach to M&A, resulting in a limited number of M&A transactions. Smaller companies, almost always privately owned, resorted to organic growth strategies. The article also concluded that many of these smaller companies would likely be acquired given current industry trends (Connaughton, Meikle, & Teerikangas, 2015).

Methods

Ten North American-based, industry-experienced professionals were solicited as informants for this qualitative study. These executives have operated at the "extreme" ends of the M&A spectrum in the A/E PSF industry. CEOs/COOs (existing or former) of three smaller firms were selected for their experience in working with limited capital resources and how that

limitation sets the foundation for any potential company growth strategy. In fact, as summarized below, this largely leads to sell-side considerations within M&A transactions as a potential “acquiree,” although one firm had recently grown to a point where they could consider M&A as a financially feasible growth alternative.

At the other end of the scale, informants from three larger firms, including representation from one of the largest firms in the industry, were selected primarily due to their reputation for being a “serial acquirer.” These firms were either publicly traded or supported financially by private equity. In addition, informants from these firms ranged from the leader of the corporate development function (or organization responsible for all M&A activities) to current board members of the other two firms, both of whom have recently served as industry CEOs. Of the large firms represented, one highlights that their M&A strategy, itself, is their competitive advantage in the industry.

In addition, a private equity investor was also interviewed due to the growing interest in the A/E industry, especially since the economic recession of 2008. A separate informant indicated that private equity has become the “white horse” to the industry which has faced significant succession planning challenges from first- and second-generation private company ownership (a number of A/E PSF companies in the United States and Canada were founded post-World War II). Two other unique perspectives were gained from informants whose companies fiercely rely on independence and organizational autonomy within their operating environment. More important, these individuals have become acutely familiar with the environment surrounding the strategy for future acquisitions, while also having participated in being acquired through a previous acquisition themselves. These leaders consist of one board chair and former CEO, and the other who leads their company’s corporate development, or M&A, function.

The final informant was an industry analyst from one of the most well-respected management consulting firms representing both sell-side and buy-side clients in the A/E PSF M&A process. This individual has first-hand experience with the most significant North American M&A activity in recent years and has insights and understanding of the granular details leading to these eventual M&A outcomes.

The informants were interviewed in casual one-on-one settings, in-person where possible. Six of the ten interviews were conducted face-to-face, usually over a casual meal, while four of the interviews were conducted by telephone. All interviews were recorded. Overall, approximately 8 hours of interviews were conducted and recorded during the month of February 2020, across these ten informants. The average interview duration was 46 minutes and 21 seconds (ranging from approximately 22 minutes to 80 minutes in length), and the resulting transcriptions and field notes amounted to 181 single-spaced pages of information used for analysis. An open-ended interview process, focusing on two primary questions (the full interview schedule is provided in Appendix B-1): *what have been the current drivers to the M&A process in North America since the economic recession of 2008*; and, *what feedback can be offered regarding the significant issues surrounding the post-merger integration process in the A/E PSF industry?*

Qualitative analysis to identify themes was performed, using constant comparative methods against the pre-established model framework developed from a detailed review of the extant literature (Figure 1). The proposed strategic model framework was then modified for future quantitative analysis using archival data and employee questionnaire surveys. It is important to note that the informants were not shown any materials before or during the interview process; instead, responses were natural and free flowing without the use of any

graphical aids or other reference documents. Results of the interview and recommended coding adjustments to the model framework are further explained below.

Findings

The primary purpose of performing the qualitative assessment was to provide a comprehensive data source to support anecdotal evidence from M&A experiences that may not be reflected in the scientific and extant literature regarding alternative growth strategies for A/E PSF firms. The openness and transparency of the informants was extraordinary. Much of the M&A literature for the A/E industry has been based on research of the industry in Europe (under what could be referred to as more of a “social mission” strategy – i.e., issues surrounding value creation through financial arbitrage and risk management considerations were somewhat limited, as will be further explained below). What is taking place in North America appears to be much more formidable and robust, and in fact, has been driving the industry, globally, in terms of M&A activity, probably since the economic recession of 2008 (AEC, 2019; EFCG, 2016, 2017, & 2020; Hembrough, 2019a & 2019b).

The last 10 years have also witnessed significant interest from private equity in North America, as noted in the previously referenced literature. During this time, a significant amount of available capital has been generated in this space for investment. Beyond that, private equity has shown interest in what one informant refers to as “secular tailwinds” resulting from the public agency stimulus spending around infrastructure improvements (e.g., transportation and water) available in both up- and down-market cycles, making the industry a relatively safe investment, albeit at potentially lower returns than more volatile, higher-margin industries. PSFs are a component of the overall engineering and construction (E&C) industry, one that involves relatively little capital expenditure for investment, since the primary assets are people as opposed

to other resource forms. One of the clearest rationales for private equity interest was explained by one of the informants, below:

INDIGO: “Private equity investing, if you will, tends to be cyclical in terms of which industries are in favor and out of favor. The anomaly, and the somewhat interesting thing about the E&C industry is that there really hasn’t been a rush of capital into the industry until the last 5 or 6 years, maybe a little longer. Private equity (PE), as an asset class, has accumulated a vast amount of capital, particularly in the last 6 to 8 years, in terms of the ‘prime power’ that PE firms are equipped with. (The PE) space is becoming increasingly competitive and flush with capital. What that means though is, on a practical note, PE firms are forced to be a lot more expansive and broad in the industries that they look at, especially in a race to industries that perhaps were overlooked previously. Given the mass growth in the number of firms and capital (in the E&C industry), eventually PE made its way into (the E&C market). I’d say the ‘08, ‘09 recession, which if you put aside 2015, was really the last downturn in the economic cycle, that has (perhaps) caused an over-emphasis on cyclicity or lack of cyclicity in companies that (PE invests in). (This desire for PE diversification to) professional services firms, or broadly, industrial services or industrials, is (because they are) actually remarkably resilient during downturns. And, as far as the leaner returns that may result, you can actually underwrite a lower return because you do have safer investments.”

The following paragraphs are organized around the original model framework (summarized from the extant literature) contained in Figure 1. That is, we begin with assessing the feedback regarding the company capital structure limitations (largely resultant from annual revenues) that lead to a firm’s capability to use M&A as a growth strategy, as compared to the literature. Then, we move to analyzing the antecedents behind the individual company growth strategies that drive the foundational understanding of why M&A is used, with an intentional view to gain feedback on the robustness of the initial model framework. Finally, we provide illustrative feedback regarding the PMI process to assess those variables that were considered most important to the informants relative to successful integration considerations for future research, testing, and analysis.

Organic Growth/Acquisitive Growth

The extant literature, including North American industry analyst summaries as well as the scholarly literature (primarily based in Europe), highlight that the A/E PSF industry doesn’t typically produce significant M&A activity until cash and capital flows allow a firm to make

meaningful company acquisitions. Otherwise, organic means (including strategic or group hires, joint ventures, alliances, etc.) tend to dominate the growth strategies in place for these smaller firms (less than US\$100 million based on industry analyst reports, or US\$50 million in revenue, based on the informant interviews). Moreover, as obtained through the interview process, risk management considerations can also play a significant role in the likely threshold for meaningful M&A activity. One of the smaller company respondents highlighted:

ALPHA: “It just didn’t seem like we had the critical mass for it. Maybe if we got to 400 people or 500 (approximately \$50M to \$100M in revenues), maybe that’s when we start feeling we’ve got the critical mass. It’s all a matter of whatever you’re adding – the percentage of that to what you have. Talking as engineers, if you’ve got something that’s got 20 percent of value of what you already have, you’ve got risk associated with 20 percent of the company now. But if it’s 35 or 40 percent, because you’re a smaller firm, it’s too big. The influence on your company is too risky...(an acquisition) could destroy the firm.”

