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M&A CAPABILITY AND LONG-TERM FIRM PERFORMANCE: A STRATEGIC MANAGEMENT PERSPECTIVE

By

Eduardo Vinocur

A Dissertation Proposal

Presented in Partial Fulfillment of Requirements for the

Degree of

Executive Doctor of Business Administration

In the

Crummer Graduate School of Business

Rollins College

Winter Park, Florida

2018

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The content and format of the dissertation are appropriate and acceptable for the awarding of the degree of Doctor of Business Administration

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ABSTRACT

The Merger and Acquisitions (M&A) market is a sophisticated option for firms to complement their organic growth strategy. Firms that adopt an M&A strategy develop a superior management capability (M&A capability). The M&A capability is built on the management of the M&A process phases and the M&A learning process through experience accumulation and deliberate learning mechanisms. The management of the M&A process can critically influence the acquisitions outcomes and the long-term performance of the firm. This research investigates the influence of the M&A capability on the long-term performance of the firm. This mixed-method study uses a text mining methodology to quantify unstructured qualitative data from 564 annuals reports and 2,602 M&A synopses, for the period between January 01, 2013 to December 31, 2016.

The research contributes to the literature in three significant ways. First, the research empirical findings evidence a positive and significant relationship of the M&A capability construct with two performance dimensions, profitability (Return on Equity) and market value (Price-to-Book). Second, the M&A capability was effectively measured, and its significant predictors defined, i.e., number of acquisitions, size of the firm, and M&A motives. Third, the novel mixed-method approach provided an alternative to M&A and strategic management research with the emerging use of automated, natural language processing techniques to analyze unstructured data in intricate settings.

The study can be used by practitioners to understand the antecedents of firm performance in serial acquirers and the M&A capability formation. Academics can benefit from the interdisciplinary M&A construct findings, and the mixed-method methodology in future studies.

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CHAPTER 1: INTRODUCTION

Research Overview

Mergers and Acquisitions (M&A), an intriguing corporate phenomenon that started around the end of the 19th century, still entices both practitioners and academicians. Corporations continue to pursue multiple acquisitions as a growth mode like General Motors did at the beginning of the 20th century (Freedman, 2015, p. 483). Currently, firms acquire hundreds of companies globally each year as part of their growth strategy, e.g., General Electric, Alphabet (Google), IBM, Microsoft, Intel, and many other well-known organizations.

The purpose of this research is to examine the relationship between M&A capability and the long-term performance of serial acquirers, namely companies that acquire other firms on a regular basis (eight acquisitions in the period of the study). The management side of the M&A transactions (M&A capability) offers an abundant opportunity for research and is increasingly related to the performance of organizations. The study contributes to relevant practitioner applications in addition to advancing the body of research on M&A capability.

Mergers and Acquisitions and Strategic Management Literature

M&A performance has typically been evaluated in the academic world under three theoretical approaches: financial, strategic, and organizational. Empirical studies in Finance suggest that, on average, M&A activity does not lead to superior performance (King et al. 2004). Additionally, strategy scholars do not validate that the business relatedness and strategic fit of M&A partners result in better financial performance.

There is also an increasing number of strategic management studies on the organizational side of M&A that try to explain the impact of the management of the M&A process (integration mainly), on firm performance (Zollo & Singh, 2004). Strategic management studies show that the accumulated experience in acquisitions contributes to the development of superior management skills and capabilities (Croci & Petmezas, 2009; Trichterborn, Zu Knyphausen-Aufseß, & Schweizer, 2016). Furthermore, Laamanen and Keil (2008) suggest that the capability to manage acquisition programs matters for the performance of the firm. Another evidence of management influence on M&A success comes from Nadolska and Barkema (2014) who conclude that the top management teams' heterogeneity benefits the outcomes of acquisitions.

This study assesses the strategic management of the M&A process, using two theoretical perspectives: the dynamic capabilities of the firms (Teece, Pisano, & Shuen, 1997), and the knowledge-based view (Grant, 1996). Both frameworks are developed based on the resource-based theory of the firm (Barney, 1996; Barney, Ketchen & Wright, 2011; Penrose, 1959; Wernerfelt, 1984).

Recent Developments in the Mergers and Acquisitions Market

The transaction value of the M&A market in 2016 reached $ 3.02 trillion and more than 27,462 deals globally. In 2017, there were 25,738 deals totaling $ 2.42 trillion (FactSet database). Despite the decrease in volume in 2017, M&A continues to be a vibrant and complex option for firms to complement their organic growth strategy through market consolidation, diversification, cost synergies, and new capabilities acquisition. The Deloitte's report on M&A trends 2018 (Thomson, Dettmar, & Garay, 2017) reveals technology acquisition (20%) as the number one ranked driver of M&A

pursuits, followed by market consolidation (19%), market diversification (16%), digital strategy (12%) and a growing trend in talent acquisition (9%). Recent years have witnessed technology as a disruptive driver that infiltrates all corners of business and may affect how potential deals are valued (Saada & Moldenhauer, 2017), in addition to being one of the key motives for acquisitions. Most executives surveyed remain optimistic (68% of corporate respondents) that the number of deals will increase in 2018. Deloitte's survey consistently has shown that well-planned and carefully executed integrations are a major success factor in transaction success (Thomson et al., 2017).

During the research period of this study, from 2013 to 2016, the global economy has recovered from the great recession of 2008 with the help of a global loose monetary policy and is characterized as a period of the reasonably stable economy with a slow recovery of global economic growth. The presence of capital liquidity, reduced financing constraints, and tax benefits favor the M&A activity and may benefit the M&A market in 2018.

Mergers and Acquisitions Strategy

Mergers and Acquisitions (M&As) is an important component of a corporate strategy to position a firm in the competitive landscape (Swaminathan, Murshed, & Hulland, 2008). To sustain firm performance, managers must accurately sense and respond to the dynamism of the business environment (Kumar, Jones, Venkatesan, & Leone, 2011). Swaminathan et al. (2008) note that M&A has become a popular alternative to meet the needs of the changing hypercompetitive global marketplace. M&A is also a popular domestic and global growth strategy for executives (Ferreira, Santos, de Almeida, & Reis, 2014). Ferrer, Uhlaner, & West, 2013 study the M&A as competitive

advantage and outline the M&A activity as an essential part of many firms' strategies. However, most companies see individual deals as discrete projects rather than parts of an integrated corporate strategy, and few purposefully develop an M&A capability to support the strategy. Those that manage the complexity of M&A and build the capabilities required for successful acquisitions tend to enjoy a long-term competitive advantage. Companies can employ some tactical activities to develop a real M&A capability that can give them an edge that competitors will struggle to replicate (Ferrer et al., 2013).

Firms execute their M&A strategy for several motives classified into three categories, i.e., synergy, agency, and hubris. In this research, the synergy motive is considered and broken down into market consolidation, market diversification, cost-efficiency, and capabilities acquisition. The agency motive or the trend by the management team to engage in M&A to benefit their welfare at the expense of shareholders is analyzed through the managerial ownership structure of the firms. The hubris motive, the mistake by managers to overvalue takeovers is not controlled in this study. Details are provided in Chapters 2 and 3.

Performance of Multiple Acquisitions by Serial Acquirers

This research investigates the M&A activities of serial acquirers, or companies that engage in multiple acquisitions over the years, as part of their corporate strategy (Chatterjee, 2009; Fuller, Netter, & Stegemoller, 2002; Laamanen & Keil, 2008). This study defines serial acquirers as companies that acquire a minimum of eight firms during the study period.

Accumulated acquisition experience is related to the development of superior acquisition capabilities through a learning process (Barkema & Schijven, 2008; Heimeriks, Schijven, & Gates, 2012; Henningsson, 2015; Nadolska & Barkema, 2014; Trichterborn et al., 2016; Zollo & Singh, 2004). However, prior research does not show whether or not acquisition experience consistently influences firm performance. On the other hand, a recent study showed that the learning process enhances the M&A capability of the firm, which is positively related to both M&A performance and the long-term performance of the firm (Trichterborn et al., 2016).

Theoretical Foundations of the M&A Capability Construct

M&A capability has been operationalized as a learning process (Trichterborn et al., 2016), and grounded in the knowledge-based view (Eisenhardt & Santos, 2002; Grant, 1996; Nonaka, 1994), and dynamic capabilities of the firm (Eisenhardt & Martin, 2000; Nelson & Winter, 1982; Teece et al., 1997; Wernerfelt, 1984; Zollo & Winter, 2002). The literature on M&A capability includes the different phases of the acquisition process, but mostly focuses on the integration phase, and the codification of the knowledge. This study operationalizes M&A capability by assessing both the M&A process phases (dynamic capabilities) and the M&A learning process (knowledge transfer in the acquisition process) of serial acquirers qualitatively. After reviewing various frameworks in the literature (Appendix A), the M&A process has been modeled into three phases, including selection, acquisition, and integration (Brueller, Carmeli, & Drori, 2014). The M&A learning process components include articulation, codification, sharing, and internalization (Kale & Singh, 2007; Trichterborn et al., 2016). The process approach of M&A dates back to Jemison and Sitkin (1986) who proposed that scholars research the

acquisition process as a critical factor in acquisition success.

Finance scholars point to the fact that M&A, on average, does not create wealth gains for the shareholders of acquiring firms, but it creates wealth for the acquired firm's shareholders (Zollo & Singh, 2004). Strategy scholars, on the other hand, tend to concentrate on business relatedness or the similarity between acquirer and target organizations. Scholars in organizational studies focus on the effective management of the integration phase of the acquisition process. For example, Zollo and Singh (2004) outline that firms seem to be capable of developing specific capabilities that allow them to improve their chances of success over time, recalling the importance of dynamic capabilities as a source of competitive advantage (Teece et al., 1997).

The M&A capability construct has been conceptualized by Trichterborn et al. (2016) as an M&A learning process and based on the knowledge-based view, with roots on the dynamic capabilities and the resource-based theory. The M&A capability construct in this study is conceptualized using the M&A learning process and the M&A process phases (grounded in the dynamic capabilities view). Appendix A provides a list of articles that relate the theoretical background of M&A process phases and M&A learning process to the M&A capability construct. A detailed literature review on M&A routines and learning through multiple acquisitions is provided in the literature review in Chapter 2.

Research Question

At the core of this research is the examination of the ability of firms to manage the M&A process, specifically firms that engage in multiple acquisitions as part of their

strategy. The purpose of this study is to examine the relationship between firms' M&A capability and their long-term performance.

The primary research question of this study is:

RQ: Is M&A capability in serial acquirers related to the long-term performance of the firm?

Methodology

The proposed design of this study is a mixed-method that employs both qualitative and quantitative methodologies (Creswell, Plano Clark, Gutmann, & Hanson, 2003; Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007).

The M&A capability construct and the synergy-related acquisition motives are operationalized based on a qualitative analysis of corporate documents. This method relies on document analysis, employing text mining techniques (Leech & Onwuegbuzie, 2007; Li, 2008, 2010b; Loughran & McDonald, 2015, 2016; Miner, Elder IV & Hill, 2012) to analyze unstructured data and draw references from annual reports and M&A synopses, i.e., summaries of all transactions extracted from FactSet database (Beattie, McInnes, & Fearnley, 2004; Guthrie, Petty, Yongvanich, & Ricceri, 2004). The software used for this study is Wordstat7. The text mining analysis extracts counts for the qualitative variables, and data is extracted from the FactSet database for the quantitative variables. Two regression models are employed in the data analysis. The variables and the models are detailed in Chapter 3.

The population of the study consists of firms that acquired other firms worldwide from 2013 to 2016, extracted from FactSet database. Companies included in the sample acquired eight or more companies in the study period and are divided into four economic

sectors based on FactSet database ranking by the number of acquisitions, namely, technology services, finance, commercial services, and consumer services. The sampling method is detailed in Chapter 3 and comprises 141 firms and 564 annual reports plus 2,602 synopses for all the M&A deals in the study period.

The empirical model is a multiple linear regression equation that tests the relationship between a continuous dependent variable and several independent variables (Ragsdale, 2010; Schwab, 2013). The equations and the empirical research model are detailed in Chapter 3.

Expected Contributions

The present research contributes to engaged scholarship in several manners (Van de Ven & Johnson, 2006). Firstly, this study confronts questions and anomalies existing, i.e., the relationship between M&A capability and M&A performance. The study builds on shared findings of previous studies on M&A empirical research and theory application (Laamanen & Keil, 2008; Trichterborn et al., 2016; Zollo & Singh, 2004).

Secondly, this paper also offers an alternative relevant methodological contribution to the M&A capability literature. It applies a mixed-method that employs a qualitative, text mining method to extract unstructured data on M&A capability. Previous studies on M&A capability and knowledge transfer related to M&A were mostly based on structured surveys and case studies. The research contributes to an emerging method of analyzing unstructured data, the natural-language processing (NLP) and text mining, a sub-field of artificial intelligence (AI). The innovative empirical research design could be adapted and replicated to other strategic management domains and capabilities.

Finally, the present study intends to contribute to both academic and practical domains (Van de Ven & Johnson, 2006), i.e., Strategic Management and M&A applied research with relevance and rigor.

The last words in the seminal article by Turing (1950) published in 'Mind' are conveniently applicable to the evolution of M&A capability and unstructured data research: "We can only see a short distance ahead, but we can see plenty there that needs to be done."

Research Limitations

Some limitations apply to this study on M&A capabilities, mainly the lack of access to firms' internal data. M&A codified knowledge is usually confidential, so even by surveys, it is not possible to capture all details of the M&A experience. By using annual reports, this study captures the managerial M&A activities, concerns about risks in the M&A process as well as the justification for the M&A strategy and M&A activity to shareholders and financial analysts.

Additionally, future advanced algorithms based on machine learning principles will allow the recognition of patterns similar to humans, but at a large scale, an opportunity for future replication of this research.

Organization of the Dissertation

This dissertation is organized into five chapters. Chapter 1 provides the purpose of the dissertation and summarizes the other chapters. Chapter 2 reviews the literature on M&A and the theoretical foundation for the M&A capability. Chapter 3 details the methodology. Chapter 4 provides the data analysis and findings. Finally, Chapter 5 presents the conclusions, limitations, and future research opportunities.

CHAPTER 2: LITERATURE REVIEW

M&A Capability and the Performance of the Firm

The dynamic capabilities approach emphasizes the internal processes a firm utilizes, and how those processes are implemented and evolve (Teece et al., 1997). They are idiosyncratic, present commonalities across firms, and evolve via well-known learning mechanisms (Eisenhardt & Martin, 2000). According to the dynamic capabilities framework, to execute multiple acquisitions continuously, firms develop and improve specific capabilities (M&A capability) that comprise the M&A process phases and its learning mechanisms (Laamanen & Keil, 2008; Zollo & Singh, 2004; Zollo & Winter, 2002). Recent literature relates M&A capability to M&A performance (Trichterborn et al., 2016). There is a demand to understand the variance of the results in financial studies of M&A performance, since most of them, on average, point to short-term value destruction and long-term negative or neutral effects of M&A transactions for acquiring firms (Cartwright & Schoenberg, 2006; King, Dalton, Daily, & Covin, 2004; Tortoriello & Falk, 2016). There is also a necessity to approach the study of M&A activity holistically, not only the measurement of the stocks' abnormal return or the integration phase of the acquisition but the whole process (Bauer & Matzler, 2014; Cartwright & Schoenberg, 2006). The M&A capability, i.e., the management of the complete M&A process, and the M&A learning process' mechanisms can help explain the performance of the M&A deals better (Trichterborn et al., 2016), and subsequently the long-term performance of the firm. Successful or failed acquisitions influence the long-term performance of the combined firm (Penrose, 1959).