Also, another informant succinctly states:

CHARLIE: “In general, very few firms with less than \$50 million in revenue have an active M&A strategy.”

Other informants provide additional evidence that the overall size and capital structure of the firm (public, privately owned, etc.) dictate organic or acquisitive growth strategies. For example, large firms by their nature must acquire other firms to accommodate meaningful growth expectations, especially considering the typical rate of voluntary attrition in the industry. If both factors (growth expectations and attrition) approach 10 percent, acquisitions become a driving force for larger company growth strategies, which was alluded to by multiple informants. Thus, organic growth alone may not meet shareholder expectations as firms get larger, especially for publicly traded companies.

In addition, in recent years, it is the mid- to large-size firms (less than US\$1.0 billion in revenue but greater than US\$100 million) that have seen the most M&A attention, and not just because they have been the typical targets of larger companies. These firms are attracting

smaller, founder-owned firms; in addition, these companies are now seen as platform companies for PE investment. One informant states their view on PE investment in the industry is based on the fact that incumbent, privately held management likes the retained independence, or autonomy, that PE investors can provide:

CHARLIE: “In other cases, there are niche firms that won’t do well in a higher overhead strategic (large firm) environment. But the bottom line is that once a firm brings in a private equity investor, it tends to remain private equity-owned because management generally doesn’t have the capital to buy out the private equity investor, but at the same time, likes its relative autonomy and doesn’t want to sell to a larger strategic buyer. Therefore, as more and more private equity firms make investments in this industry, I believe more and more of the mid-sized firms (\$100 million to \$500 million) will ultimately be controlled by private equity. I don’t see that shift changing, I see it just increasing. And, I would say as a result, I’ve found that private equity-backed firms have almost become the go-to bidder for small transactions, which tend to account for ~80 percent of all M&A transactions in this industry. Most of these firms are founder-owned businesses whose founders never really intended to transition internally. This story is old as time, and for these firms, most of the time, they might get to \$10-20-30 million in revenue. It’s pretty hard to get much bigger than that, in one generation, without access to capital, where you can make acquisitions.”

At the other extreme, the respondents also began to question, when has a firm diversified too much and become too big to be efficient and responsive to both employee and client needs? Recent financial hardships and divestitures from some of these larger, mega-firms highlight that economies of scale and scope may have their limits, even in this industry, as will be further explained, below.

Antecedents to M&A Activity

Across the informants, primary antecedents aligned with seven themes identified in the extant literature: (1) talent acquisition and taking care of people (most highly discussed item); (2) broadening or deepening the client base; (3) building on core, or brand, strengths; (4) diversification strategies; (5) economies of scope; (6) economies of scale; and (7) overall market conditions. The informants, including the smaller organizations that stand to be acquired under the current environment, as well as the larger firms who perform serial acquisitions, in addition to management consultants or other “outside participants” in the industry (such as PE investors),

highlight that *value creation* (as a driver, not simply an outcome), *risk management*, and *sell-side antecedents* may be more critical and prevalent antecedents to M&A activity than what exists in the scholarly literature.

The existing PSF literature does indeed focus on developing the core business as well as looking at diversification strategies to enhance the reputational and financial aspects of the firm – in fact, it has been well documented that PSFs, and service firms in general, tend to diversify more than other industry peers (Pablo, 1994). *However, the general theme brought forward by the informants, one of differentiation, also relates to the interdependencies of the other factors related to the M&A process, including whether a firm employs a niche strategy, potentially moves toward an employee ownership program or PE ownership, and even how firms market themselves for talent acquisition.* Also, it is clear from the informant interviews that A/E PSFs tend to experiment with alternative core and diversification strategies, over time, with the ultimate goal of differentiating themselves in the market.

Antecedents regarding enterprise value creation through price-to-earnings ratio (P/E) multiples and risk management drivers received a significant amount of attention through the qualitative interview process as well. While the extant literature tends to identify value creation as a significant outcome of the M&A process, in the case of the informant interviews, there is a unique strategy available to mid-size and larger A/E PSF firms in the industry due to the development and refinement (over time) of a very predictable P/E multiple based on firm size (P/E multiples increase with PSF firm size). While this is explained in further detail, below, it is likely to be one of the most significant drivers behind so many acquisitions being made over the last 10 years, including those by outside investors (PE and others). This driver tends to be balanced with risk management strategies and concerns (e.g., financial health

and enterprise sustainability). Also, the informants indicated that sell-side drivers may be more prominent in the overall M&A process for A/E PSFs, as compared to other industries or what is contained in the scholarly literature, where the strategic focus is largely placed on the acquiring firms.

The following paragraphs break down the individual antecedents for a M&A growth strategy in more detail.

Asset Accumulation: Talent and Revenue Acquisition through Client Synergies

In line with the need to drive value to the firm through top-line growth, including asset accumulation through revenue from client contracts and associated synergies, as well as through talent (employee) acquisition which drives top-line revenue, larger firms are naturally driven to higher levels of M&A activity, if for nothing else, to replace the higher number of departures from the firm resident in any reasonable attrition rates or higher levels of desired growth:

CHARLIE: “(Asset accumulation in terms of talent acquisition) clearly underlies a lot of this. And it’s particularly (true) in an industry where assets aren’t scalable; that’s the huge challenge. You can’t get greater productivity out of people simply because you have more of them – put another way, you can’t charge more for an hour of an engineer’s time simply because you have 10,000 engineers rather than 100 engineers; Therefore, the only way to grow is to add more people, as long as your business model relies on selling hours. So, if you’re losing 10 percent or 15 percent of your people per year, you have to hire 10 percent or 15 percent to break even. (If) you want to grow at 10 percent or 15 percent per year; you’ve got to hire 30 percent new staff per year, which is practically impossible, particularly for larger firms, given the current ‘war for talent.’ So, at some level (M&A is) the only way you maintain high growth rates as a firm becomes larger.”

Much of the interview process was spent discussing the paramount importance of people in A/E PSFs, or any professional service firm for that matter. This issue is significantly reflected in the literature as well. One informant summarizes the emphasis on people, and leadership, in the following way:

ECHO: “Well, as everybody says, all our assets walk out the door every night and don’t have to come back in the morning. So, I think there has to be a vision. I think you can’t be successful if you don’t have a compelling reason for the people of the acquired company to want to work hard for the success of the whole. So, you have to look at all the motivations that go into that.”

In many instances, small or large companies also elect to grow to achieve higher relevance with select clients in order to better control their destiny and to improve their standing with more financially fortified and opportunity-based clients. In one case, a founder-formed company started as a small business subconsultant to other industry providers, but in an attempt to differentiate and grow value, they targeted select and well-known industry clientele, focusing on one in particular:

ALPHA: Referencing the trials and tribulation to gain what was considered the key client in the industry, the informant highlighted, with enthusiasm, “That put us on the map!”

And, at the end of the day, the professional services business is about serving the needs of its clients, in whatever form that takes – that is the basis for much of the traditional opportunity in the industry, and in fact, increasing a company’s position in the value chain with their clients leads to substantive financial return as identified by the informants, below:

GOLF: “Well, stability is risk aversion. Our approach was that we want to work for larger clients but we want to do all of their projects – small and large...(we must) have a very deep relationship with those clients so that we can sell them our full portfolio.”

JULIET: “(Our growth strategy is founded on our clients) and certainly the scale of the projects and the scale of clients that we’re bringing on to help...(we desire to) work on bigger, more exciting projects, which also yield better financials, at least from an opportunity standpoint, and the growth of the earnings is what drives the value of the business, (which is important for our) employee-owned company who wants to continue to drive value for our shareholders.”

Differentiation: Margin Growth through Focusing on Core Capabilities and Diversification

In general, the extant literature points to M&A in the A/E industry as more of an organizational change process built on geographic, market, and service area diversification for top-line growth through client synergies, focusing on the acquisition of key talent with somewhat less attention paid to the pure value creation opportunities afforded by the marketplace. The North American informants, herein, highlight that firms don’t necessarily use a single strategy for growth; however, across both sell-side and buy-side firms, these companies look to build

their organizations from their core strengths, diversifying to other markets, services, and geographies to expand their opportunities for growth. Yet more often than not, they eventually move to a position where they can *differentiate themselves* (“non-commoditization” as indicated by one informant) in the marketplace by creating value through reciprocal benefit with the client base they desire, and at the same time, they can attract the most highly desired staff in the process. In general, M&A is the fastest means to acquire the required resources to fill the gaps associated with a company’s strategic plan.

Across informants, all recognize that firms must differentiate themselves in an industry that is fragmented with low barriers to entry. Often times, that involves growing on individual or company strengths, or even diversifying into areas to find “win-win opportunities” with key clientele. Across the board, the informants realize that staying away from commodity services and playing to a company’s strength brought higher levels of profitability and value to the firm.

ALPHA: “Without that (establishing a differentiating service in the core business), we don’t (successfully) sell the company. You can connect the dots. From that point, it may have taken 10 years...because it gave us the ability to spread our wings into things that nobody would’ve thought a minority firm would’ve been involved with.”

At the other end of the spectrum, one of the serial acquirers, that has again used a diversification strategy to grow into new areas, only then to build on its strength in key markets, highlights that the acquired firm must be in alignment with the overall company strategy:

BRAVO: “It’s really conformity or alignment with our strategic plan, which is to build a multi-disciplined, diversified practice that is seen as a top-tier service provider in all the markets we choose to be in. That’s really us being one of the top three firms that people think of when they look for services that they need. So that’s really our goal is to have market penetration wherever we operate to be considered a market leader.”

Diversification is often seen as a means to balance the risk associated with being too concentrated in any one market, service, or geographic area. It also allows a firm to grow beyond

its traditional boundaries. However, as stated in the literature, firms can get into trouble by diversifying into areas outside of their core competencies.

ALPHA: “We tried to grow organically in an architectural practice. (We) went out and found a guy...almost (a) complete, utter disaster. We lost clients.”

While this example was based on an organic growth strategy, diversifying through M&A strategies can carry similar risks. In addition, sometimes firms can diversify with limited constraints, leading to internal, economic inefficiencies:

CHARLIE: “Most of the time investors – whether public market investors or private market investors – prefer a simple story. People generally invest in business that they can understand. When something has too many pieces, you tend to get a lower valuation, and the sum of those pieces may be worth more than the value of the entire enterprise.” And, “I think there's probably too much diversification in a lot of these firms, which quite frankly hurts performance. Most of the data suggests that single or double market focus firms are more profitable on average. I think there's a lot of rationale behind that.”

Efficiency-based Antecedents: Economies of Scope and Scale

While many industries look to M&A to garner advantages regarding economies of scope (e.g., enhanced technology or full-service advantages) and scale (e.g., reducing overhead cost redundancies), these factors are not as prominent in the A/E industry for various reasons (EFCG, 2020). The informants, as well, go as far as suggesting that the economies of scale driver, which is often referenced in the cross-industry literature, is actually misleading in the A/E PSF industry. This is largely due to the fact that A/E industry contracts provide limited profit margin arbitrage when utilizing cost plus fee structures (or fees primarily based on hourly rates). The industry also requires that when M&A is employed, additional marketing and sales costs can be incurred, offsetting some of the cost reductions achieved through M&A:

CHARLIE: “And personally, I think that economies of scale are pretty overrated in this industry because at the end of the day, you're selling time, and whether you have a 100 people 10,000, or 100,000, your unit cost is essentially the same – there's no economy of scale; the only economy of scale that I think you may be able to get is leveraging some of the overhead functions, but I think there are also some dis-economies of scale that may outweigh that.”

INDIGO: “(Large public companies) will pay for synergies that financial buyers wouldn’t. This industry doesn’t lend itself to a tremendous amount of (cost) synergies to be honest with you, on a relative scale.”

In addition, some of the informants also suggested that the referenced cost synergies in an M&A transaction are nothing more than a “sales pitch to Wall Street” (paraphrasing). In fact, some have noted that synergies are rarely tracked, if not impossible to track. That said, if you can bring revenue or cost synergies to a transaction, combined with the earnings multiple arbitrage referenced earlier, a value creation opportunity can become even more compelling as one informant states:

ECHO: “You can strip out the synergy...just by taking out redundant cost. And then, you get the ‘boost up’ because the (newly acquired) revenue comes in, at the new (higher) P/E (ratio)...and then if you can replicate your margin capture...then there’s another booster. So, it’s a pretty compelling deal. I could have seen myself going back and looking for a \$200 million firm to start out all over again.”

What may be the most intriguing way to look at future M&A activity was brought up by a few of the executive informants, relative to the scope of services to be offered by A/E PSFs. The point that was made was that while the last decade started with companies pushing for a full-service offering by, in some cases, combining consulting and construction firms (with less than stellar results), at least one executive still believes that A/E PSFs will eventually need to get outside of the hourly rate based consulting model to enhance revenue and margins – just because it hasn’t been handled well in the industry in the past, doesn’t mean it can’t into the future.

ECHO: “Strategically, the big question now is...geo-politically, is a global firm still doable? China is really the big wild card because I think there’s a general belief that China will never be profitable for a Western company. So, the question is, if the Western companies all cede China and then just because of the role it plays and the economic weight of things, you also end up ceding Southeast Asia...does that leave a back door for something to happen in our business? So, from a strategy perspective, I’m still not sold on this focus on low-risk consulting because I don’t think that’s what the clients want. I think that’s what the investors want, and I think the firms AECOM, WSP, Jacobs are all appealing to the investors and I don’t blame them for it, it’s probably the right thing to do, but I’m not convinced it’s a durable solution for the clients.”

Following from this concept, with a variety of firms focusing on the industry technology changes through better data and electronic systems management, added to the fact that the pipeline of architects and engineers to the industry is decreasing on a relative basis, enhanced attention to technology-based solutions will be required. Future industry value creation is likely to exist in a combination of these technology-based and scope-related needs and associated alternative pricing forms, so that firms can appropriately scale revenue:

ECHO: “Back to M&A...driver(s) could come in another form of arbitrage in the future (such) that the first firm that gets the electronic battlefield...(and) if somebody comes up with a package to enable taking on delivery risk, construction or some other thing, and they could replicate that, then they could (synergize) revenue.”