M&A Market and Research

The global M&A market volume is measured in trillions of US dollars, and by the percentage of the global Gross Domestic Product (GDP), so its relevance to the global economy and local markets is unquestionable. The M&A market in 2017, in the U.S. continued to be the most active market both regarding the number of deals (20,897) and volume of transactions ($ 1.46 trillion), followed by China, U.K., and Germany (Zephyr Database, 2018). Many megadeals were announced in 2017, including CVS Health's acquisition of Aetna for $ 77 billion and Disney's $66 billion bid for 21st Century Fox. While megadeals get more attention, smaller deals represent a larger number of transactions. Companies use M&A to attain market consolidation and acquire technological capabilities and to reshape their portfolios in response to disruptive forces. Many transactions are strategically crucial for the future, but the success of the deals depends not only on the amount of money spent but also on the capacity to manage the integration of acquired firms and the resulting organization (Casey, 2017). Megadeals are expected to gain momentum in 2018 with the new tax regulations and greater availability of financing. Unlike previous acquisitions that targeted cost-efficiencies, the current business environment pressures large traditional companies to seek ways to remain competitive as the tech giants advance into their traditional markets (Saada & Moldenhauer, 2017), so the acquisitions often try to acquire technology and management capabilities. The megadeals will continue to be under the scrutiny of regulators, for example, the AT&T bid for Time Warner blocked by the US Justice Department, and the smaller deals' market will continue to be active.

The M&A market is a vibrant and sophisticated option for firms to complement their organic growth strategy through market consolidation, diversification, cost synergies, and new capabilities acquisition. A brief discussion about the synergy and agency motives of M&As is provided next.

Synergy motives. Firms engage in acquisitions programs, aiming at operational and market synergies, obtaining market-power, diversification benefits as well as economies of scale and cost-efficiency (Berkovitch & Narayanan, 1993; Chatterjee, 2009; Dutta & Saadi, 2011; Rahman, 2011; Swaminathan et al., 2008; Walker, 2000). Additionally, companies have the opportunity to acquire a bundle of resources when they engage in M&A, including technological capabilities and other resources (Caiazza & Volpe, 2015; Ranft & Lord, 2002; Wernerfelt, 1984). Through acquisitions, firms aim to reinforce their competitive position and overcome internal deficiencies. For example, acquiring complementary resources like intellectual capital in the form of capabilities, copyrights, patents, licenses, brands, and intangible or invisible assets adds to a firm's competitive position (Teece et al., 1997).

Motives for acquisitions may also be related to strategic, nonfinancial reasons, such as to deal with environmental and technological uncertainties or to decrease organizational vulnerabilities (King & Schriber, 2016). Companies often engage in cross-border acquisitions that provide fast access to new markets, the opportunity to utilize excess capacity, and greater economies of scale. Cross-border acquisitions also allow companies to obtain new resources that are imperfectly mobile across countries (Caiazza & Volpe, 2015), and are associated with wealth creation when a firm pursues country diversification through M&A (Kiymaz & Mukherjee, 2000). In this research, the synergy

motives are operationalized as control variables, namely market consolidation, market diversification, cost-efficiency, and capabilities acquisitions.

Other motives for M&A activity may include hubris, empire building, and executives' self-interest seeking, as discussed in agency theory (Harford, 2011; Kiymaz & Baker, 2008; Mukherjee, Kiymaz, & Baker, 2004).

Agency motive. Many theories have been used to explain the M&A motives. This study considers the agency theory as a motive for M&A, explained by managerial discretion and ownership structure of the firm. Agency theory (Jensen & Meckling, 1976) and the free cash flow theory have been used by Jensen (1986) to explain value-destroying acquisitions in the oil industry. Xie (2011) cites that Jensen and Meckling (1976) found evidence that the separation of ownership and control in firms brings many benefits, but creates costs related to agency conflicts, i.e., conflicts of interest between management and shareholders.

Agency theorists have asserted that value-destroying acquisitions were related to weak board monitoring of executives' decisions on diversification (Jung & Shin, 2018), and both internal and external monitoring can constrain managerial discretion (Jung & Shin, 2018). Managerial discretion, occurs when managers have the freedom to pursue their self-interests instead of the interests of shareholders (Tosi et al., 1999). When few internal or external governance mechanisms restrict managerial discretion, managers are likely to make decisions aligned with their interests at the expense of the shareholders. Tosi et al. (1999) cite Jensen and Meckling (1976) on how to monitor managers as a way to minimize the agency problems together with incentives to align managers and owners' interests. Managers tend to avoid risk, so compensation policies that share the risk of

owners with managers tend to reduce agency conflicts (Jensen & Meckling, 1976, Tosi et al., 1999, Ang, Cole, and Lin, 2000). Managers have discretion and control of the firm when the ownership of the company is highly diffused, so that no one owns enough stock to be able to effectively monitor the firm's managers. Tosi et al. (1999) cite Hunt's (1986) definition of managerial discretion as a characteristic of the firm 's ownership structure: when a shareholder owns at least 5% of the of the firm's outstanding stock, the firm is considered owner-controlled, otherwise the firm is considered manager-controlled.

Ownership structure is an important corporate governance mechanism in the M&A setting (Goranova, Dharwadkar, & Brandes, 2010) and many studies have examined the effects of ownership structure on M&A agency problems (Denis et al., 1999; Xie, 2011). There are M&A regulations in place to mitigate the conflicts between involved parties in M&A processes, and in dispersed ownership companies, the primary role of the regulation is to restrain opportunistic managerial behavior (Martynova & Renneboog, 2011).

For this study, the threshold of 5% is adopted as the limit for diffuse ownership. When the firm is owner-controlled, managerial discretion tends to be restrained, and the agency problems have minimum impact on firm performance in the long-term. In the opposite condition, manager-controlled firms, or diffuse ownership, agency problems tend to be higher, and the performance of the firm lower in the long-term due to poor M&A decisions.

Methods for Understanding M&A Success

A vast body of financial research provides mixed results in measuring M&As success and demands new methodologies and research (King et al., 2004; Martin, 2016). What would attract such megadeals, and hundreds of smaller acquisitions, if they do not create value in the long-term? The body of literature attempts to explain the M&A performance problem using financial, strategic, and organizational lenses, the last of which is the focus of the literature review in this study, detailed in the following paragraphs.

The research on M&A is ample and mostly focused on M&A performance measured by the abnormal return of stocks in different timeframes using event studies (MacKinlay, 1997). Although prevalent in the literature, the vast body of event studies provide mixed evidence of success (King et al., 2004), so there is a struggle between the literature findings and managers' enthusiasm demonstrated by the trillions of dollars involved in M&A transactions year after year (Figure 1). This conundrum constitutes an interesting research avenue for both academics and practitioners.

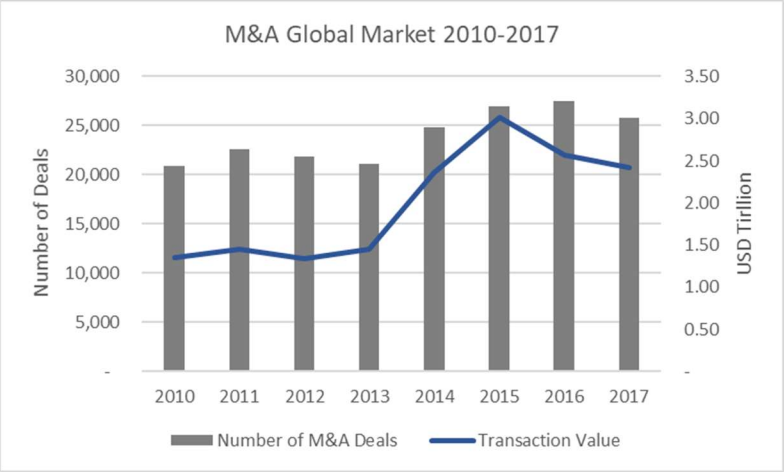

Figure 1. Global M&A Market (Completed and pending transactions, full shares acquisitions, public and private companies, and subsidiaries). Source: FactSet (2018, Jan).

In general, empirical findings report positive abnormal returns for target firms, but mostly loss of value for acquiring firms (Fuller et al., 2002; Zollo & Singh, 2004). Ferreira et al. (2014) affirm that the extant research based on event studies does not provide sustained evidence of positive effects for M&A activity on post-acquisition performance. Some limitations apply to event studies since many additional variables influence the market response to events, such as expected synergies and premiums paid for the acquired firms, making it difficult to control for all factors and measure the real impact of the acquisition announcement (Fuller et al., 2002). Moreover, after the integration process begins, the acquired company loses its independence and must be quickly financially integrated, which means it becomes too complicated to infer performance from stock returns after the acquisition.

It seems reasonable to assess the long-term success of the M&A by the success of the resulting combined entity after the acquisition, as proposed by Penrose (1959). King et al.'s (2004) meta-analysis also suggested that nonfinancial factors motivate M&A activity, such as the use of acquisitions to manage environmental and technological uncertainties, and the pursuit of growth to diminish organizational vulnerabilities.

In searching for answers to this research problem, strategic management studies have been trying to explain M&A and firm performance based on alternative theoretical foundations, including the stream that this research builds on.

Strategic management research has been focusing on strategic and process explanations for the variance in M&A's performance (Cartwright & Schoenberg, 2006). The strategic approach is concerned with the business relatedness of the combining firms, or the 'strategic fit,' but this strategic explanation has not been sufficient to explain the

underperformance of M&As, without taking account of the integration process. The relatedness of business is indeed supposed to lead to a better integration process (Zollo & Singh, 2004) and provides valuable insights to research on the resource and knowledge-based approaches, complemented by the dynamic capability-based framework (Junni, Sarala, Tarba, & Weber, 2015). The process approach for the integration of M&A evolved as a dynamic capability of the firm that facilitates knowledge transfer between the firm for the creation of synergies (Junni et al., 2015). The dynamic capabilities of the firm (Teece et al., 1997) is a framework derived from the resource-based theory (Barney, J. B., 1996), and an essential component of this study. Additionally, the transfer of knowledge during the M&A process phases is also a growing area of research in the literature of strategic management, and it is based on a framework derived from the resource-based theory, namely the knowledge-based view (Grant, 1996), which approaches the knowledge as a critical resource of the firm. In M&A research, knowledge improvement has been associated with previous acquisition experience (Laamanen & Keil, 2008; Trichterborn et al., 2016; Zollo & Singh, 2004; Zollo & Winter, 2002). Two recent research assessed both M&A process phases and the M&A learning process in a combined approach to strategic agility (Brueller et al., 2014; Junni et al., 2015). This research also combines both perspectives to conceptualize the M&A capability construct based on the dynamic capabilities of the firm and the knowledge-based view (Figure 2).

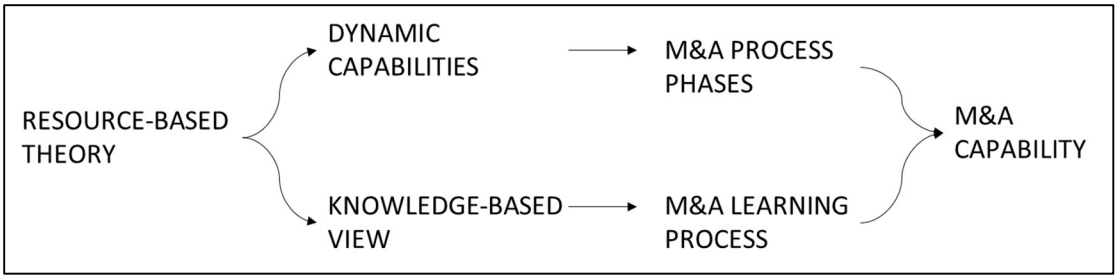

Figure 2. Theoretical Background and Dimensions of the M&A Capability Construct.

Several scholars examine the performance of firms involved in serial acquisitions and report mixed results. For example, Laamanen and Keil (2008) show that a high rate of acquisitions and high variability of the rate are negatively related to firm performance. Fuller et al. (2002), examining multiple acquirers, report varying returns depending on the type of target (i.e., public vs. private firm) and the type of payment (i.e., cash vs. stock) for the transaction. The authors also find that acquirers pay less for private companies or subsidiaries than for public target firms. The consensus in the literature indicates that firms performing multiple acquisitions accumulate experience and develop management skills that contribute to the development of an M&A capability. Croci and Petmezas (2009) relate superior M&A management skills to superior M&A performance, measured by the excessive stock price performance. More recently, Trichterborn et al., 2016) also reported a statistically significant positive relationship between M&A capability and M&A performance, using a survey of CEOs and CFOs.

M&A Capability Construct: Theoretical Foundation

An emerging stream of research analyzes M&A processes and capabilities as a form of competitive advantage (Eisenhardt & Martin, 2000; Finkelstein & Haleblian, 2002; Haleblian & Finkelstein, 1999; Hayward, 2002; Laamanen & Keil, 2008; Trichterborn et al., 2016; Zollo & Singh, 2004). By developing, deploying, and

protecting combinations of competencies and resources to address changing environments (dynamic capabilities), firms can build firm-specific capabilities that can be sources of competitive advantage (Teece et al., 1997), and enhance the performance of the firm. At the same time, the knowledge-based view framework serves as a basis for an increasing body of research on deliberate learning mechanisms and their influence on the dynamic capabilities of the firm. For instance, codification leads to distinct processes that enable more professionals at the firm to gain acquisition knowledge (Zollo & Singh, 2004, cited in Trichterborn 2016).

In the methodology chapter of this dissertation, the M&A capability construct is conceptualized based on the dynamic capabilities of the firm and the knowledge-based view. The dissertation builds on codified and shared knowledge on M&A capability and its antecedents from several studies on M&A and process management (Brueller et al., 2014; Junni et al., 2015; Kale & Singh, 2007; King et al., 2004; Laamanen & Keil, 2008; Toppenberg, Henningsson, & Shanks, 2015; Trichterborn et al., 2016; Zollo & Singh, 2004). While Trichterborn et al. (2016) focus on M&A function and capability, other studies (i.e., Brueller et al., 2014; Junni et al., 2015) assess the M&A process phases management and knowledge transfer as sources of strategic advantage.

Resource-based theory.

The seminal work of Penrose (1959) influenced both the resource-based view (Wernerfelt, 1984) and the resource-based-theory (Barney, Ketchen & Wright, 2011). Pitelis' (2009) review of Penrose's legacy states that the resource-based theory (RBT), dynamic capabilities, and knowledge-based view are the dominant perspectives in strategic management. Penrose (1959) defines the foundations of the firm to attain

growth, its limitations, and boundaries; and by her point of view, a firm is comprised of resources, physical and human, and services rendered by the resources. Services imply a function or activity, and cannot be defined materially as resources, while resources can be defined independently of their use. The uniqueness of each firm is provided by the combination of resources and services. Interestingly, Penrose (1959) provides a clear picture of the limit the managerial services of a firm imposed by the expansion of the firm. Each company has a limited available management team, and limited managerial services, and despite counting on external consultants or specialized services, the ultimate decisions involve the firm's managers and their limits of time. In this regard, a company can engage in M&A not only to acquire market share or productive resources but also to complement its capacity of growth through the acquisition of managerial resources and services. Penrose (1959) perspicaciously stated her opinion on M&A success: "From our point of view a merger is 'successful' if it creates a larger industrial organization than before and one that survives and provides a basis for future growth." This statement supports the findings in the literature on M&A performance and King et al.'s (2004) puzzling conclusion that financial motivations only do not necessarily justify the M&A activity.

Building on Penrose's resource concepts, Wernerfelt (1984) analyzed the dynamics of resource positioning and allocation and looked at companies' resources, rather than their products. Wernerfelt' s work provided important thoughts for the coming resource-based-theory and its extension, the dynamic capabilities of the firm. Wernerfelt (1984) focused on M&As as opportunities to trade non-marketable resources or to buy or sell resources in bundles in the M&A transactions.

Barney et al. (2011) analyzed the contributions and status of Barney's resource-based-theory at its 20th anniversary and reaffirmed the importance of Penrose's (1959) work on identifying the importance of a firm's resources and the internal attention to the firm. The RBT was shaped after the 1980s, a time when the dominant strategic thought was focused externally, influenced by Porter (1979). In the following years, the theory entered a growth phase and gained recognition. After 1999, it reached its maturity, calling attention and receiving scholarship contributions to improve as a theory. For example, Barney himself recognized the contribution of Priem and Butler (2001) in his "response" article to their critiques (Barney, 2001). It is worth citing Conner's (1991) effort to position the resource-based view (RBV), at that time as an emerging theory of the firm, by comparing and distinguishing it from five theories of the firm used in industrial organization economics. The RBT has been primarily applied to strategic management research and has been used extensively as a theoretical basis for M&A research (Cartwright & Schoenberg, 2006; Junni et al., 2015; Zollo & Singh, 2004).

Dynamic Capabilities of the Firm

There have been two significant spin-offs from the RBT, namely the dynamic capabilities of the firm and the knowledge-based view that is detailed below and are the basis of the M&A capability in this research. Both frameworks have influenced the research on M&A capability.

Early in the literature, Penrose (1959) provided the foundations of managerial capabilities as critical factors of success for the integration of acquired companies affirming that "much more than entrepreneurial and financial services are required for the successful establishment or expansion of a firm through acquisition" (Penrose, 1959).

Managerial capabilities evolved to dynamic capabilities, which provide an organization with the capacity to create, extend, or modify its resource base purposefully. Dynamic capabilities are about change. To identify the need or opportunity for change and to accomplish this change, the organization uses processes - search processes, decision-making processes, change-management management processes, and others (Helfat et al., 2009).

The dynamic capabilities approach is an extension to the RBT (Barney, 1991) and its emphasis is on the internal processes of the firms and how they are deployed and evolve (Teece et al., 1997). The concept is based on the dynamic management of the firm's resources and competencies, in the form of managerial and organizational processes, shaped by the company's asset position, or resources, and the strategic paths available to the firm. Depending on the dynamics of the market and industry in which the company operates, the dynamic capabilities are different. In traditional markets, the dynamic capabilities, or the set of specific and identifiable processes (Eisenhardt & Martin, 2000), are more structured and stable over time. On the contrary, in highly dynamic markets, the dynamic capabilities are simple, experiential, and unstable. Helfat and Peteraf (2003) extended the dynamism of capabilities and proposed the dynamic capabilities lifecycle and the importance of the evolution of the capabilities in the firm's capacity to create competitive advantage. Their definition of dynamic capabilities corroborated the process basis of the framework defined by Teece et al. (1997), i.e., the ability of an organization to perform a series of activities and allocate organizational resources toward a determined goal. Eisenhardt and Martin (2000) also identified specific strategic processes as dynamic capabilities and emphasized that their relationship

to altering the resource base is a key concept that defines the value of the dynamic capabilities independent of firm performance, what enables empirical falsification. This independent relationship between the dynamic capabilities and the performance of the firm is the basis of the research question of this study.

The M&A Process Phases

Jemison and Sitkin (1986) propose an approach to M&A as a process, an alternative view of the traditional research that portrayed the executive as a decision maker, which was known as the choice perspective. With the new perspective, the M&A process itself was understood as a determinant of activities and outcomes of the M&A. Research on the M&A process has mostly focused on the integration phase or the post-acquisition, but recent literature has focused on the whole M&A process (Figure 3), including selection, acquisition, and integration phases (Brueller et al., 2014; Chatterjee, 2009; Junni et al., 2015; Toppenberg et al., 2015; Trichterborn et al., 2016). For example, Bauer and Matzler (2014) indicate the importance of the interdependence of all phases in the M&A process, although managers see the integration phase as the decisive phase for the M&A's success. Their holistic approach to M&A contends that the success of the M&A depends on pre-merger issues (strategic complementarity and cultural fit) and post-merger issues (degree of integration and speed of integration) reinforcing the importance of pre-acquisition considerations.

Figure 3 below outlines three phases of an M&A process.

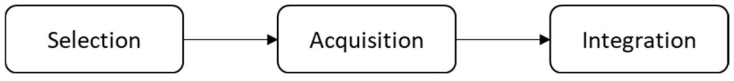

Figure 3. M&A Process Phases.

The first phase of M&A process, selection, involves the firm's strategic articulation (Trichterborn et al., 2016) and decisions. This includes growth through acquisitions and on-going transformation of the business (Chatterjee, 2009) toward new markets or segments aiming at synergies that can lead to market consolidation, market diversification, cost-efficiencies, and new capabilities acquisition. These motives drive the acquirer firm's search for targets that deliver the desired benefits of an acquisition. The selection phase also involves the identification of potential targets, the initial contact with the target firm, and its valuation, with or without the involvement of advisors and investment bankers (Chatterjee, 2009). It is common for acquirers to look for a market for corporate control opportunities, in other words, companies with higher potentials for growth if managed more effectively and efficiently by the acquiring firm (Manne, 1965; Xie, 2011). To better exploit the market inefficiencies and take advantage of them for corporate control opportunities, acquirers try to avoid getting external consultancies and investment bankers involved on the side of the target and execute the acquisition transaction as fast as possible to avoid competitors' bids. This maneuver would, consequently, help to acquiring firms to avoid paying higher premiums to target firms. During the selection phase, companies assess the list of potential targets, allocate financial and managerial resources, and access previous insights with similar acquisitions, learned experiences, and shared knowledge. This phase is usually conducted in secrecy and isolation. Relevant factors must also be considered, including the impact of regulations and the relative size of the target to the acquirer. This phase is also marked by a close interaction intended to break down the resistance of the target and lead to the transaction (Jemison & Sitkin, 1986).

The acquisition phase is related to financial and cultural due diligence (Fubini, 2014; Piccolo & Bardes, 2011), negotiation, approvals, agreement execution, and the considerations' executions, whether they are cash, shares, equities, or other forms of payment. This phase confirms or not the investment objectives identified in the selection phase and establishes a solid basis for the integration process. During this phase, it is crucial to confirm the strategic and cultural fit of the target to the acquirer, and the possible speed of integration (Homburg & Bucerius, 2006). Whenever possible, this phase is also conducted in secrecy and as fast as possible to avoid leaks to the market. In a publicly held company, the information is readily available through annual reports filed within regulatory entities, while in privately owned companies the information relies on the availability of the target and then the quality of such information must be audited (Grimm, 2011). Target companies prefer a competitive sales procedure to direct negotiations with one bidder, which can raise the selling price and benefit the target, although there is evidence that managers may prefer direct negotiations benefitting them at the expense of the shareholders (Aktas & De Bodt, 2011). The acquisition phase is complex, intense, and impacts the integration process.

The most important phase is the integration, which is strongly influenced by the previous ones. During integration, the target company is integrated, often assimilated into the acquiring company, and the different processes, teams, and cultures are combined. This phase constitutes a real challenge to knowledge transfer since the acquiring and acquired firms typically do not share common strategies, structures, history, or culture (Ranft & Lord, 2002). This phase is critical to the acquirer as it diverts a considerable amount of managerial resources from core activities (Penrose, 1959; Yu, Engleman &

Van de Ven, 2005). The integration should be driven by the reason for the acquisition (Chatterjee, 2009) and that influences the number of resources deployed to make the integration successful. The integration phase concentrates most of the research on M&A by organizational studies. Larsson and Finkelstein (1999) reinforced the importance of the integration by defining the construct synergy realization and found that the main determinant to a successful M&A integration was the organizational integration, which depends on the degrees of interaction and coordination between combining firms to predict integration success.

The Knowledge-Based View

Dynamic capabilities are also related to knowledge, and in stable and traditional processes, they resemble the traditional concept of routines and rely on existing knowledge, while in high-speed markets they rely on quickly created knowledge (Eisenhardt & Martin, 2000). From the perspective of the learning mechanisms that influence the formation of dynamic capability, the M&A capability has been defined as a construct by using the knowledge-based view by Trichterborn et al. (2016) based on a similar work of Kale and Singh (2007) on the alliance construct.

The knowledge transfer in the M&A research has traditionally been assigned to M&A experience, or the application of knowledge learned in M&A activity applied to further acquisitions, as reviewed by Barkema and Schijven (2008). Besides the experience perspective, other researchers approached the deliberate learning mechanisms during the M&A process phases (Haleblian & Finkelstein, 1999; Zollo & Singh, 2004; Zollo & Winter, 2002). This stream of research was based on the knowledge-based view (Grant, 1996) and other knowledge integration researchers like Nonaka (1994). Zollo and

Singh (2004); Zollo and Winter (2002) were the main contributors to the deliberate learning studies on capabilities and M&A.

Nonaka's (1994) research brought attention to the knowledge creation process and proposed the continuous dialogue between tacit and explicit knowledge. Together, tacit and explicit knowledges constitute one of the dimensions of knowledge creation in Nonaka's model. Tacit is related to individual knowledge, which is difficult to codify and transmit, but is dynamic and related to action, while explicit knowledge is codified knowledge, transmittable via words and numbers. Organizations play a critical role in articulating and amplifying tacit knowledge (Nonaka, 1994). Advancing the concepts of knowledge creation and integration, Grant (1996) proposed the knowledge-based theory, and the focus on the coordination mechanisms of knowledge integration, in which the firm's main role is to integrate knowledge instead of creating it since specialized knowledge resides within individuals. The foundations of the organizational learning mechanisms were defined by Grant's research, who proposed that organizational capabilities are an outcome of knowledge integration. His research broadened the field of knowledge integration and redefined the role of managers in coordinating this integration, and he contributed to the evolution of the research on learning mechanisms, strategic management, and dynamic capabilities, and in the case of this study, the M&A capability. Zollo and Winter (2002) advanced the concepts of knowledge integration into the dynamic capabilities domain and concluded that dynamic capabilities develop based on three mechanisms: the tacit accumulation of experience, knowledge articulation, and knowledge codification. These three learning mechanisms shape the dynamic capabilities of a firm by a semiautomatic accumulation of experience and by deliberate

efforts invested in the knowledge transfer mechanisms. From this study on, deliberate learning gained importance within dynamic capabilities, as a form of pro-active learning initiatives instead of only accumulating experience. Bingham, Heimeriks, Schijven, and Gates (2015) highlighted the importance of knowledge codification in the knowledge transfer, as a necessary condition. Their study across processes at Dow Chemical has shown the necessity of some tacit knowledge residing in generalist coaches to help managers manage the knowledge transfer, in other words, the coordination role of the managers, as proposed by Grant (1996) previously. Building on the learning mechanisms in the domain of alliances, Kale and Singh (2007) modeled the learning alliance capability based on four aspects of the alliance learning process, namely knowledge articulation, codification, sharing, and internalization. The study assessed empirically the learning and knowledge accumulation processes outlined in the knowledge-based view and served as a basis for future research on M&A learning and M&A capability. Trichterborn et al. (2016) based his research on Kale's alliance learning process and applied the knowledge-based view fundamentals to assess empirically the M&A learning process that helps build up an M&A capability (Figure 4), which is positively related to overall M&A performance. An important contribution of the research, on which this study builds, is that the M&A capability development allows for an integrative perspective of the whole M&A process.

M&A Learning Process

The four mechanisms through which organizations develop capabilities and that have been used to define the M&A capability are outlined below and based on Kale and

Singh (2007), Trichterborn et al. (2016), and Zollo and Winter (2002).

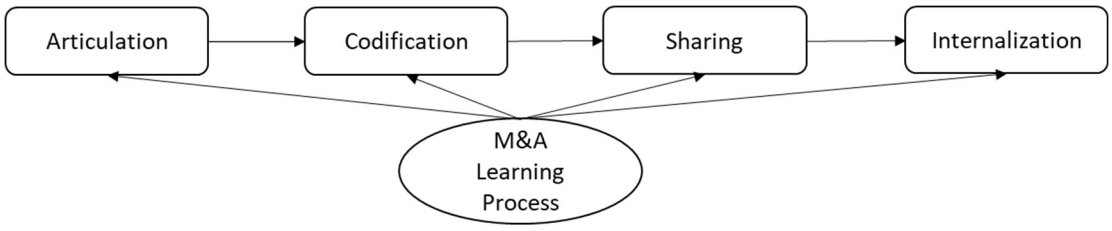

Figure 4. M&A Learning Process. Adapted from: Kale and Singh (2007); Trichterborn et al. (2016).

Articulation of tacit knowledge facilitates the development of an M&A capability or the articulation of the M&A know-how. Through debriefing sessions or a formal feedback process, the articulation facilitates the understanding of the decisions made in the M&A process and past experiences. The articulation requires managers to reflect on their activities and the outcomes and contributes to the improvement of routines and the dynamics of the capability. The externalization also avoids knowledge loss because of turnovers and changes in team members (Trichterborn et al., 2016; Zollo & Winter, 2002).

Codification enables more professionals to gain M&A knowledge and keeps the acquired knowledge independent of the individually specialized know-how. Additionally, the codification of the lessons learned in previous experiences facilitate the adjustment of the process routines (Zollo & Winter, 2002) and should aim at developing and transferring not only know-how but also know why. Codification occurs in all phases of the M&A process in a dynamic, interactive cycle.

Sharing knowledge is also important in all phases of the M&A process. Formal channels of sharing occur via committees, task forces, meetings, and seminars while informal ways include phone, e-mail, and informal meetings (Trichterborn et al., 2016).

It is important to mention that sharing knowledge about secret processes like M&A deals is sometimes difficult and restricted to a limited number of executives and key employees of the firm.

Internalization is about the absorption of the acquired knowledge through mentoring, training, and workshops that help managers to understand better and absorb the new know-how gained from the acquisitions. The codified knowledge is made available to other M&A team members via shared instruments, e.g., internal media, documents, meetings, and training sessions. On-the-job training during an on-going acquisition is also a form of internalization of knowledge.

M&A Capability

This study builds on Trichterborn et al.'s (2016) research and provides an extended methodology for assessing the M&A capability. In this research, the M&A capability follows both the dynamic capabilities approach (Teece et al., 1997) and the knowledge-based view (Grant, 1996), combined as a dynamic, interactive activity that integrates and feedbacks knowledge in the M&A process. Figure 5 represents the dynamic interaction of the M&A learning process and the M&A process phases (loop arrows), similar to what has been devised by Brueller et al. (2014). The M&A capability construct is based on the literature of M&A process and knowledge integration that occur in the M&A process.

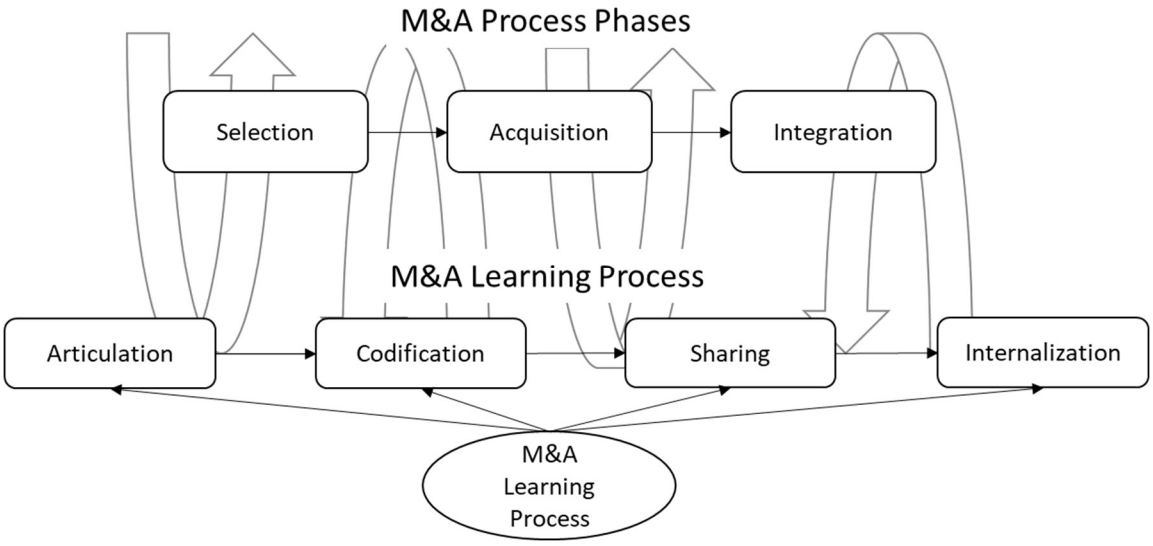

Figure 5. M&A Capability Concept in terms of the dynamic interaction between the learning process and the M&A process phases (loop arrows).