Externalities: External Market Conditions and Sell-side Factors

The A/E PSF industry in North America has transformed since the 2008 economic recession, with the market recovering from stagnation to a period of robust growth (2019 was probably the industry’s best year, financially, on record, according the industry analysts – AEC, 2019, and EFCG, 2020). And, while the external environment has led to succession planning and margin-related pressures as well as fierce levels of competition, the industry is very collegial, overall, perhaps stemming from the inherent qualities of architects and engineers wanting to “build a better world” and to satisfy their clients (one informant refers to companies that could be classified in this way, generally, as “purists” whereby they are focused more on the “social mission” of the profession maybe more so than profitability).

Since the recession, however, there is evidence that financial acumen and leadership courage are taking a higher priority in North America, according to many of the informants and as witnessed by the introduction of PE to the industry, which after all, is designed to be a platform for shareholder value accretion. And, while it is also interesting to note that many of the nontangible (or at least difficult to identify) drivers seen in other industries such as CEO

overconfidence/hubris, waves resulting from regulatory changes, interest rates, tax benefits or consequences, managerial herding and envy (peer pressure), or defensive posturing may lead to a definable wave of acquisition activity, these items are seen by the informants more so as “factors” in the process, not necessarily antecedents, or drivers, for M&A in the industry. In fact, by comparison to the primary drivers listed in the model, these themes were not frequently observed in the qualitative data.

However, there was general acknowledgement, by multiple informants, that sometimes CEO hubris can play a role, but more often, overall market conditions serve as a significant driver. For example, one informant believes that the industry is actually “recession-proof,” with consistent external growth rates that make it unique, which leads to its overall investor interest level. While the margins may not be leading across industries, the downsides are minimized:

FOXTROT: “I think because of the growth rates...we’re recession proof...you look at any company, you look at share prices...the dips are better in the downtimes...and they might be lower in the up-times (as well), but put your money in a safer place...get some long-term returns on it. It’s a good way to balance your strategy and portfolio, isn’t it?”

Likewise, another informant highlighted that PE’s desire to enter the industry may well have been somewhat by accident, or serendipity, based on personal experience over a number of years. And, as a result, their aggressive financial approach to growth has set the stage for a wave of M&A activity in the A/E PSF industry:

GOLF: “It’s almost discovery. They really didn’t know about our industry and didn’t know how well it fits with their general thesis, which is that they want low-risk, stable industries and companies. Discovering that we (have) as an industry (which) tends to have stable returns albeit somewhat lower than other industries, we were more stable than a lot of other industries. So, we were very attractive because of that. Their objective is that they want to increase EBITDA over their holding period by double or even triple. And, to do that, you can’t do it organically.”

Yet another informant believes that while external market conditions are a “factor,” they believe that the driving M&A activity rests with the buying firm’s strategy:

BRAVO: “I think we’ve just taken a view of what we can do to make ourselves better. We’ve been at this for a really, really long time. So, I don’t think we’ve seen a need really to copy anybody on it or react to competitive pressures by others. That’s not really part of our agenda.” And, “The organic growth will vary a fair bit with market conditions. Economic parameters play into that quite a bit. On the acquisition side, maybe a little bit less; you have more expensive deals in growth markets and maybe a little less in tougher markets.” And, in line with Penrose’s theory of the firm, that acquisitive activity and organic growth are used in concert, through alternate, periodic interventions, “Because when we look at acquisitions, the way I like to say is I really see it as a catalyst for organic growth, and it’s sort of the one plus one equals more than two.”

The qualitative interview results also suggest that the seller (owner succession) is as much a driver in the A/E PSF process as the buyer (as normally highlighted in the scholarly literature). The second generation of smaller engineering firms are transitioning from engineers-as-managers to more financial-oriented private and public firms, including private equity-backed companies. Industry fragmentation, highlighted by multiple informants, is a key, external factor that is leading to increased M&A activity.

BRAVO: “The world has kind of changed a fair bit in the last decade. Firms are more likely to get advice now, they’re more likely to go out and...solicit the market and see what it looks like.”

Sell-side drivers, personal wealth (or financial concerns/threats) and other personal lifestyle choices, and even fatigue, were also cited as well-known sell-side factors leading to significant M&A activity. In addition, the desire to grow beyond small business status, and even serendipity, were noted as often-witnessed antecedents to M&A. It is interesting to note the “grow to protect” mentality of some of the smaller firms that eventually sell, which is also associated with the risk for potential failure or loss.

ALPHA: “Well when we started the company, we were 30 years old, 31, 32 in that range. It’s all about it growing, when you’re young like that. We weren’t thinking about selling. And then as you get older and you’re an owner...this shift happens that it goes from growing, to keeping or protecting. A part of it is just getting older in life, you’ve seen people pass away...I mean life goes on, you say well, we’ve gotten the company up to this stage. We never wanted to stop growing...we use to say that ‘you stop growing is to start dying’...it could be gone tomorrow.”

In fact, the seller is driving more and more of the transactions as it may be the only way to get fair market value for the firm.

CHARLIE: “The only way you can get anything close to fair market value for your shares is by taking a note, which will probably take you 7 to 10 years to get paid off; so your choice is to sell and get cash at closing at fair market value, or to leverage your firm with a huge note that could take a decade to get paid off once you factor in taxes (unless you convert to an employee stock ownership plan, the note isn’t tax deductible). So, selling the firm becomes the pretty obvious choice, whether or not you wait for the buyer to approach you, or you actively solicit offers; I feel like in most cases, it’s inevitable.”

Risk/Reward Profile: Value Creation through P/E Multiple Arbitrage and Risk Management

Beyond the higher level of attention to sell-side drivers, the primary components of new information that are not reflected in the scholarly literature to a great extent, are the risk/reward drivers surrounding M&A strategy for A/E PSFs. And, in fact, these drivers are likely primary factors that point to the industry transformation which is taking place, either due to reputational or financial risks manifesting themselves through divestitures or sales, or based on the fact that other industries and PE are entering the marketplace from outside of the traditional industry participants.

One of the most significant themes (and corresponding M&A antecedent) presented in the informant interviews was based on the M&A P/E multiples arbitrage that occurs when larger or stronger and more versatile organizations with higher P/E ratios acquire smaller, less robust organizations with smaller P/E multiples, providing immediate shareholder accretion.

CHARLIE: “I can go down the laundry list of mid-sized firms (\$200-\$400 million of revenue) who recap at 10X EBITDA and are buying firms in 5 - 7 times (EBITDA). From my perspective, because there’s such a huge valuation arbitrage, it almost makes a lot of the other strategic questions irrelevant. It doesn’t mean that you don’t want to maximize value from the acquisition, it doesn’t mean that you don’t want to make sure all of the people stay; that stuff is all critical, but you have so much more room for error.”

It is also the foundational aspect behind what was described by a couple of the informants as a “buy and build” strategy, which further explains the PE entry to the marketplace, some highlighting that PE can also be attractive from providing a higher level of organizational autonomy to the seller, compared to larger public or private mega-firms:

INDIGO: “You could buy acquisitions at very attractive multiples and that’s a way we generate value. So, the industry...has been very fragmented with a long tail of smaller competitors. And

therefore, that lends itself and is very congruent with the buy and build strategies that a lot of private equity firms undertake.”