M&A Performance Measures

M&A is a strategy of choice for many companies, and there are several motives for a firm to engage in M&A. The most common motive seeks to obtain synergies that lead to the expansion of the business through market consolidation, market diversification, cost efficiencies, and the acquisition of unique capabilities (Kiymaz & Baker, 2008; Ranft & Lord, 2002; Swaminathan et al., 2008). Penrose (1959) agrees, stating "Whenever merger is considered to be the most profitable way to expand, there will surely be a tendency for the merger to occur" (Penrose, 1959). Penrose explained the decision process as either invest in new capabilities or absorb them through the acquisition of other firms, the natural choice being the cheapest to develop and deploy. Many companies engage in multiple acquisitions to execute the M&A strategy. The continuous acquisitions activities demand the development of specific capabilities that

improve with acquisition experience (Chatterjee, 2009; Laamanen & Keil, 2008; Trichterborn et al., 2016; Zollo & Singh, 2004).

The literature provides evidence of the importance of M&A process management, mainly the integration phase (Zollo & Singh, 2004), as successful acquisitions depend on the capacity of a firm of effectively and efficiently manage the acquisition process. The M&A performance of the firm that acquires multiple companies over time has been related to the M&A capability of that firm (Laamanen & Keil, 2008; Trichterborn et al., 2016).

Different schools of thought adopted different M&A performance measures over the years. Specifically, the financial and strategic management schools' main measures are listed in Table 1. The most common measure of performance is the abnormal return of stocks during a timeframe or event window, through which the market reaction to the announcements is perceived. Although extensively adopted and influencing practitioners, the event analysis offers no consistent conclusions on the M&A performance, as previously discussed in this study.

Table 1. Main M&A Performance Measures in the Literature

Literature Review – M&A Performance Measures		
Financial	Stocks, market-based (abnormal returns)	King et al. (2004) meta-analysis; Dutta & Saadi (2011)
	Accounting-based (Return on Equity ROE, return on assets ROA, return on sales ROS)	King et al. (2004); Bauer and Matzler (2014)
Strategic Management	Survey-based (Management subjective)	Trichterborn et al. (2016)
	Strategic fit	King et al. (2004); Cartwright and Schoenberg (2006)
	Accounting measures (ROA, ROE, ROS)	King et al. (2004); Bauer and Matzler (2014)

Short-term performance in event studies, in general, show a positive return to acquired companies, and a zero or negative return to acquirers (Dutta & Saadi, 2011). Long-term performance, on the other hand, presents a puzzling situation in event studies, and most long-term analyses show negative abnormal returns over one to three years after the merger (Dutta & Saadi, 2011; Tortoriello & Falk, 2016). Dutta & Saadi (2011) explain that the long-term negative returns are questionable if considered that most studies evaluate the abnormal returns in a short time frame. By doing so, there is an implicit assumption of market efficiency, and that the impact of the acquisition is absorbed in a short time, what is not correct. Additionally, the methodologies differ among the studies, and when correcting for those differences, there is no significant abnormal return in the long-term performance evaluations (Dutta & Saadi, 2011).

Corroborating the search for answers to the inconsistent long-term results, King et al. (2004)'s meta-analysis point to other measures of performance that were employed by different academics. Objective measures include accounting measures like return on equity, assets, and sales, represented by the abbreviations ROE, ROA, and ROS, respectively (Bauer & Matzler, 2014). Subjective measures include executive's perception surveys (Trichterborn et al., 2016), as an example. Because no methodologies that measure M&A performance are without serious limitations, different measures and methodologies are needed to support the advancement of knowledge in this area.

Different research fields use performance as part of their statistical models, and in strategic management, performance has been used as an outcome variable to test the RBT in different ways, but without common measures. Addressing this lack of common approach to measure performance, Santos and Brito (2012) proposed a multidimensional

framework to close this gap and allow researchers to choose the dimensions of performance subjectively, but with confidence. Santos and Brito's (2012) framework proposed six first-order dimensions of performance, namely, profitability, growth, customer satisfaction, employee satisfaction, social performance, and environmental performance. Her results suggest that the dimensions cannot be used interchangeably, since they represent different aspects of performance, confirming that stakeholders have different demands that need to be treated independently. Another dimension that was considered but could not be confirmed in Santos and Brito study was the market value, due to the lack of data in the factor analysis.

The present research adopts a multidimensional approach to measure performance using two dimensions considered in Santos and Brito's study, profitability and market value. The choices employed in this dissertation contribute to addressing King et al.'s (2004) findings in M&A research that concluded that multiple measures of firm performance should be used to understand better the complete performance impacts of M&A activity. Additionally, the use of a market value measure is less subject to reporting biases by the management, i.e., agency problems (Tosi et al., 1999). The dimension profitability is represented by the accounting variable return on equity (ROE) as the dependent variable in the regression model, common in M&A studies (Table 1). Price-to-Book ratio (P/B) variable is added as a dependent variable for a second model representing the market value dimension (Santos & Brito, 2012, p. 103). The Price-to-book ratio (P/B) represents a market value measure of performance and has been used to assess firm performance in M&A through abnormal returns (Ma, Zhang, & Chowdhury, 2011). Based on previous research that adopted the hybrid measure of performance

Tobin's q, this study similarly employs the P/B ratio to evaluate managerial performance. If P/B ratio is interpreted as managerial performance, then better-performing firms also make better acquisitions as per Servaes' (1991) findings using the Tobin's q measure. Lang, Stulz, and Walkling (1989, p. 138) also explain Tobin's q as a proxy for managerial performance in their research: "Tobin's q is an increasing function of the quality of a firm's current and anticipated projects under existing management. If management's performance is a major determinant of a firm's q ratio, our results show that the target, bidder, and total gains from takeovers are related to the performance of both target and bidder management". Additionally, Penrose's (1959) thoughts on management services and the performance of companies that pursue M&A also supports the idea that better management leads to better firm performance. The variables are detailed in Chapter 3.

Hypothesis

This chapter familiarized the reader with the resource-based thoughts of Penrose (1959) whose influence still profoundly affects the strategic management discipline. Reshuffling resources and the capability to manage multiple resources has been a form of strategy since The East India Company, the first firm backed by a stock exchange (Lawson, 2014). The M&A dynamic market is complex and challenging to model and predict, and its known recorded activity dates to early 20th century. This research builds on previous literature on M&A capability, a construct that proxies firms' mastery over the M&A process, which ultimately influences their long-term performance.

The present research addresses the problem of inconsistent results in M&A performance research. The dissertation's purpose is to explore the M&A managerial

capabilities' influence on firm's performance. In other words, companies that engage in continuous acquisitions over the years (serial acquirers) develop enhanced M&A routines and accumulated knowledge (M&A capability), and in the long-term, the overall emerging organization performs better.

At this point, the research question is repeated and the hypotheses presented (Figure 6):

RQ: Is M&A capability in serial acquirers related to the long-term performance of the firm?

Hypothesis

H_1: For serial acquirers, there is a positive influence of M&A capability on the long-term performance of the firm.

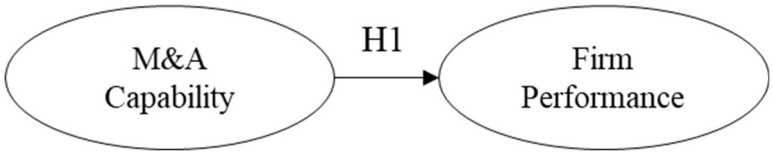

Figure 6. Research Hypothesis.

CHAPTER 3: METHODOLOGY

This chapter summarizes the research design and the empirical model of the present study. The first part introduces the mixed-method research design model, and a literature review on text mining methodology and unstructured data. In the following section, the sampling frame, the data-collection method for the operationalized constructs, and the regression models to be used to test the hypothesis are detailed and explained.

Research Design

Mixed-Method Design. This study uses an empirical mixed-method longitudinal research design that employs qualitative analysis to operationalize the M&A capability construct and the M&A synergy motives. Performance data is collected from archival sources and the relationship between M&A capability and performance is tested using a regression model (Figure 7).

Except for the annual reports and M&A synopses of firms analyzed in the qualitative portion of the research, all other data comes from the FactSet financial solutions database.

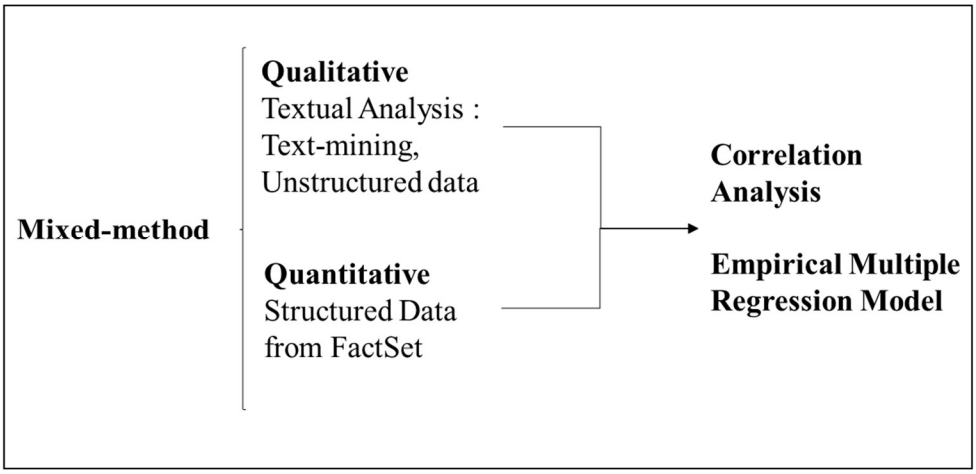

Figure 7. Mixed-Method Research Design.

This mixed-method design accesses unstructured data through qualitative research and contribute to the existing methodology in the M&A capability literature. There is a tradition in social sciences research that supports the use of mixed-methods aiming at "triangulation" and shows that quantitative and qualitative methods are not rivals, but complementary approaches (Jick, 1979). Creswell & Clark (2007) define mixed-method as any design that combines at least one quantitative method (numbers as data) and qualitative method (words as data). This research employs text mining (qualitative) to quantify the importance of words in a determined context, in this case, the operationalization of the M&A capability construct and the motives involved in acquisitions (as control variables).

Unstructured Data and Text Mining Methodology

The literature on M&A research has shown that most studies on M&A performance have relied on quantitative statistical models of abnormal returns based on structured data, i.e., numerical financial data available or data collected via surveys. On the other hand, for the past few years, the financial world has demonstrated an interest in the meaning of unstructured data. Unstructured data is the data embedded in annual reports, 10K filings with SEC (Securities and Exchange Commission), social media content, news, interviews, transcripts, or any other form of data in which the context is analyzed by humans' interpretation (Zhao, 2017). As a response, and with the advance of research on cognitive analysis using text mining, content analysis, and their variations, Natural Language Processing (NLP), a subfield of artificial intelligence (AI), is gaining momentum. The usual applications today are for financial analysis (sentiment analysis), behavior research (marketing, as an example), and document analysis (prediction,

sentiment). The methodology adopted in this study analyzes unstructured data related to the M&A capability from annual reports of serial acquirer companies using text mining. A review of the literature of unstructured data and text mining is provided below.

Predictive methods in the financial market are divided into technical or fundamental analyses. While technical analysis has dominated research in the past, fundamental research is more challenging because most of the data is in the format of unstructured data (Nassirtoussi, Aghabozorgi, Wah, & Ngo, 2014). The amount of information captured by companies online is growing exponentially, and almost all quantitative data in the financial markets has been contextualized by textual data (Loughran & McDonald, 2016). According to the International Data Corporation Survey, cited in Zhao (2017), the amount of unstructured data has grown at a compound annual growth rate (CAGR) of 61.4% versus 23.8% of structured data and has reached six times the quantity of structured data. As a result, the amount of internet data currently available is 80% unstructured, and by 2022, 93% of all data will be unstructured (IDC survey cited in Zhao, 2017). By analyzing unstructured data, researchers can evaluate cognitive patterns that cannot be studied through quantitative research. A textual analysis of corporate disclosures can provide useful context for understanding financial data (Li, 2010b). As an example, Li (2008) reveals that when management discussion in 10K filings is confusing or difficult to understand, it is likely that the reported data have lower quality.

Recent advances on unstructured data analysis have been applied to sentiment analysis (Nassirtoussi et al., 2014), or the processing of information and classification of the words (text mining) depending on their stance, positive or negative. Usually, the

result is a score used to analyze relationships in several applications such as customer relationship management, target advertising and topic discovery (Lee, Baker, Song, & Wetherbe, 2010). The most popular method used for text mining is known as "bag-of-words" used in 75% of the works, as reviewed by Nassirtoussi et al. (2014). A common technique used for keywords searches with the bag-of-words is the Vector Space Model (VSM). It provides words' occurrences, frequencies and weighted importance in a document. It is the basis of natural language processing (NLP) and largely used for search engines, automated translations, and words classification. The classification of words is usually based on reference "dictionaries" or word lists. For finance studies, Loughran and McDonald (2011) dictionary is becoming a reference, since it is an alternative to other dictionaries like the Harvard IV-4 that has limitations when applied to business and financial worlds (Loughran & McDonald, 2016). Besides using dictionaries as the basis for classifying and retrieving information, there are other developing techniques based on machine learning concepts. As an example, Li (2010a) research on companies' forward-looking statements in 10K filings has been applying advanced algorithms techniques like the Naïve Bayesian Machine Learning Approach, in which the researcher trains the computer based on references to analyze large quantities of data. Another example of an emerging practice is to use word embedding, or an approach to use a vector of numbers to capture different dimensions of a word. As the dimensions increase, the different contexts the word are captured by word embedding (Zhao, 2017). In coming years, artificial intelligence (AI) will play a decisive role in improving the cognitive analysis of text and meaning, as much is yet to be done (Loughran & McDonald, 2016).

It is important to distinguish text mining from content analysis, although both methodologies tend to converge with technology advancements. Text mining is based on looking for patterns in texts using the software as the primary tool. It is currently an interactive process that relies on computer algorithms and automation. Content analysis, on the other hand, relies on the human interpretation of text content and coding into categories or nodes. Smith and Humphreys (2006) outline the limitation of content analysis that depends on humans to perform the involved tasks like code-books validation, dictionaries validation, inter-rater reliability testing. All these laborious processes limit the amount of unstructured data feasible to be analyzed in the high-speed conditions imposed by the market. The automation of content analysis will allow large volumes of data to be analyzed in a short period, and the subjectivity factor will be mitigated. Historically, content analysis has been considered a precursor for text mining, although few articles associate both (Yu, Jannasch-Pennell, & DiGangi, 2011). Finally, content analysis is usually dependent on human coding and text mining on computer coding. The technology improvements tend to pull content analysis and text mining to a convergent path in which humans will teach intelligent machines to do the hard coding work.

Text mining is a natural language processing form of text analysis and used for automated qualitative information retrieval. It combines techniques from data mining, natural language processing, information retrieval, and knowledge management (Feldman & Sanger, 2007). Computer power and cognitive AI developments will boost qualitative analysis of unstructured data in the near future (Loughran & McDonald, 2016; Nassirtoussi et al., 2014).

The qualitative data analysis (QDA) software of choice for this research is the Wordstat7, primarily used for text mining and content analysis, and based on the QDAminer software. The solution provides robust integrated tools that allow the definition of specific dictionaries and categorizations, stop words, keyword in context (KWIC) searches, cross-tab analysis and other functionalities that enable an automated, reliable text mining method. Several other potential software options were tested, including the IBM Watson Discovery, SAS text analytics, Leximancer, and NVIVOPRO11. Although powerful solutions for cognitive research, the IBM and SAS readily available software are currently better suited to social media and web content analysis and do not support large quantities of documents such as annual reports without the development of a specific software application by the researcher. The Leximancer is also an excellent tool, but not adequate for this study because it is oriented to semantic mapping, and the present study focuses on pre-determined patterns that characterize the M&A capability and M&A motives. The NVIVOPRO11 provides most of the tools necessary for the research and is used to extract the content of the annual reports, but it is a solution designed for content analysis, while the Wordstat7 provides text mining-oriented options and is used to perform the main part of the data collection.

This research utilizes the text mining methodology to retrieve information from annual reports. Using a keyword in context (KWIC) technique available in the software, the M&A related content is extracted. A dictionary is built and used to quantify the importance of M&A capability related terms. The dictionary is built on words selected via a weighted frequency query (tf-idf technique explained later in the data collection section) made on articles mentioned in the literature review (Appendix I) that support the

theory in which the construct was based on. In addition, words from the Loughran & McDonald Master Finance Dictionary are added. The general steps are represented in Figure 8 and detailed in the method and data collection section. The text mining methodology is similarly used to analyze the synopses of the acquisitions announcements to quantify the motives control variables.

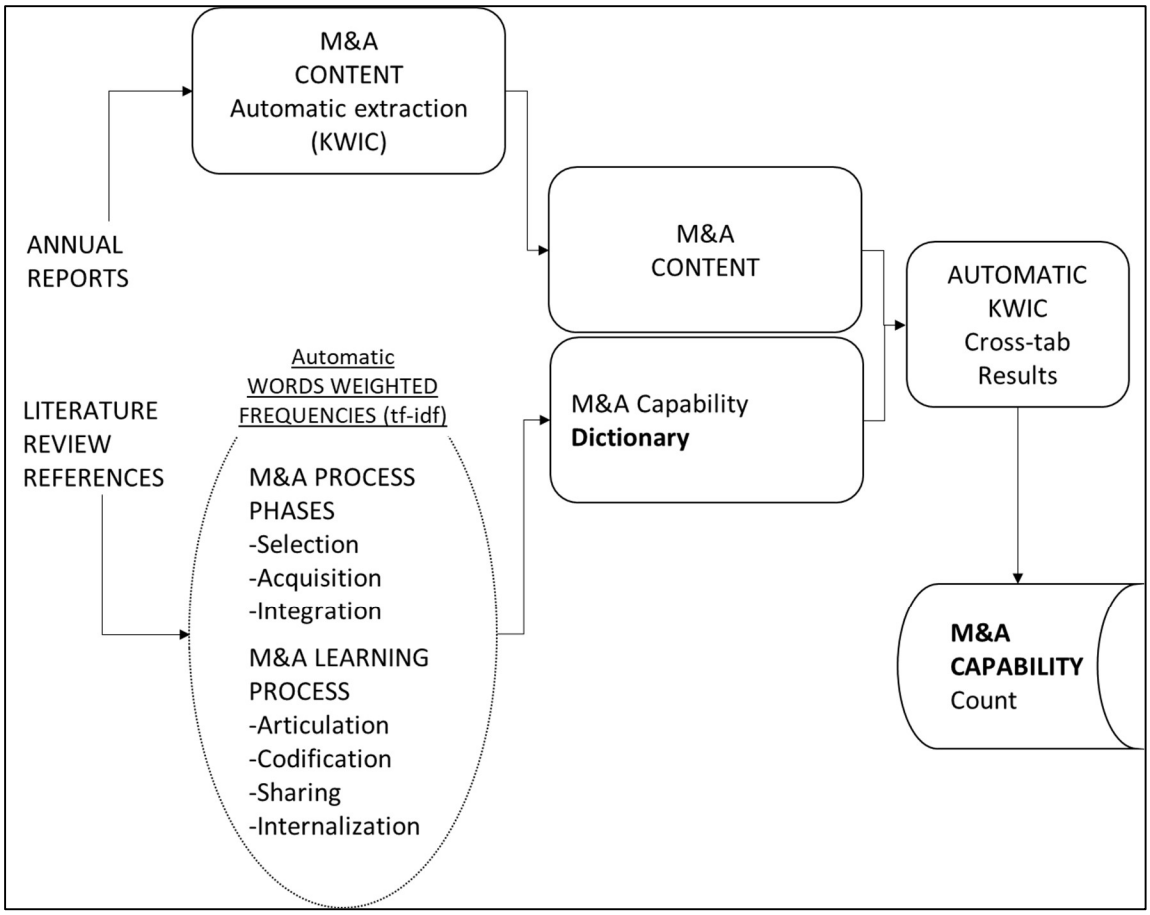

Figure 8. Text Mining for Measuring M&A Capability.

Empirical Research Model

The empirical research model has been designed based on Schwab (2013, p. 14) and explains the conceptual variables or constructs, and the details of the operational variables. The belief of a causal relationship between constructs is represented by (a) in Figure 9. The letter (c) signals a causal relationship between the independent and

dependent variables. Lines (b1, b2) represent the constructs' validity, and (d) represents that a statistical relationship between scores on measures of the variables can be observed, if existent. The model provides a comprehensive picture of the research and the relationships being investigated.

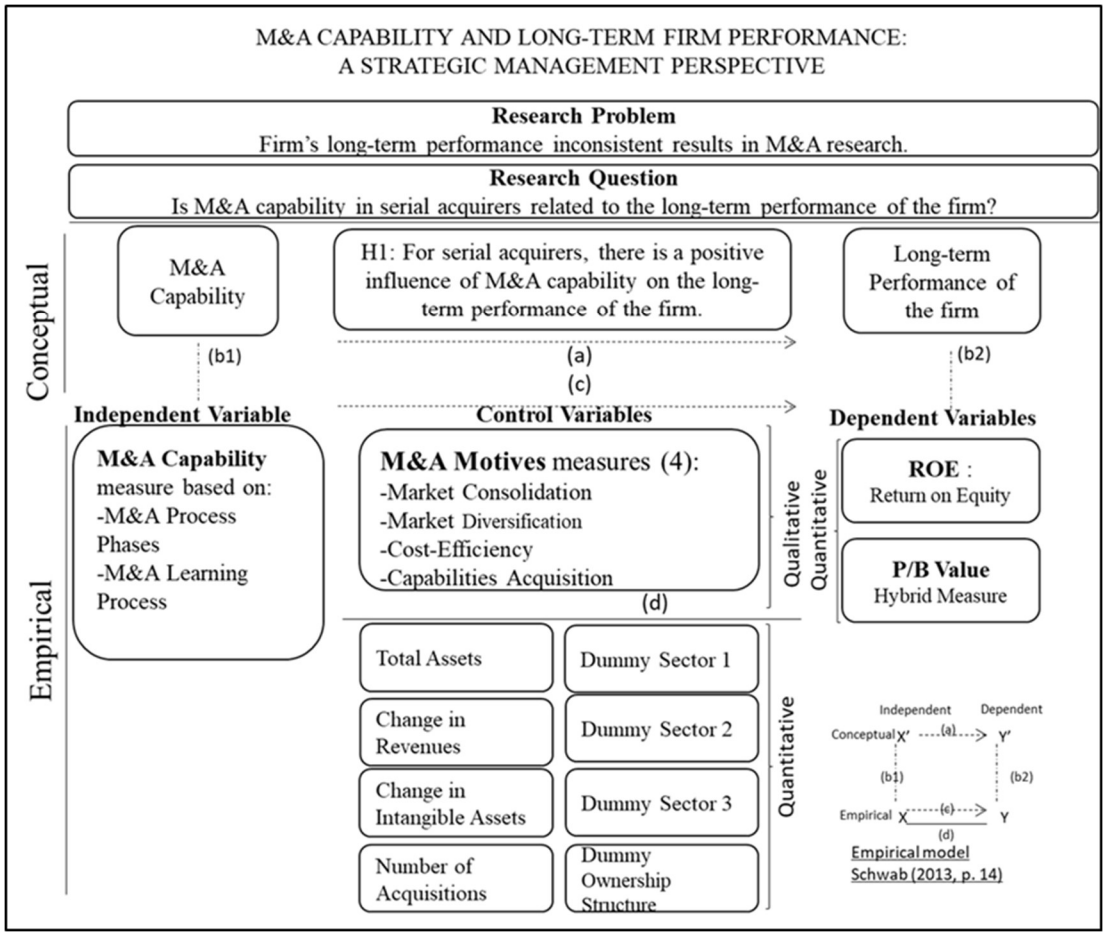

Figure 9. Empirical Research Model (Schwab, 2013, p. 14).

Validity of the Constructs

M&A capability. The M&A capability construct is conceptualized based on two dimensions: The M&A process phases and the M&A learning process as reviewed in Chapter 2 and represented in Figure 10 below.

The literature review provides face validity for the construct since the dynamic capabilities framework supports the M&A process phases component of the M&A

capability, and the knowledge-based view supports the M&A learning process part of the M&A capability. The combination of both theoretical frameworks has been assessed in two recent studies that approach M&A (Brueller et al., 2014; Junni et al., 2015). Furthermore, the selected articles used in the literature review (Appendix A) on M&A are all based on the dynamic capabilities framework or the knowledge-based view framework.

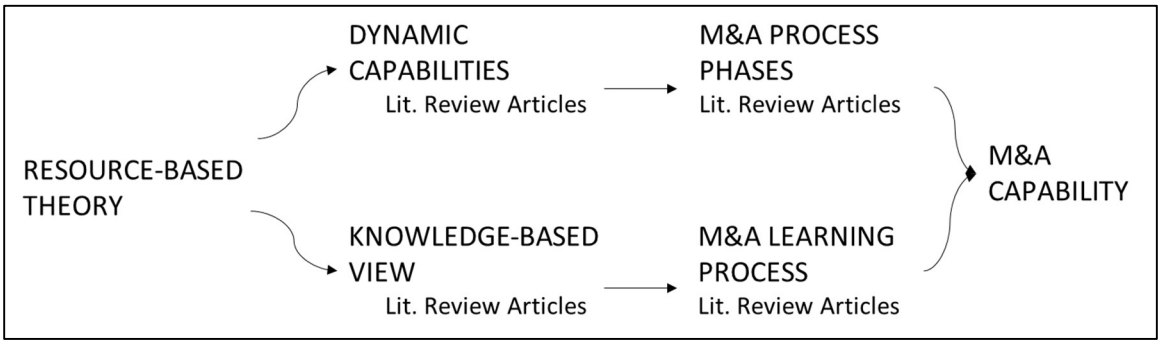

Figure 10. M&A Capability Construct Conceptualization.

Performance. The performance construct is one of the most relevant in the field of strategic management, as well as in M&A and is commonly used as a dependent variable (Cartwright & Schoenberg, 2006; Santos & Brito, 2012; Venkatraman, 1989; Venkatraman & Grant, 1986). An evolutionary approach to measure performance has been proposed by Venkatraman and Grant (1986) suggesting two performance dimensions: the financial and the operational, the latter preceding the first. Building on that, Santos and Brito (2012) developed a multidimensional model for performance measurement based on the financial and the strategic dimensions. The model proposed the financial performance is divided into profitability and growth, and the strategic performance is divided into four other independent constructs: customer satisfaction, employees' satisfaction, environmental performance, and social performance. Additionally, the market value dimension, considered by Santos and Brito (2012), is

assessed in the present study. The performance construct is operationalized through variables representing the dimensions profitability and market value separately in two regression models, as they represent different aspects of firm performance (Santos and Brito, 2012). Profitability is measured via return on equity (ROE), and market value is represented by the Price-to-book ratio (P/B), a mixed-measure to be used in the second regression model.

Population, Sampling Frame, and Sample

FactSet software is a tool that provides access to financial information and analytics and is used by investors to make decisions and manage investment portfolios. The software provides access to a broad database and research engines that can be used professionally and academically. The company has been on the market for 40 years and is widely recognized by the financial market (FactSet, 2018). FactSet is the solution that is used for this dissertation as a source of financial data and M&A qualitative data.

The population for this study is defined as the worldwide companies that fulfill the following criteria based on FactSet definitions:

Completion date: Acquisitions disclosed by the involved parties as effective in the period from January 01, 2013 to December 31, 2016.

Public Company: Public companies are companies that have issued securities through a public offering and whose shares are owned by many different investors and traded on an open market, usually through a stock exchange. Acquisitions made by subsidiaries and private companies owned by the public company are also considered in the sample.

Strategic Acquirer (Buyer): Strategic acquirers are companies that acquire other firms with the intent to find synergies and integrate the new company into the overall business. Unlike financial buyers that exit the business after a certain time, strategic buyers hold on to the acquired firm. Strategic acquisitions can be horizontal (e.g., acquiring companies in the same industry to expand product/service offerings) or vertical (e.g., acquiring suppliers or other members of the distribution channel to improve efficiency and reduce costs).

Acquisition type: The acquirer seeks to acquire 100% of the target at the announcement. At the end of the transaction, the acquirer will own 100% of the target. Partial acquisitions or mergers are not considered.

Complete: A transaction that has become effective. Rumors, pending, and canceled transactions are not considered.

Serial acquirers: Companies that have acquired at least eight firms in the timeframe of the study. Different studies on serial acquirers and acquisitions programs have considered a different number of acquisitions per year and frequencies. Croci and Petmezas (2009) adopted a total of 5 acquisitions in 5 years, Laamanen and Keil (2008) considered companies that realized at least four acquisitions in 10 years. Barkema and Schijven (2008) review several serial acquisitions programs with a different number of acquisitions in a determined period. The present research objective is to analyze the management and learning capacity of serial acquirers, so companies that perform at least eight acquisitions during the study period are considered, as the recurrent M&A activity contributes to accumulated experience and develops a dynamic capability, the M&A capability (Trichterborn et al., 2016).

FactSet economic sectors: FactSet proprietary industry classification is organized in industries, grouped by economic sectors, all described in Appendix C. The sample selection was based on the economic sectors' ranking by the number of acquisitions in the period of January 01, 2013 to December 31, 2016. The top four ranked sectors are considered and are technology services, finance, commercial services, and consumer services. The complete ranking and the number of samples available for each sector are listed in Appendix D. Altogether, 141 companies are selected within the four economic sectors as samples for the present research.

Method and Data Collection

The sources of unstructured data for this research are the annual reports of the 141 selected companies according to the sampling criteria described above, during the period of January 01, 2013 to December 31, 2016. Additionally, 2,602 synopses of all acquisitions made by those companies in the same period are retrieved from the FactSet database. The data collection for the qualitative variables is performed using the text mining methodology (Appendix B).

All the structured quantitative data comes from the FactSet financial application in the period from January 01, 2014 to December 31, 2017. The fields of each quantitative measure for each company are inserted into Excel via the FactSet add-in application and the data retrieved automatically from the FactSet database. The lag between the qualitative and quantitative data is explained by the necessity to capture the performance impact of acquisitions from one year after they have been made. The text mining procedure is described below.

Automatic retrieval of acquisition-related content documents. The acquisition-related content in the 141 annual reports is automatically extracted and saved as 141 new clean documents. The new clean documents are texts extracted by the software in a cleaner format, without figures, tables, containing only texts. The procedure to extract the new documents is called keyword in context (KWIC) search, which is done by querying the stemmed word "acquisition" (i.e., "acquisition" and its variations like "acquired", "acquire", "acquisitions") and the surrounding words, sentences, paragraphs. In the present study, the surrounding 30 words in the sentence in which the word is embodied are automatically retrieved. Since literature guidelines were not found to define the number of words to retrieve, pilot tests were conducted, and the 30 words range has proved to provide a good amount of content without reaching the whole paragraph or being short in content. The new documents are the data sources used to count the variable M&A capability defined later in this chapter.

Dictionary building. To build the dictionary for the M&A capability variable, selected papers from the literature review for both dynamic capabilities and M&A process phases, and knowledge theory and M&A learning (Appendix G) serve as a base for automatic retrieval of keywords. Before screening those documents, a document selection via clustering analysis is performed (Miner et al., 2012). The clustering analysis helps to group similar documents by its words. By grouping similar documents from the literature review that supports each concept, the lists of words to be extracted is expected to be similar. The documents are grouped into two groups, i.e., M&A process phases, M&A learning process. The selected articles for each concept are combined to withdraw the two base lists of words for both M&A process phases and M&A learning process.