This value creation theme was not only significant for mid-size to larger firms, or due to the influence of PE, but being on the sell-side of the equation makes it equally important. It doesn't go without notice for those founder firms looking to sell, driving for the highest P/E multiple, especially for smaller firms that were originally developed under minority business enterprise (MBE) status:

ALPHA: “And every percentage that moved from MBE to non (MBE), was worth money to potential buyers. Because what they'd do is they'd look at our income statements and say, ‘Alright you had so many millions of dollars in MBE, so many millions non-MBE.’ And every dollar that was MBE was so drastically discounted – I mean significantly discounted.”

This approach of acquiring multiple, relatively smaller companies, goes against the traditional multi-industry bias (reflected in the extant literature) that firms should focus on limited M&A (ones that substantively “move the needle”) to make sure the strategic and operational fit is appropriate and avoiding being distracted by multiple acquisitions. Prevalent M&A theory also suggests that large, public firms should be cautious of buying smaller private firms because of the organizational differences (e.g., theory of relative standing; Hambrick & Cannella, 1993) and the likely people-related and cultural integration challenges that could result. If this qualitative research process attended to a representative sample of the industry, it is projected that a theme of being more selective, with a limited number of acquisitions considered, would be more significant than what was observed from the selected informants. The *value creation* behavior uncovered herein, which appears to be occurring in a significant manner in the industry presently (based on the times this theme was mentioned in the qualitative interview process), quite frankly, is counter to these expectations. Perhaps this highlights that cultural differences may be overplayed within the industry (due to the natural industry relatedness, or even the occupational-based relatedness, that exists).

In fact, some management consultants in the industry indicate there are greater risks when merging two complementary firms of similar size, due to the lack of arbitrage in EBITDA multiples, forcing a higher level of revenue and cost synergies required to make the acquisition accretive (which, as indicated previously, can be more difficult in the A/E industry). It was also interesting to note that there may be a larger amount of this type of systematically acquiring small to mid-size firms than what has been reported in the literature, across industries. A recently published study by McKinsey & Company (Rudnicki, Siegel, & West, 2019) highlights that this type of M&A strategy (acquiring moderate sized firms) may be producing greater shareholder returns as compared to alternate strategies, across multiple industries; however, the report stops short on the specific data or rationale behind the value accretion.

Beyond the emphasis on value creation and the focus on cash and capital flows, the informants emphasized that *risk management* is a primary driver for both small and large firms alike, which is likely different from other professional services industries (accounting, legal, management consulting, etc.). In part, this is highlighted by the relative adverse reaction to risk from the new, significant entrants to the industry, such as PE. At the same time, the A/E industry firms do indeed face significant reputational and financial (legal) risks because of their project-driven organizations. Essentially, one bad project or one bad acquisition (as referenced earlier) can bring down a company. A/E firms have a backdrop mentality of “here today and possibly gone tomorrow,” or, as one person put it – paraphrasing – “first, you diversify for the sake of growth into new areas, until you find what you are best at, then you focus on the core and build to protect what you have.”

Regarding how the industry executives view risk relative to alternative growth strategies, the informants offered the following:

ALPHA: “We had a project in Mexico that almost bankrupted us. It was brutal. It could have. (We were) one more phone call away (from a major problem)...I think we wouldn’t be having this conversation...we over-reached. And that’s a whole other topic one day I can talk to you about, but don’t over-reach. I tell young firms, ‘Do what you do and do it well; don’t over-reach.... Yeah, smart growth. If there’s such a thing as safe growth, as safe as we can be, as certain as we can be of it working.”

ECHO: “Our margins are so thin in our industry that (if) anything goes wrong, or a key shareholder ages out, and you end up needing equity to deal with that.” And, “I don’t think even though our industry deals with an enormous amount of risk, I don’t think it’s very sophisticated in managing it...you just can’t afford any major speed bumps and survive.”

FOXTROT: “And maybe that thread of everyone saying we were under-leveraged led to a slightly different risk profile, which led to us swinging one way or another. And then you end up with two big projects plus a couple of others that were problem projects, that took down a huge company. Yeah well, it took us to a point where we needed to sell.”

The resulting, recommended model adjustments, relative to the likely antecedents involved in the A/E PSF M&A process, and based on the above research, are summarized in Figure 2.

Post-merger Integration (PMI) Factors

Lastly, the information obtained regarding the key attributes of the PMI process yielded results as expected, with a significant emphasis placed on the need to satisfy individual-level retention and addressing cultural issues through the M&A process. Issues surrounding the management of autonomy/independence as well as individual, group-level, and legacy company identity; maintaining strong relationships with front-line supervisors; stellar communications; some level of reverse integration reflective of organizational fairness, integration capacity and appropriate change management processes; all surrounding strong and authentic leadership (even references to “servant leadership”) were the general themes mentioned.

In almost all informant interviews regarding the key tenets of the PMI process, the attention and buy-in, and even drive, from the ultimate company leadership was paramount, and that applying a best practices, even a “best athlete” approach to forming the new, combined organization was required.

GOLF: “We just saw that there was a better way for us to be organized (in the resulting integration process); the acquired firms ended up being (well represented) because they had great leadership. (Their leaders ended up) in top leadership roles in this new organization...so we really lived up to ‘best athlete,’ rising to top positions in the company. That sends a big signal to the rest of the company.”

Relative to culture, it was also interesting to note that many of the informants condense culture to a discussion of organizational and personal values (e.g., integrity, kindness, loyalty, etc.) along with some form of collaboration, in addition to the need to attract and retain talent based on the differentiating (overall) strategy of the firm. Many of the issues surrounding the culture of a firm were noted as highly important in the extant literature, even if not well defined. To that end, the informant interviews were directed to better understand the foundational elements behind culture. In many cases, the informants moved the culture discussion to ethics and values (e.g., one informant discussing culture around quality, teamwork, integrity, and balance). In many cases, the definition of culture takes on aspects of an entrepreneurial and collaborative environment that includes “social well-being.” Others identify culture as the underlying fabric of norms, practices, and behaviors about how the company truly operates. It was also generally recognized that human resources (HR) policies, including compensation and other rewards, are a critical aspect of culture and it is important for companies to follow through in actions with what they espouse, in terms of their culture. Also, specific to the A/E industry, the fact that if people do leave the combined organization, there is a reasonable chance that they may end up as a client one day.

DELTA: “I saw lot of things that were done right and a lot of things that were not done right because it gave me the perspective of the firm being acquired. And one of the things that I really think happens when you talk about acquisitions, there’s really two integrations. You have the cultural integration and you have the integration of systems, operations, and organization...everybody worries about systems...HR and finance, all the good stuff... But, I think the thing that is really not seen are the people issues. And, what ...50 percent of the (acquisitions) fail? The failure really is on the cultural integration side. People are not replaceable. It’s part of our value system, I’ve got to treat you with dignity...especially in this business, with anybody you meet, could be our client tomorrow.” And, regarding the approach toward the need for cultural integration, the individual stated, “It wasn’t a company, it was a family.”

At the same time, the same informant cautioned that one of the failures often witnessed through the M&A process is somewhat of a double edge sword, such that, while you need to be highly personable in your approach to acquisitions, until the deal is consummated you must maintain a business mindset as problems can arise when (paraphrasing) “acquirers fall in love with their targets.”

Taking the highly engrained industry focus on people (often times informants indicated that “people are our only assets”) a step further, some believe that a company’s first priority is to its employees, not necessarily its clients. One, in particular, made an emotional plea citing an example when management was called out for not fulfilling its espoused values, and in response, went above and beyond to correct matters, stating:

ALPHA: (A special culture is needed, one that provides) “a special bond between ownership or the management and employee...leading to (a) ‘we’d rather work for you’ (mentality).”

Moreover, because of the highly technical nature of the profession, it was also interesting to note that while company and personal values weigh heavily in the trust building process that is paramount during PMI, or any transaction in the PSF domain for that matter (internal or external to the firm), one informant highlights that professionals must show occupational relatedness, and must see in others, a level of competence to ensure building trust. The comment was reiterated when discussing how one retains a highly desired level of independence and autonomy in the workplace as well, stating:

HOTEL: “Trust is built through performance.”

In addition, relative to the need to manage PMI processes at the individual level, understanding the capability of the underlying managers and staff, below the ultimate company leadership, is highly important to the acquiring firm. At that point, the desire is to minimize the overall PMI impact to the majority of the acquired staff. One informant highlighted that what

they have found when looking at the vast majority of staff transitioning through a PMI process, they see a desire to (1) earn a desired living – that is foundational; (2) maintain a desired level of occupational or professional fulfillment; and (3) be associated with a company that connects to their personal mission. Most important, their immediate supervisor matters, significantly so, throughout the PMI process. These leaders must be able to relate to, and appropriately manage, lower level staff.

FOXTROT: “If you want my biggest criticism of our industry, it’s that we put great technical people in supervisory roles who can’t deal with people, too.”

At the same time, as pointed out in the extant literature, the systems and back office component of M&A can be quite challenging, and while most of the informants provided feedback on the people, or cultural, components of M&A, others highlighted the elements of a keen focus on back office support and previous integration exercises:

ECHO: “Well, I think our industry doesn’t, generally, do a good job with integration. The purpose-built acquirers have done a better job of investments in IT...IT is probably the single biggest CapEx of an engineering firm. Enterprise IT, HR, financial...you have to have the team that can expand that to do a great job with integration. So, on day one everybody’s email works, you got them fully networked, you’ve got into your billing system...and everything else, that’s difficult...when we were looking to buy firms, we really stayed away from firms that we picked up (that) hadn’t integrated well because the investors don’t see that...and, so it’s not reflected in their stock price, but when you buy a firm like that, you’ve got an immediate \$100 million integration hit that nobody saw.” And, regarding the downside of improper, or no integration, he continued, “We just paid for a future stream of earnings and got nothing for it.”

Lastly, while organizational fairness was identified as critical through the PMI process, the practical realities of maintaining revenue and cost synergies may lead to suboptimal integration solutions when looking at combined best practices and systems as they relate to back office support, especially when combining larger companies. At the same time, other informants highlight that making multiple M&A transactions does not necessarily produce higher “distraction” costs, in line with the above discussion on value creation. In fact, they believe it is

easier to acquire and integrate multiple transactions over a short period of time (usually 1 year or less) than what it takes to integrate a single, larger, and more complex firm:

GOLF: “You want to make (those smaller firm) acquisitions and then integrate them as quickly as you can without breaking what you just acquired. And so, the philosophy is one of how quick can we effectively integrate versus spending the time to be more thoughtful, (which may be needed for) a much more complicated integration.”

JULIET: “(The PMI prioritization process is about) getting integrated with our people first, and our systems and processes second.” And, “I think they’re seeing that we’re not any different from them, we’re just bigger than them. At the core, we’re very similar. We’re being semi-deliberate with how we integrate them, because they’re very busy producing work for a client that we have to make sure that we maintain. So, we’re trying not to distract them...we’ve got a team, and (a team) from their side, and we have an integration plan with tasks and schedules. I think the main thing that we’re trying to do is over-communicate everything.”

Discussion

For the first time in the scientific literature, this study has provided a significant level of transparency and analysis regarding the antecedents to alternative organizational growth strategies, especially those related to M&A, prevalent in the A/E professional service community in North America. When asked two, general open-ended questions using a semi-structured interview process that included guiding queries, the ten industry informants provided unique insights that led to the following considerations for further testing and analysis: (1) there appears to be a threshold of firm size that serves as a defining limitation for growth through meaningful M&A, and this limitation appears to be approximately US\$50 million in annual revenue, which is usually limited to privately owned companies; (2) there are ten antecedents that seem to contribute most to the decisions surrounding M&A transactions in the industry, with some being more or less important than others; in other words, these antecedents likely have differing levels of contribution to successful M&A, and may in fact, be very idiosyncratic in nature – in addition, themes surrounding P/E multiples arbitrage for a broad range of companies and capital structures, risk management, and sell-side factors were more prevalent than what is contained in

the existing, scholarly literature; and (3) the PMI process within A/E PSFs tends to surface many of the same issues that are witnessed in the extant literature across various industries, in terms of concerns regarding operational and cultural compatibility; however, the fact that the acquisition rates have been high in number and are done relatively quickly (approximately 1 year to full integration was typically desired), yet that integration capacity constraints in the industry were also noted, give rise to whether there are unique elements regarding the industry with regard to the PMI process. One possible consideration for future quantitative analysis is to further test relative standing (based on firm size) against cultural variables and resultant job outcomes within the PMI process.

While the strength of the study resided in the practical relevancy of the key M&A drivers as identified by seasoned professionals in the industry, as with all qualitative and contextual-based research, there will be limitations in the generalizability, or external validity of the research. The organizational context and even the industry within which A/E PSFs reside can differ significantly in their management behaviors, due to the nature of highly trained professionals providing (sometimes intangible) consulting advice to their clients, and the fact that the recruitment and retention of key staff, who tend to be well-compensated and operate with a high level of intrinsic motivation and autonomy, differ from traditional industrial and other service organizations (Alvesson, 1995; Reed, 1996; Scott, 1987; Suddaby, Greenwood, & Wilderom, 2008).

In addition, the qualitative survey was based entirely on self-reporting from individual experiences; however, it should also be noted that some informants provided additional published information and verifiable examples to support their claims made during the interview process. Another factor to control the impact of potential self-reporting bias resides in the fact

that much of the information provided could be closely corroborated between informants, or through data that has been published through practitioner-based publications or other scholarly literature, enhancing reliability. Another self-reporting bias that could have limited the range of options for further theory consideration was the informants' limited response to leadership egocentrism (or overconfidence) or other managerial herding or envy considerations (peer pressure) that may be foundational to the understanding of M&A in the industry. Relative to this matter, it is interesting to note that these concerns and issues were noted as being present in the industry; however, there was general acknowledgement that these are simply factors of the human condition or environmental landscape that can be difficult to control or manage and may not be as valuable to those managers in charge of developing strategy or gauging successful or unsuccessful M&A transactions.