The classification of the words for each group of articles uses the term frequency-inverse document frequency (tf-idf) statistical technique (Miner et al., 2012; Sparck Jones, 1972) embedded in the software. The tf-idf technique weights the importance of a term in the document (tf, term frequency) but also in a set of documents (inverse document frequency), so if the term occurs in most of the documents, its weight is downgraded to compensate for common, high frequency ordinary use of a word. The resulting lists are registered in the Wordstat7 software under the M&A capability dictionary as two independent categories. Words from the Loughran & McDonald finance master dictionary filtered for M&A content are added to the lists resulting in the final M&A dictionary. An exclusion list of words, built in the software, is used to exclude stop words and terms commonly with the high-frequency occurrence.

Similarly, the corpus for the M&A motives are composed of the 2,602 M&A synopses in the study period, and the dictionary for motives is built from the query of words on that corpus. From the resulting query, four lists of words are compiled for the four motives' variables: market consolidation, market diversification, cost-efficiency, and capabilities acquisition. These lists are registered in the software as four categories under the "motives" dictionary. They are used later to screen the synopses automatically and count the motives' variables occurrences in each year of the period of the study for each company. The text mining steps are detailed in Appendix B.

Frequency counting. The number of occurrences of all categories (variables) in each document is counted using frequency analysis and the results in the cross-tab report provided by the software. The M&A capability categories are counted in new clean

documents and the motives' categories are counted in the synopses. The results are considered as the values for the respective variables in the regression models.

Measures

Dependent Variables.

The dependent variables represent the performance construct in two different dimensions (profitability and market value). The source of data for the dependent variables is the FactSet database. All variables are explained below, and Figure 11 represents the analysis model.

Return on Equity (ROE) is the dependent variable used for the first regression model in this study. As discussed in Chapter 2, ROE is a measure of profitability of the firm and is defined as the real return to shareholders (Ross, Westerfield, & Jaffe, 1990), an accounting measure defined as the quotient between Net Income and Total Equity of the firm measured annually. The ROE values are converted to the decimal format.

Price-to-Book Ratio (P/B) is the dependent variable in the second model and is a mixed-measure of market value and is defined as the market value of the shares of the firm divided by the book value of the shares (FactSet Database). The variable provides a hybrid measure of performance and reflects the firm's market value perception compared to its book value. The Price-to-book ratio (P/B) is extracted from the FactSet database for each year used in the decimal format.

Independent variables.

The empirical model has fourteen independent variables.

M&A capability (CA) is the primary independent variable that represents the construct in the conceptual model, and the main interest of this research (Trichterborn et

al., 2016). M&A capability is measured annually using text mining methodology described in the data collection section. The variable is computed by the sum of the total percent frequencies occurrences of the two categories of the dictionary, i.e., M&A process phases and M&A learning process. The total percent is automatically provided by the software and calculates the percent of frequencies based on the total words minus the excluded words in the automatic analysis. The source of data for the CA variable are the annual reports extracted from the websites of the firms sampled for the study.

Control variables.

The other thirteen independent variables are control variables used to help isolate the M&A capability variable's influence on the dependent variables.

M&A synergy motives are controlled for their impact on the resulting integration process and firm performance, as reviewed in Chapter 2 literature review (Berkovitch & Narayanan, 1993; Dutta & Saadi, 2011; Rahman, 2011). All four synergy motives below are qualitative variables and are quantified annually via the text mining method detailed in the data collection section.

Market consolidation/expansion (MC) represents the number of acquisitions made with the market expansion motive or market consolidation in the period of the study.

Market diversification (MD) relates to the number of acquisitions made with the market diversification motive.

Cost-efficiency (CE) is related to the number of acquisitions that aim at cost-efficiency synergies within target companies.

M&A capabilities acquisitions (IC) controls for motives related to the number of capabilities-related acquisitions like technical skills, patents, copyrights and managerial competencies.

The following control variables are quantitative variables taken from FactSet:

Number of Acquisitions (NA) is the number of acquisitions made each year divided by the mean of the total number of acquisitions by the sample in that year. The M&A continuous activity impacts the accumulated experience and is related to the formation of the M&A capability (Laamanen & Keil, 2008; Trichterborn et al., 2016). While there is dubious evidence of accumulated experience on M&A outcomes (Zollo & Singh, 2004), accumulated experience leads to better management skills.

Change in revenues (RV) is measured as the change in revenues year over year in the period of the study. It represents the growth of the company over the period of the study. Revenues' growth is an usual measure of firm performance and used in several organizational studies (Santos & Brito, 2012) either as a dependent or independent variable. In the present study, a control variable is employed to help isolate the M&A capability effects of overall firm performance.

Change in intangible assets (IA) controls for the accumulated assets absorbed by the acquiring firm, year over year and represents the evolution of patents, copyrights, licenses, brands, and other assets acquired or developed by the company and can influence the profitability and growth dimensions of performance. The variation in intangible assets can be a consequence of the M&A strategy to pursuit technology innovation and managerial capabilities, the capabilities acquisition motive described in Chapter 2.

Size of the acquirer (SZ) controls annually for the size of total assets of the acquirer since the literature on M&A supports that size influences the managerial capacity. Larger firms have more resources that can be dedicated exclusively to M&A, different from smaller organizations that usually share resources to execute their M&A strategy (Laamanen & Keil, 2008; Penrose, 1959).

The model has three dummy variables to control for four targeted economic sectors ranked by the FactSet database (Appendix D). The sectors are not controlled over time, and are assigned at the time of the ranking extracted from FactSet as described below:

Technology services economic sector (D1) was the most active sector in the period of the research and includes data processing services, information technology services, packaged software, and internet software and services.

Finance sector (D2) comes in second as the most active FactSet economic sector and represent banks, financial conglomerates, the insurance industry, and real estate development firms (Appendix D).

Commercial services sector (D3) ranks third in the FactSet ranking and includes advertising firms, publishing organizations, and other (Appendix D).

Consumer services sector is the fourth sector represented in the study. It includes media conglomerates, broadcasting, cable and satellite TV, publishing companies, movies and entertainment, restaurants, resorts, casinos and cruise lines. Since we need only three variables to analyze all four sectors in the regression models, this variable is not identified in the model by a code.

Finally, a dummy variable is used to control annually for the ownership control. The following paragraph provides the variable description.

Ownership structure (D4) controls for the influence of managerial ownership on firm's outcomes, i.e., the agency motive for M&A, as reviewed in Chapter 2. The present study controls for ownership control and its resulting agency problems with a dummy variable. If there is an individual shareholder, management or non-management that owns 5% or more shares of the company, the firm is considered owner-controlled (Tosi et al., 1999), so the agency conflict is considered as a non-influencer of M&A activity and firm performance. The value of the variable, in this case, is zero. On the other hand, the absence of a 5% individual ownership characterizes diffuse ownership, or a manager-controlled structure resulting in agency conflicts, and the dummy variable is assigned the value 1.

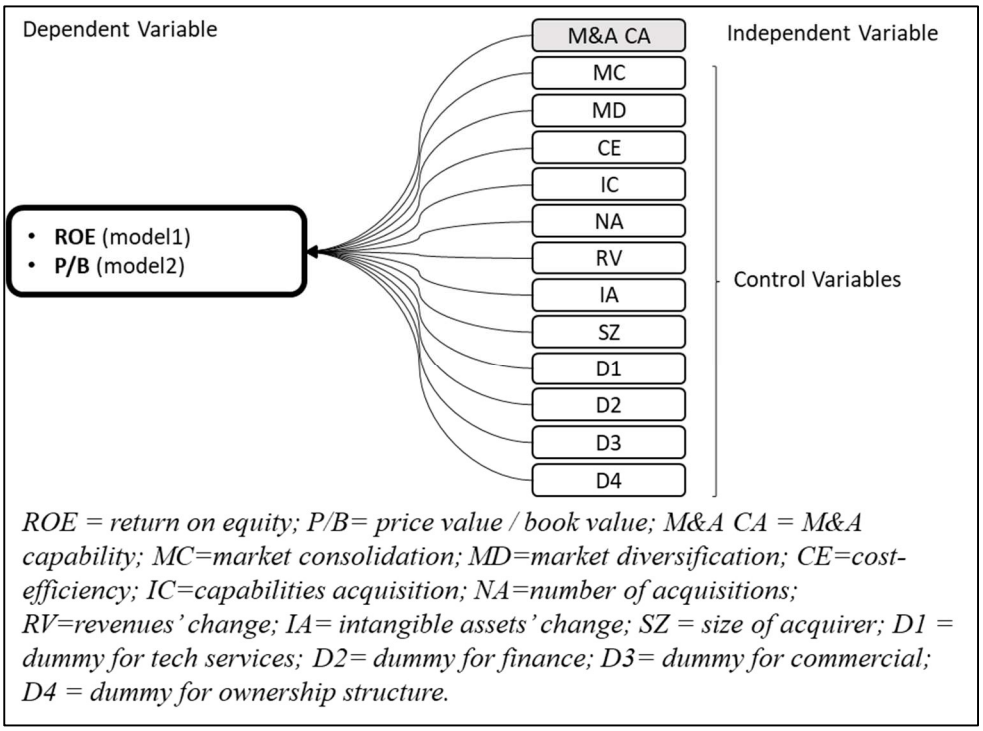

Figure 11. Dependent and Independent Variables.

Reliability and Validity

The descriptive statistics is calculated for all scores. Secondary financial data extracted from the FactSet database are expected to be reliably measured and audited.

For the qualitative extracted measures, the sources of data are the annual reports, for the M&A capability (CA) variable, and the synopses of acquisitions for the motives control variables. The extraction of the content from the annual reports is fully automated using the keyword in context (KWIC) method embedded in the software solution. The process of extracting such measures is expected to be reliable and consistent. Yu et al. (2011) highlight the reliability benefits of an automated process: "Text miners also view reliability as a central issue of text analysis. For example, SPSS Inc. (2006), publisher of Text Analysis for Surveys, highlighted the benefit of computer-aided text analysis by saying 'reliability of results increases dramatically, since extraction and categorization are always performed in a consistent and repeatable manner.'"

Internal validity threats are always under consideration, and the present study addresses the issue in different ways, i.e., a reasonable statistical power, the multicollinearity tests, the regression analysis, the evaluation of the total explained variance by the model, and the contribution by each independent variable to the variance of the dependent variable.

External validity or the possibility to generalize the study to the population and other domains are addressed within the limitations imposed by mixed-method research design. The dummy variables allow the comparison of different economic sectors, and the size of the acquirers shall also allow comparison between groups of firms.

Hypothesis Testing

A multiple regression analysis is used to analyze the influence of independent variables on firms' performance. Along the multiple regression, each RSquared coefficient is analyzed to understand the proportion of the variance in the dependent variable that is predictable from the independent variables. The significance of the coefficient of the main variable is analyzed and its significance within the whole model.

Predictive Models for Hypothesis Testing

Multiple regression models. Empirical regression models are used to evaluate the relationship between the dependent and independent variables. The research employs thirteen control variables as independent variables, four of them are two-value nominal dummy variables that represent the four industry sectors (3), and the ownership structure (1). One dummy variable is omitted, since only three dummies are necessary to represent the four industry sectors (Schwab, 2013), so the regression equations have twelve control variables altogether and one independent variable (Equations 1 and 2). The dummy variables represent qualitative instances controlled for the influence on the dependent variable and can assume the values 0 or 1. The models run separately for two dependent variables representing different dimensions of the performance construct, profitability and market value (Equations 1 and 2). Correlation analysis is done among all variables to check for strong correlations and multicollinearity above .70 (Burns & Burns, 2008), and a multiple regression with the progressive introduction of the control variables enables the understanding of each variable influence in the model, and the significance of the main IV along the model . The variables are measured year over year, except for the

sectors' dummy variables that are static and assigned at the time of the extraction of the sector's ranking from FactSet. The IBM SPSS24 software is used as the statistical tool.

(1) $$ROE = \beta_1(CA) + \beta_2(MC) + \beta_3(MD) + \beta_4(CE) + \beta_5(IC) + \beta_6(NA) + \beta_7(RV) + \beta_8(IA) + \beta_9(SZ) + \beta_{10}(\mathrm{D1}) + \beta_{11}(D2) + \beta_1(D3) + \beta_{13}(D4) + \mathcal{E}$$

(2) $$P/B = \beta_1(CA) + \beta_2(MC) + \beta_3(MD) + \beta_4(CE) + \beta_5(IC) + \beta_6(NA) + \beta_7(RV) + \beta_8(IA) + \beta_9(SZ) + \beta_{10}(\mathrm{D1}) + \beta_{11}(D2) + \beta_{12}(D3) + \beta_{13}(D4) + \mathcal{E}$$

CHAPTER 4: DATA ANALYSIS AND FINDINGS

Chapter 4 summarizes the data collection for both qualitative and quantitative variables, the models employed to test the hypothesis, and the results.

Qualitative and Quantitative Variables

The mixed-method research design adopted in this study employed text mining techniques to measure the qualitative variables. The data collection required simultaneous qualitative and quantitative verifications of documents and information to guarantee that all the cases could fulfill the requirements for both qualitative and quantitative methods. While downloading the annual reports of the companies, a parallel verification of the quantitative data availability was done in a FactSet database through formulas inserted in Excel. The synopses for all firms were also verified for availability during this stage. Outliers were excluded, and the final sample set was comprised of 141 companies that acquired at least eight firms in the period from January 01, 2013 to December 31, 2016. To have the necessary sample representation by each industry sector, five firms for the commercial sector and five for the consumer sector were selected despite acquiring only seven companies in the period of the study. Four FactSet industry target sectors (Appendix D) were represented, 564 reports were collected in the form of annual reports, 10-K, and 20-F filings, and 2,602 synopses out of 2,617 acquisitions that comprised the study dataset were downloaded from FactSet. A master database with all variables was compiled in Excel and loaded into SPSS for the statistical analysis. Altogether, the final database contained 7,332 data points (Appendix E). Table 2 below summarizes the variables defined in Chapter 3.

Table 2. Variables and Measurements

Label	Meaning	Measurement
Dependent Variables		
ROE	Return on Equity – Accounting performance 2014-2017.	Return on Equity = Net Income/Shareholder's Equity (FactSet database) in decimal form.
Price to Book Ratio (P/B)	Hybrid Market measure market/accounting value of shares 2014-2017.	Ratio = market value of the firm/book value of the firm (FactSet price-to-book). In decimal form.
Independent Variable		
M&A Capability (CA)	M&A Capability 2013-2016.	Qualitative measure using text mining methodology = total score of the M&A capability dictionary counted in the acquisition content of the annual reports / total words of the content.
Control Variables		
Market consolidation (MC)	M&A Synergy motive 2013-2016.	Qualitative measure using text mining methodology = total score of the MC motive dictionary counted in the M&A synopses/ total words of the content.
Market diversification (MD)	M&A Synergy motive 2013-2016.	Qualitative measure using text mining methodology = total score of the MD motive dictionary counted in the M&A synopses / total words of the content.
Cost-efficiency (CE)	M&A Synergy motive 2013-2016.	Qualitative measure using text mining methodology = total score of the CE motive dictionary counted in the M&A synopses / total words of the content.
M&A capabilities acquisitions (IC)	M&A Synergy motive 2013-2016.	Qualitative measure using text mining methodology = total score of the IC motive dictionary counted in the M&A synopses / total words of the content.
Number of Acquisitions (NA)	Number of Acquisitions by the firm 2014-2017.	Number of acquisitions in a determined year.
Change in revenues (RV)	Growth measure 2014-2017.	Revenues for the year t as a percentage of year t-1.
Change in intangible assets (IA)	Change in intangible assets 2014-2017.	Intangible assets of the year t as a percentage of year t-1.
Size of the acquirer (SZ)	Size of the firm 2014-2017.	Natural Logarithm of total assets of the sample in the year.