What is missing from the scholarly literature is a meaningful, transparent, and rigorous analysis of the key components of the A/E PSF process that provide strong evidence for a theoretical understanding of M&A as an alternative growth strategy, while at the same time, being managerially relevant. Outside of issues associated with partner selection and the associated deal structure, the study has highlighted that while there are a multitude of factors that can dictate the success of A/E PSF M&A, the ten highlighted in this study may be the most important issues facing the industry at the present time. Moreover, based on the connectivity to the extant literature, it is believed that the findings herein and the eventual model framework which is under development may provide relevancy not only to this industry, but may actually serve to be more generalizable to other industries given the outside investment emphasis since the 2008 recession. Also, it is important to note that the purpose of the interview process was not related to making definitive determinations of the relative importance between the antecedents

that drive alternative growth strategies – the study was conducted to simply produce a range of options that seem to be most prevalent for further quantitative testing and analysis, which is the next step in the theoretical testing and development process.

Appendix B References

- AEC Advisors (2019). State of the AEC Industry Analysis & Insights: 2019 KPI Survey Results & AEC Advisors' Chief Executive Summit Conference Summary. Mandarin Oriental Hotel, New York City; September, 2019.
- Alvesson, M. (1995). *Management of knowledge intensive companies*. Berlin: Walter de Gruyter.
- Bachiochi, P. D., & Weiner, S. P. (2004). Qualitative data collection and analysis. *Handbook of research methods in industrial and organizational psychology*, 161-183.
- Barbour, R. (2013). *Introducing Qualitative Research: A Student's Guide*. Sage.
- Connaughton, J., & Meikle, J. (2013). The changing nature of UK construction professional service firms. *Building Research & Information*, 41(1), 95-109. doi:10.1080/09613218.2013.742366.
- Connaughton, J., Meikle, J., & Teerikangas, S. (2015). Mergers, acquisitions and the evolution of construction professional services firms. *Construction Management and Economics*, 33(2), 146-159. doi:10.1080/01446193.2015.1037325.
- Environmental and Financial Consulting Group (EFCG), Inc. (2016 and 2017). Annual CEO Reports. New York.
- Environmental and Financial Consulting Group (EFCG), Inc. (2020). "Insight Report: Surviving the Make or Break Moments." *Environmental Analyst* (London). January 2020.
- Glaser, B., and Strauss, A. (1967). *The Discovery of Grounded Theory*. Chicago: Aldine.
- Hambrick, D. C., & Cannella Jr., A. A. (1993). Relative standing: A framework for understanding departures of acquired executives. *Academy of Management journal*, 36(4), 733-762.
- Hembrough, Anya. (2019a). "Insight Report: Strategic Imperatives from Diversity to Digitalisation Dominate AEC CEO Summit." *Environmental Analyst* (London). October 2019.
- Hembrough, Anya. (2019b). "Global Megatrends in Environmental Consulting 2019." *Environmental Analyst* (London). May 2019.
- Jewell, C., Flanagan, R., & Lu, W. (2014). The dilemma of scope and scale for construction professional service firms. *Construction Management and Economics*, 32(5), 473-486. doi:10.1080/01446193.2013.879194.
- Kreitl, G., & Oberndorfer, W. J. (2004). Motives for acquisitions among engineering consulting firms. *Construction Management and Economics*, 22(7), 691-700. doi:10.1080/0144619042000241408.
- Kreitl, G., Urschitz, G., & Oberndorfer, W. J. (2002). Corporate growth of engineering consulting firms: A European review. *Construction Management and Economics*, 20(5), 437-448. doi:10.1080/01446190210139487.

- Lee, T. W. (1999). *Using qualitative methods in organizational research*. Thousand Oaks, CA: Sage.
- Marks, M. L., & Mirvis, P. H. (2011). Merge Ahead: A Research Agenda to Increase Merger and Acquisition Success. *Journal of Business and Psychology*, 26(2), 161-168. doi:10.1007/s10869-011-9219-4.
- O'Reilly, K., Paper, D., & Marx, S. (2012). Demystifying grounded theory for business research. *Organizational Research Methods*, 15(2), 247-262.
- Pablo, A. L. (1994). Determinants of Acquisition Integration Level: A Decision-Making Perspective. *Academy of Management Journal*, 37(4), 803-836. doi:10.5465/256601.
- Reed, M. I. (1996). Expert Power and Control in Late Modernity: An Empirical Review and Theoretical Synthesis. *Organization Studies*, 17(4), 573-597. doi:10.1177/017084069601700402.
- Rogelberg, S. G. (Ed.). (2008). *Handbook of research methods in industrial and organizational psychology* (Vol. 5). John Wiley & Sons.
- Rudnicki, J., Siegel, K., & West, A. (2019). "How lots of small M&A deals add up to big value." *McKinsey & Company Strategy & Corporate Finance Practice Report*. July 2019.
- Sarala, R. M., Vaara, E., & Junni, P. (2019). Beyond merger syndrome and cultural differences: New avenues for research on the "human side" of global mergers and acquisitions (M&As). *Journal of World Business*, 54(4), 307-321.
- Scott, W. R. (1987). The Adolescence of Institutional Theory. *Administrative Science Quarterly*, 32(4), 493. doi:10.2307/2392880.
- Strauss, A., and Corbin, J. (1990). *Basics of Qualitative Research*. Newbury Park, CA: Sage.
- Suddaby, R., Greenwood, R., & Wilderom, C. (2008). Introduction to the Journal of Organizational Behaviors special issue on professional service firms: Where organization theory and organizational behavior might meet. *Journal of Organizational Behavior*, 29(8), 989-994. doi:10.1002/job.552.
- Wittmann, A. J., & Hauke, J. P. (2017). The Equity Analyst's View, E&C Industry Overview. Baird.

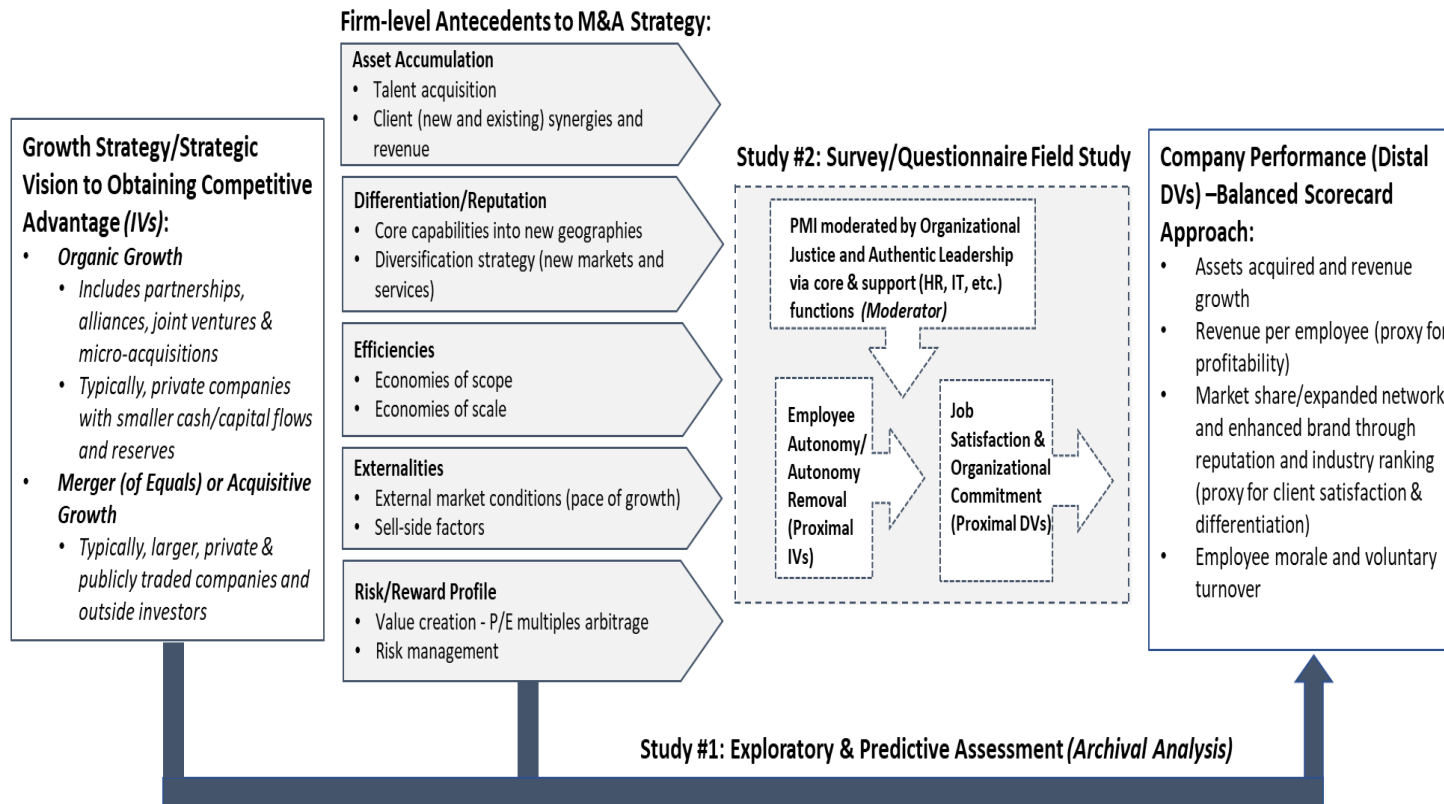


Figure 1. A/E PSF M&A Initial Framework

Antecedents to M&A Strategy:



Antecedents to M&A Strategy:

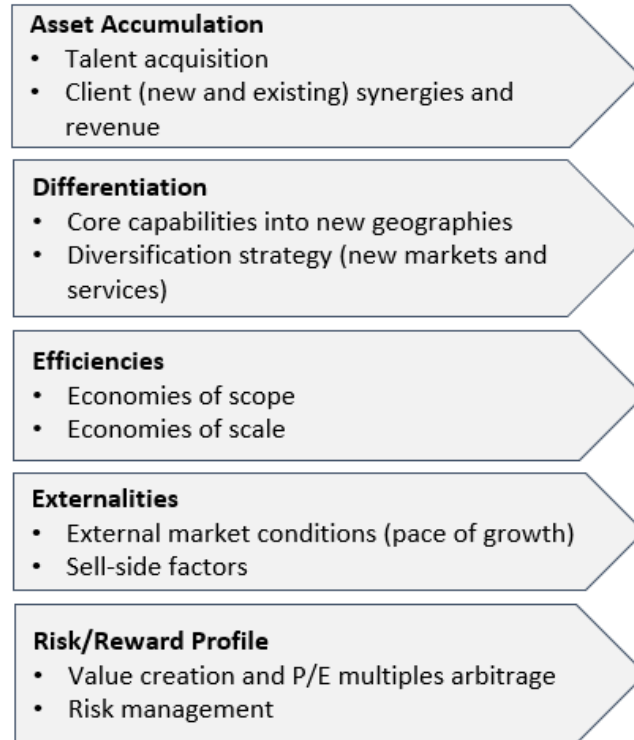


Figure 2. Refined M&A Antecedent Framework as a Result of the Informant Interviews

Appendix B-1. Script/Schedule

Preamble/Informed Consent: Thank you for agreeing to participate in the following interview. You are free to discontinue this interview at any time, no questions asked. To be respectful of your time, the anticipated survey length will be less than 60 minutes. I am recording this interview for accuracy and to compile the collection of resultant data themes. The specific responses will not be shared with others, and I will ask that you review the transcribed notes for accuracy. Please let me know if you have any questions, and if not, we will begin. Please answer each question with honest, candid answers, to the extent you are comfortable. There is no right answer, and do not hesitate to go back and clarify or expand on your previous answers. You are also free to pass on any probing questions I may ask.

Introduction: The existing literature suggests there are a number of factors that drive the mergers and acquisitions process in the architectural/engineering (A/E) professional services industry. For example, company *ownership* (capital structure), *size* (in terms of annual revenue or employee size), and overall *company financial “health”* issues play a role in the strategy of companies looking to grow to meet company financial and other objectives. Primary antecedents for M&A in A/E PSFs include talent acquisition, or “the war for talent,” the growth of core and complementary services, diversification (new markets, geographies, and services), or the pursuit of economies of scope and scale. Moreover, sometimes these strategies lead to divestitures and divestments, in addition to mergers or acquisitions, to achieve longer-term strategic plans.

Primary Interview Question(s): In this interview, I would like to obtain your general and specific impressions of M&A (and divestitures, if appropriate) strategies in A/E PSFs, not only covering the above, but also getting your thoughts on other factors that play a role in the process. And, once the strategy is defined, what do you feel are best practices for the post-merger integration process that effectively lead to performance-based success?

Guiding Questions – Overall Strategy

1. What are your impressions of the A/E industry over the last 10 years, and how has M&A evolved over time?
2. Why does your firm pursue mergers and acquisitions (and divestitures, if appropriate)?
3. What is your approach to mergers and acquisitions (and divestitures, if appropriate), and how does that fit within overall company growth strategies?
4. What other external factors may play a role? (Other factors, such as the overall GDP or economic growth, A/E industry or construction industry growth, including the aggregate number of M&A transactions in a given year as well as interest rates that could impact a company’s cost of capital, or even tax consequences, which could pressure firm management into M&A activity, will be queried, if not provided naturally. Also, those factors that account for significant elements of the M&A strategic rationale, but cannot be directly measured quantitatively, will be clarified: e.g., defensive posturing; planned, intermittent and periodic acquisitions; shareholder/leadership pressures; sell-side drivers such as inadequate succession planning or other financial obstacles; hubris or personal wealth decisions; and managerial herding/envy will be queried through the open-ended discussion.)

Guiding Questions – Post-merger Integration (PMI)

5. How do you approach the post-merger integration process?
6. What factors play a role in how you decide to integrate the companies?
7. What strategies, or factors, have been most successful?
8. What strategies, or factors, have been least successful?

Guiding Questions – Performance and Results

9. What are your overarching lessons learned (what works, what doesn't work, where have you succeeded and where have you failed)?
10. What have you found relative to the time element of the M&A process, especially as it relates to post-merger integration (e.g., is it better to go fast or slow; are time-related issues different for operations and back office support/systems functions, etc.)?

Closing comments: The primary research question (above) will be repeated to ensure all ideas have been considered. In addition, recommendations for other ideas for future discussions will be queried from the informants. For smaller firms that are usually in a position of being concerned with inbound offers, the above will be repeated, only from the seller's side view of M&A (if not already covered). For example, #2 would be reclassified as what does your firm succession planning process look like in the event of considering a sale or request for M&A from an outside firm, and #3 would be changed to what does your firm do in response to outside queries regarding the sale of the firm?