Table 2. Variables and Measurements

Label	Meaning	Measurement
Technology services economic sector (D1)	Dummy variable.	0 or 1.
Finance sector (D2)	Dummy variable.	0 or 1.
Commercial services sector (D3)	Dummy variable.	0 or 1.
Consumer services sector (D5)	Dummy variable.	Omitted in the regression analysis.
Ownership structure (D4/OWN)	OWN Represents the agency motive for M&A – dummy variable 2013-2016.	Measured by the ownership structure. If the stock's ownership has any concentration > 5% = owner-controlled company = 0, otherwise it is considered manager-controlled = 1.

Additionally, 12 variables (suffix "p") were defined in SPSS to analyze the observations of all four years together. A pooled time-series regression was performed controlling for the year effects with the use of 3 dummy variables for the years 2015, 2016 and 2017. The descriptive statistics of all variables are reported in Table 3.

Table 3. Descriptive Statistics for the Dependent and Independent Variables.

Variable	N	Mean	Std. Deviation	Minimum	Maximum
CA13	141	3.147	0.679	1.870	6.530
CA14	141	3.217	0.671	1.910	6.420
CA15	141	3.231	0.689	1.720	6.110
CA16	141	3.292	0.712	1.300	5.540
MC13	141	2.757	1.503	0.000	5.540
MC14	141	2.984	1.293	0.000	6.610
MC15	141	2.946	1.283	0.000	6.630
MC16	141	2.886	1.410	0.000	7.080
MD13	141	2.755	1.904	0.000	8.450
MD14	141	3.142	1.798	0.000	10.000
MD15	141	3.240	1.548	0.000	7.460
MD16	141	3.172	1.749	0.000	7.870
CE13	141	0.400	0.595	0.000	3.900
CE14	141	0.371	0.467	0.000	2.270
CE15	141	0.343	0.511	0.000	3.790
CE16	141	0.324	0.531	0.000	3.330

Table 3. Descriptive Statistics for the Dependent and Independent Variables.

Variable	N	Mean	Std. Deviation	Minimum	Maximum
IC13	141	0.500	0.725	0.000	4.260
IC14	141	0.615	0.893	0.000	7.430
IC15	141	0.543	0.785	0.000	6.330
IC16	141	0.582	0.804	0.000	5.680
OWN13	141	0.120	0.327	0.000	1.000
OWN14	141	0.080	0.269	0.000	1.000
OWN15	141	0.080	0.269	0.000	1.000
OWN16	141	0.080	0.269	0.000	1.000
NA13	141	3.738	3.611	0.000	20.000
NA14	141	4.993	4.806	0.000	33.000
NA15	141	5.326	4.439	0.000	27.000
NA16	141	4.397	3.975	0.000	24.000
RV14	141	0.138	0.327	-0.720	2.620
RV15	141	0.044	0.193	-0.790	0.670
RV16	141	0.063	0.208	-0.590	1.440
RV17	141	0.134	0.235	-0.200	1.930
IA14	141	0.324	1.137	-0.560	11.720
IA15	141	0.143	0.622	-0.420	6.590
IA16	141	0.113	0.394	-0.500	2.770
IA17	141	0.279	1.092	-1.000	9.600
SZ14	141	9.274	2.486	2.699	14.737
SZ15	141	9.325	2.409	3.429	14.685
SZ16	141	9.402	2.367	3.511	14.792
SZ17	141	9.543	2.345	3.407	14.817
ROE14	141	0.136	0.157	-0.524	0.909
ROE15	141	0.152	0.195	-0.515	1.245
ROE16	141	0.152	0.178	-0.484	0.851
ROE17	141	0.156	0.218	-0.562	1.055
PB14	141	0.037	0.037	0.003	0.243
PB15	141	0.037	0.036	0.003	0.261
PB16	141	0.035	0.037	0.002	0.247
PB17	141	0.037	0.041	0.002	0.259
Pooled time-series variables (suffix "p").					
Variable	N	Mean	Std. Deviation	Minimum	Maximum
CAp	564	3.222	0.688	1.300	6.530
MCp	564	2.893	1.374	0.000	7.080
MDp	564	3.077	1.760	0.000	10.000
CEp	564	0.359	0.528	0.000	3.900
ICp	564	0.560	0.803	0.000	7.430

Table 3. Descriptive Statistics for the Dependent and Independent Variables.

Variable	N	Mean	Std. Deviation	Minimum	Maximum
OWNp	564	0.089	0.284	0.000	1.000
NAp	564	4.610	4.264	0.000	33.000
RVp	564	0.095	0.249	-0.790	2.620
IAp	564	0.215	0.872	-1.000	11.720
SZp	564	9.386	2.398	2.699	14.817
ROEp	564	0.149	0.188	-0.562	1.245
PBp	564	0.036	0.038	0.002	0.261

Qualitative Variables. The M&A Capability (CA) independent variable and the four acquisition motives control variables (market consolidation, market diversification, cost-efficiency, and capabilities acquisition) were measured through the text mining methodology (Appendix B) utilizing dictionaries built for the study.

The motives dictionaries (four altogether) were built based on the tf-idf (term frequency-inverse document frequency) analysis of the collection of all 2,602 synopses. The synopses for all serial acquirers were downloaded from FactSet and then separated by year and saved into new corpuses to be analyzed with the text mining software. The motives' scores (Appendix E) were then computed automatically in the Wordstat7 software through the screening of all synopses using the motives' dictionaries (Appendix F).

The M&A capability dictionary was built based on the M&A process phases and the M&A learning process categories. As explained in the data collection section in Chapter 3, the dictionary for the M&A capability variable was built based on 33 papers from the literature review related to the dynamic capabilities theoretical framework, the knowledge-based view framework, and M&A research. The 33 articles were sorted from 34 documents through a document clustering classification technique via a correlation analysis based on words using the NVIVO11 software, and all documents with a

correlation above 0.40 were considered (Appendix G). Additionally, words were added manually, sorted from the Loughran and McDonald (2014) finance dictionary. The final M&A capability dictionary (Appendix H) was tested and enhanced in an interactive process using the Wordstat7 software.

In a parallel procedure, the acquisition-related content used to measure the M&A capability was extracted using the NVIVO11 software, which is quicker handling this task than the Wordstat7. The extracted contents were based on the word "acquisition" and its variants and were saved for each firm, for each year (564 altogether). The new documents were then screened using the Wordstat7 software, and the count of the total number of M&A capability words from the dictionary, divided by the total processed words, comprised the M&A capability observations listed in Table 4.

Table 4. M&A Capability Resulting Scores.

Firm Name (alphabetical order)	2013	2014	2015	2016
3i Group plc	3.97	4.24	3.52	4.03
Accenture Plc Class A	4.54	4.52	4.51	4.31
Accor SA	2.44	2.96	3.11	3.15
Adecco Group AG	3.76	4.01	4.23	4.18
AF AB Class B	3.23	3.68	3.52	3.62
AFH Financial Group PLC	2.84	2.20	1.72	3.00
Allianz SE	3.73	4.12	3.88	3.53
Alphabet Inc. Class A	3.78	3.46	3.41	3.90
Ama Group Limited	3.00	2.84	2.40	2.41
AMC Entertainment Holdings, Inc. Class A	3.63	3.50	3.41	3.30
America Movil SAB de CV Class L	2.18	2.28	2.63	2.50
American Hotel Income Properties REIT LP	2.17	1.98	3.05	3.44
Apple Inc.	3.31	3.13	3.32	3.78
Arthur J. Gallagher & Co.	4.18	3.96	4.15	4.19
Ashford Hospitality Trust, Inc.	3.94	3.19	3.19	2.82
Ashtead Group plc	3.66	3.57	3.63	3.57
Autodesk, Inc.	3.75	4.05	3.82	3.55
Avis Budget Group, Inc.	3.62	3.78	4.24	4.43
AXA SA	3.15	3.07	3.20	2.96
Axel Springer SE	3.66	3.62	3.44	3.40

Table 4. M&A Capability Resulting Scores.

Firm Name (alphabetical order)	2013	2014	2015	2016
Azimut Holding Spa	2.26	1.91	2.69	2.81
Banco Santander S.A.	3.73	3.72	4.70	4.17
BB&T Corporation	3.71	3.04	3.05	2.77
Belvoir Lettings PLC	2.99	4.53	3.36	3.31
Berkshire Hathaway Inc. Class B	2.40	2.58	2.06	2.08
Bertelsmann SE & Co. KGaA. 15 % Pref	2.55	2.79	2.87	2.73
BGC Partners, Inc. Class A	3.05	3.21	3.12	3.27
Blackstone Group L.P.	2.87	3.82	2.35	3.60
BNP Paribas SA Class A	3.28	3.61	3.41	3.94
Boyd Group Income Fund	2.89	3.14	3.14	2.99
Brookfield Asset Management Inc. Class A	2.56	2.35	2.51	2.71
Brooks Macdonald Group plc	1.97	2.50	2.35	2.45
Brown & Brown, Inc.	3.63	3.69	3.79	3.69
Bureau Veritas SA	3.65	3.87	3.73	4.05
Canon Inc.	2.22	2.65	2.23	3.00
CapitaLand Limited	2.66	2.27	2.72	2.80
Carrols Restaurant Group, Inc.	3.78	3.74	3.62	3.56
CBRE Group, Inc. Class A	2.98	2.75	2.86	2.44
CCL Industries Inc. Class B	2.89	2.85	2.78	2.89
CenterState Bank Corporation	2.78	2.73	2.37	2.62
Chanticleer Holdings, Inc.	3.43	3.06	2.93	3.28
Chatham Lodging Trust	2.81	2.98	2.65	2.69
Cisco Systems, Inc.	4.22	4.38	4.38	4.29
Comcast Corporation Class A	3.27	3.26	2.99	3.10
Constellation Software Inc.	2.34	2.10	2.22	2.33
Corporate Travel Management Limited	2.43	2.98	1.95	2.49
Dassault Systemes SA	3.50	3.36	4.06	4.60
Dentsu Inc.	3.63	3.26	3.79	3.45
D'Ieteren SA	2.42	2.61	3.05	2.63
Discovery, Inc. Class A	3.27	2.70	2.47	2.55
DXC Technology Co.	3.49	2.97	2.84	2.77
eBay Inc.	2.90	3.41	4.35	4.35
ENGIE SA	3.15	3.01	2.77	3.16
Equity LifeStyle Properties, Inc.	2.59	3.02	2.95	2.85
Eurofins Scientific Societe Europeenne	2.97	2.87	2.73	2.94
F.N.B. Corporation	2.47	2.18	2.16	2.41
Facebook, Inc. Class A	3.06	3.68	3.52	3.58
Fairfax Financial Holdings Limited	2.51	2.71	2.84	2.59
Fidelity National Financial, Inc. - FNF	3.08	2.74	2.70	2.69
General Electric Company	3.06	3.96	3.41	3.39
Goldman Sachs Group, Inc.	3.66	3.55	3.36	3.40

Table 4. M&A Capability Resulting Scores.

Firm Name (alphabetical order)	2013	2014	2015	2016
Gray Television, Inc.	3.67	3.31	3.55	3.42
Groupon, Inc.	3.00	2.86	3.37	3.45
Heiwa Corporation	2.50	2.35	3.52	4.14
Helios Underwriting PLC	2.30	2.24	2.23	2.02
Hersha Hospitality Trust Class A	2.64	2.59	3.04	1.30
Hexagon AB Class B	4.13	3.68	4.02	3.94
Hyatt Hotels Corporation Class A	2.37	2.27	2.53	2.51
IAC/InterActiveCorp.	2.55	2.74	2.71	2.84
Industrial Alliance Insurance and Financ	3.05	3.58	3.52	3.23
Intel Corporation	3.60	3.83	3.67	4.00
International Business Machines Corporat	2.97	3.23	3.05	3.52
Interpublic Group of Companies, Inc.	3.50	3.57	3.57	3.91
Intrum AB	3.19	2.93	3.33	3.65
Intuit Inc.	3.51	3.46	3.40	3.68
Iron Mountain, Inc.	4.30	3.96	4.10	4.36
ITV plc	2.12	3.03	2.76	1.94
j2 Global, Inc.	2.57	2.72	2.94	2.93
Jardine Lloyd Thompson Group plc	3.92	3.38	3.91	4.10
Jones Lang LaSalle Incorporated	3.85	3.68	3.68	3.94
KKR & Co. L.P.	3.41	3.13	3.27	3.33
Konica Minolta, Inc.	2.91	3.08	3.47	3.31
Lagardere SCA	2.91	2.90	2.72	2.89
Liberty Global Plc Class A	3.45	3.60	3.19	2.99
Lloyds Banking Group plc	3.34	2.74	2.89	4.11
Malaysian Resources Corp. Bhd.	3.00	4.05	2.90	3.99
Microsoft Corporation	2.21	3.36	3.16	3.70
Mitsubishi UFJ Financial Group, Inc.	2.73	2.45	2.51	2.97
Monro Inc	2.24	2.37	2.60	2.35
Multi-Color Corporation	3.15	3.17	2.87	2.82
News Corporation Class A	2.91	2.72	2.67	2.53
Nippon Telegraph and Telephone Corporati	2.18	2.55	2.98	2.63
NV5 Global Inc	3.05	2.77	2.85	2.73
Old Mutual plc	3.15	3.94	3.06	3.05
Olympic Entertainment Group AS	2.64	2.20	2.79	2.74
Omnicom Group Inc	3.65	3.72	3.39	3.29
Onex Corporation	2.53	2.81	2.85	2.52
Open Text Corporation	3.49	3.84	3.93	4.16
Oracle Corporation	3.77	3.93	3.47	3.49
Partners Group Holding AG	2.19	3.07	2.82	3.57
Pebblebrook Hotel Trust	3.10	3.22	3.34	3.26
Pinnacle Financial Partners, Inc.	1.87	1.96	2.11	2.60

Table 4. M&A Capability Resulting Scores.

Firm Name (alphabetical order)	2013	2014	2015	2016
Power Corporation of Canada	2.57	2.71	2.52	2.74
Publicis Groupe SA	2.65	3.29	3.58	3.48
QUALCOMM Incorporated	3.99	3.64	3.18	3.87
Rakuten, Inc.	1.99	4.27	4.98	5.05
Randall & Quilter Investment Holdings Lt	2.63	3.05	3.23	3.47
Randstad N.V.	3.45	3.73	3.51	3.28
Realogy Holdings Corp.	3.36	2.83	3.25	3.14
RELX PLC	3.16	3.12	3.58	3.61
Rentokil Initial plc	4.41	4.57	4.61	4.97
Rollins, Inc.	2.46	2.94	2.92	2.67
Roper Technologies, Inc.	3.85	3.95	3.51	3.55
RPS Group Plc	4.14	4.16	3.83	4.20
Salem Media Group, Inc. Class A	2.94	2.87	2.34	1.99
Salesforce.com, inc.	2.52	2.73	2.85	3.35
Samsung Electronics Co., Ltd.	2.40	2.31	6.11	5.54
SAP SE Sponsored ADR	4.20	4.27	4.81	4.58
Savills plc	3.59	3.53	4.02	4.03
SGS SA	4.40	3.80	4.86	4.70
Siemens AG	6.53	6.42	4.77	4.99
Sinclair Broadcast Group, Inc. Class A	2.88	3.04	2.99	2.70
Societe Generale S.A. Class A	3.97	3.53	3.41	3.34
SoftBank Group Corp.	2.31	2.25	2.55	2.29
Sony Corporation	2.57	2.75	2.72	2.93
Standard Life Aberdeen PLC	3.30	4.22	3.68	3.81
Stifel Financial Corp.	2.59	2.70	2.66	2.62
Summit Hotel Properties, Inc.	3.18	3.16	3.03	3.19
Sun Communities, Inc.	2.81	2.32	2.38	2.27
Synopsys, Inc.	3.33	3.38	3.60	3.64
Trimble Inc.	2.83	2.90	2.94	3.11
TripAdvisor, Inc.	3.74	3.50	3.08	2.88
TrueBlue, Inc.	4.16	4.09	4.19	3.66
Twitter, Inc.	2.67	2.61	2.56	2.88
Verizon Communications Inc.	4.00	3.98	3.64	4.01
Vivendi SA	3.58	3.10	3.52	3.67
W. P. Carey Inc.	2.03	2.47	2.36	2.22
Wells Fargo & Company	3.73	3.62	3.78	3.40
Wintrust Financial Corporation	2.85	2.88	2.65	2.61
WPP Plc	3.56	3.68	3.22	3.28
Wyndham Worldwide Corporation	3.08	3.55	3.19	3.08

The M&A capability scores resulted in normalized distributions as shown in Figure 12.

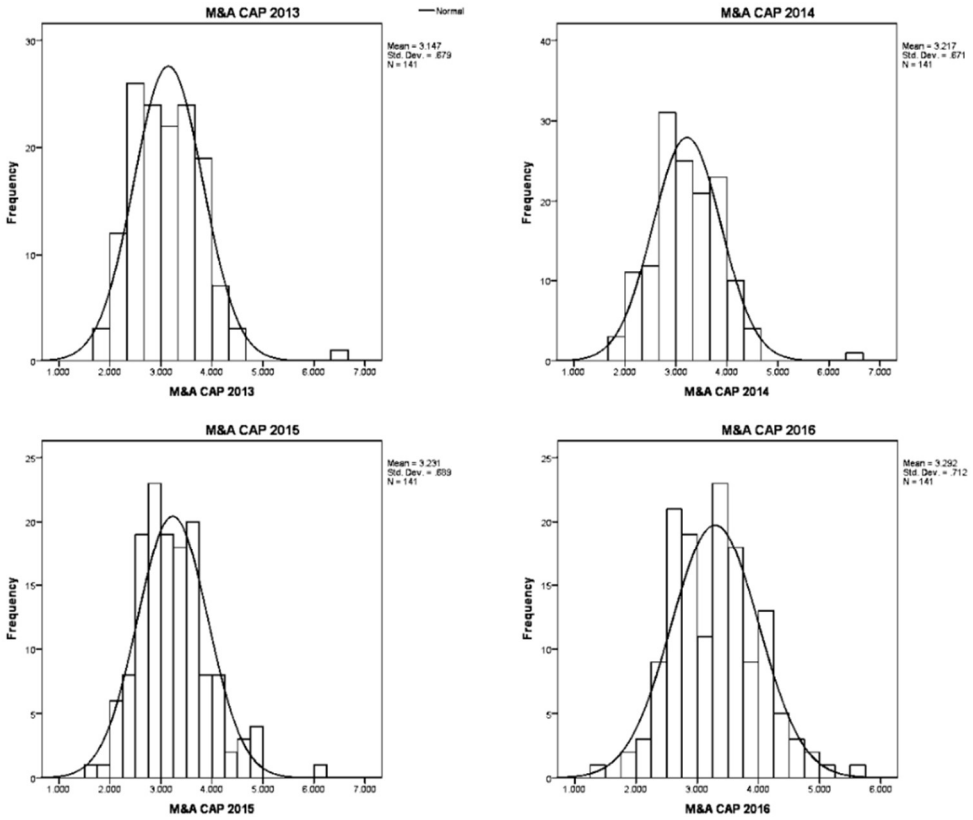

Figure 12. M&A Capability Scores Distribution.

Qualitatively, the keyword extraction process based on the dictionaries brought interesting results. Below there are some examples of the M&A capability and acquisition motives contents, extracted via automatic text mining (keywords are shown in all capitals).

M&A capability. "Therefore, it is imperative that POST-merger INTEGRATION plans, including management initiatives after the merger, are worked out during the investigative STAGE of an M&A PROJECT." Konica Minolta, 2016.

"We have a strong track record in executing and INTEGRATING acquisitions, supported by a well-managed global structure and a number of established

PROCESSES… specialized in-house central execution TEAM in place, based in London, with regional M&A TEAMS in our three key regions. running the rule over a pipeline of around 50/60 potential acquisitions, at any given time...” Dentsu Inc., 2014.

“Impact of INTERNAL reorganization of subsidiaries and INTEGRATION of acquisitions.” OpenText, 2015.

“…potential that due DILIGENCE of the acquired business or PRODUCT does not identify SIGNIFICANT problems.” Autodesk, 2013.

“…STRATEGY as the largest TRANSACTION undertaken by the Group to date. I am pleased to REPORT that the INTEGRATION of Shape into the Group has progressed well.” AFH Financial, 2013.

“…expanded by almost half through the acquisition of parts of the insurance business of UnipolSai Assicurazioni S.p.A. including 725 agencies which were successfully INTEGRATED subsequently.” Allianz, 2014.

“POST-acquisition risks include those relating to retention of personnel, retention of clients, entry into unfamiliar markets or lines of business.” Arthur Gallagher, 2016.

“…governance GUIDELINES and the charters of the committees of our Board of Trustees (Acquisition Committee….” Hersha Hospitality Trust, 2013.

“Acquisition targets are identified by our local management TEAMS, who understand the needs and requirements of their businesses locally. They are supported by the central and regional M&A TEAMS, with a monthly REVIEW by an Acquisition COMMITTEE, chaired by Jerry Buhlmann, CEO of Dentsu Aegis Network.” Dentsu Inc., 2014.

"…acquisition PROCESSES IMPLEMENTED by the Group, particularly during due DILIGENCES…" Engie SA., 2014.

"The Alstom INTEGRATION TEAM is focused on preparing to bring together two world-class organizations." General Electric Company, 2014.

Motive capabilities acquisition. "22-May-2013 Accenture Plc acquired Fjordnet Ltd for an undisclosed amount. The transaction will enhance digital and marketing CAPABILITIES of Accenture Plc, and expand its technology and marketing operations services offered through Accenture Interactive."

"The transaction adds to SGS SA's testing CAPABILITIES, and expands its service offering to retailers and food manufacturers in the United Kingdom."

Motive cost-efficiency.

"29-Apr-2016 IBM Danmark A/S, owned by International Business Machines Corp, trading as IBM, acquired the technical OPERATIONS of the mainframe unit of KMD A/S, ultimately owned by KMD Equity Holding A/S, for an undisclosed amount."

"19-Sep-2016 Facebook Inc acquired Nascent Objects Inc for an undisclosed amount. The acquisition would allow Facebook Inc to expand its business OPERATIONS and cloud-based software services. Following the transaction, Nascent Objects Inc's employees would join Facebook Inc."

Quantitative variables. The remaining variables, dependent and independent, were quantitative variables. The numbers were extracted from a FactSet database automatically to Excel using FactSet add-in formulas and computed accordingly in Excel (ROE, P/B, Assets, Intangible Assets, Revenues). The extracted data in Excel was verified in the online version of the FactSet database. During the selection of the data,

common criteria were used for all variables for the units of measurement, calendar year, and source. Finally, the variable NA (number of acquisitions) was computed based on the number of acquisitions extracted from FactSet for each firm. All calculated descriptive statistics are available in Table 3.

Dummy variables. The three dummy variables used for the sectors were assigned 0 or 1 according to each company sector. The ownership structure dummy variable was automatically computed in Excel based on the historical information of ownership structure extracted from FactSet, and the obtained values were verified in the online version of the FactSet database. Using a FactSet add-in function inserted into Excel, the main shareholder's list of each firm in the period of analysis, i.e., Institutions, Insiders, Stakeholders, ETF funds or Beneficial owners was downloaded. An automatic formula inserted into Excel classified the firms as manager- or owner-controlled. Appendix E shows the summary of the ownership structure variable data.

The dependent variables ROE and P/B, and the control variables intangible assets, sizes, and revenues were lagged in one year to capture the effects of the acquisitions from one year after their executions. As an example, the model adopted with the ROE 2017 employed M&A capability scores from 2016. The lagging criteria were used for all years in all regression models. The models were identified by the dependent variables years: 2014, 2015, 2016, 2017.

Correlation Analysis and Multicollinearity

The descriptive statistics were calculated for all variables for each year and the combined years (Table 3), and correlation analysis was done to verify the potential relationship between the variables and their significance (Tables 5, 6, 7, and 8). Except

for the MC13 and MD13 correlation of .726, no other correlation was above 0.70, eliminating the concern of possible multicollinearity, later confirmed in all regression analyses, in which the VIFs (Variance inflation factors) were below 3 (Burns & Burns, 2008). Tables 5, 6, 7, and 8 show the significant correlations for years 2013 to 2016. M&A capability 2013 (CA13) presented significant correlations with these four variables for the year 2013: NA13 (.234), MD13 (.256), MC13 (.246), IC13 (.174), and SZ (.168*). CA16 presented significant correlations with NA16 (.183), MC16 (.194), MD16 (.203), IC16 (.184), ROE17 (.208), and SZ (.224). For the year 2014, CA14 correlated with IC14 (.316), RV15(-.208), and SZ15(.175). CA15 presented significant correlations with MD15 (.260), SZ16 (.212) and ROE16 (.202). The correlations results provided interesting findings to motivate further investigation through a regression model for the M&A capability variable.

Table 5. Correlations for the M&A Capability – Year 2013.

2013	1	2	3	4	5	6	7	8	9	10	11	12
CA13	1											
MC13	.246**	1										
MD13	.256**	.726**	1									
CE13	-0.024	0.133	-0.011	1								
IC13	.174*	.309**	.371**	0.061	1							
OWN13	0.071	0.054	-0.021	-0.038	-0.081	1						
NA13	.234**	.419**	.369**	0.032	.213*	0.136	1					
RV14	-0.109	-0.106	-0.050	-0.066	-0.075	-0.090	-0.028	1				
IA14	-0.046	-0.004	0.033	-0.124	0.051	-0.041	-0.003	.311**	1			
SZ14	.168*	0.127	0.073	0.033	0.145	.343**	0.128	-.385**	-0.028	1		
ROE14	0.059	.237**	.232**	0.024	.213*	-0.046	.249**	-.231**	-0.034	0.107	1	
PB14	0.090	.269**	.331**	-0.112	.199*	-0.140	.173*	0.036	0.057	-0.123	.476**	1

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

Table 6. Correlations for the M&A Capability –Year 2014.

2014	1	2	3	4	5	6	7	8	9	10	11	12
CA14	1											
MC14	0.138	1										
MD14	0.139	.569**	1									
CE14	0.076	0.044	0.070	1								
IC14	.316**	0.121	0.139	-0.125	1							
OWN14	0.051	-0.102	-.201*	0.069	-0.076	1						
NA14	0.068	0.124	0.156	0.008	0.105	0.094	1					
RV15	-.208*	0.102	0.055	0.131	-0.123	-0.064	.177*	1				
IA15	0.074	0.056	0.039	.193*	.207*	-0.068	-0.015	.220**	1			
SZ15	.175*	-0.058	0.006	-.218**	0.116	.188*	0.071	-.356**	-.308**	1		
ROE15	0.160	0.117	0.159	-0.037	0.007	-0.113	-0.021	0.000	0.049	0.071	1	
PB15	0.084	.178*	.208*	0.032	-0.014	-0.115	-0.005	0.073	0.014	-0.148	.605**	1

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

Table 7. Correlations for the M&A Capability – Year 2015.

2015	1	2	3	4	5	6	7	8	9	10	11	12
CA15	1											
MC15	0.104	1										
MD15	.260**	.530**	1									
CE15	0.056	.166*	-0.042	1								
IC15	0.155	.197*	0.160	-0.079	1							
OWN15	0.090	0.072	-0.016	-0.045	-0.039	1						
NA15	0.077	0.051	.242**	-0.062	0.110	-0.099	1					
RV16	-0.129	0.067	0.081	0.016	0.013	0.090	-0.059	1				
IA16	-0.131	0.054	-0.002	0.118	-0.014	-0.086	-0.074	.434**	1			
SZ16	.212*	-0.028	0.040	-0.145	0.045	0.085	.230**	-.210*	-0.154	1		
ROE16	.202*	0.087	.170*	-0.061	0.006	-0.077	0.067	-0.018	-0.083	0.038	1	
PB16	0.105	0.076	.238**	-0.131	-0.058	0.014	0.021	0.056	-0.062	-0.127	.604**	1

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

Table 8. Correlations for the M&A Capability – Year 2016.

2016	1	2	3	4	5	6	7	8	9	10	11	12
CA16	1											
MC16	.194*	1										
MD16	.203*	.578**	1									
CE16	0.098	0.100	0.105	1								
IC16	.184*	.171*	.292**	0.145	1							
OWN16	0.074	0.017	-0.076	-0.091	-0.057	1						
NA16	.183*	.207*	.203*	-0.026	0.113	0.024	1					
RV17	-0.022	0.058	-0.050	0.030	-0.031	-0.010	0.051	1				
IA17	0.080	.208*	-0.017	-0.046	-0.002	0.139	0.020	0.123	1			
SZ17	.224**	0.142	.167*	-0.145	0.124	0.088	.212*	-0.112	0.078	1		
ROE17	.208*	.323**	.199*	0.050	-0.015	-0.117	0.125	-0.043	-0.012	0.057	1	
PB17	0.101	0.163	.187*	-0.054	-0.011	0.000	0.072	-0.139	-0.047	-0.148	.384**	1

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

The research analysis can be divided into two main blocks: the construct M&A capability, and the hypothesis testing for M&A performance. In addition to the initial goal of the study, which was the relationship between strategic management and the M&A performance, an in-depth study of the M&A capability variable was conducted to understand the antecedents of the M&A capability formation using the control variables. The next paragraphs describe the construct analysis and the succeeding section, the hypothesis analysis.

M&A Capability Analysis

Further exploring the influence of other variables on the M&A capability variable (CA), a regression model was designed and tested (Equation 3) with the M&A capability as a dependent variable and the control variables that presented significant correlations with the CA, as predictors. The years were all combined in a pooled time-series analysis and years dummies were introduced to control for year effects. There was no hypothesis for this model, but an exploratory investigation.

(3) $$CA = \beta_1(NA) + \beta_2(SZ) + \beta_3(IC) + \beta_4(MC) + \beta_5(MD) + \varepsilon$$

Table 9 shows the results for the regression model. The variables were introduced one at a time together with the year dummies. All resulting models were highly significant at 1% level with the F statistic ranging from 3.318 to 8.476 and there were no significant coefficients for any of the three years' dummies, in relation to the omitted dummy for the year 2014. The models presented a low adjusted RSquared ranging from .016 to .096. The low R square could be due to the cross-sectional analysis involving the sample set, to be investigated in further studies. The high significance of the model suggests a relationship between the dependent variable and each significant predictor.

The number of acquisitions (NA) was positively related to the M&A capability (CA) until the introduction of the motives variables in sequence 3. The NA significance reinforces previous findings in the literature that the number of acquisitions or acquisition programs contribute to the formation of the M&A capability (Chatterjee, 2009, Laamanen & Keil, 2008). The size of the acquirer (SZ) positive significant coefficients ranged from .052 to .041. The SZ highly significant results throughout the models support previous findings in the M&A literature review that larger firms have more resources available and can dedicate full-time teams and management for M&A, what suggests that the size of the firm influences positively the M&A capability formation.

The motive capabilities acquisition (IC) reported a highly significant result after its introduction in the model with a positive coefficient of .126. The motive market diversification was significant at 1% level and positive. The two motives' significance suggests that firms develop specific M&A capabilities depending on the motives of the

M&A, what reinforces the dynamic capabilities framework principles that indicate that dynamic capabilities are adapted to different settings, i.e., different routines and knowledge must be developed (Eisenhardt & Martin, 2000).

The M&A capability analysis provided support to previous research findings, i.e., the influence of the size of the firm and the number of acquisitions in the M&A capability formation alongside the significant impact of M&A motives IC and MD.

Table 9. Regression Results for the M&A Capability (CAp) time-series with Control for Year Effects.

B coefficients	1	2	3
Constant	3.066	2.610	2.425
t-statistics	48.755	21.095	18.590
NAp	0.022**	0.017**	0.008
t-statistics	3.167	2.508	1.191
SZp		0.051**	0.046**
t-statistics		4.262	3.906
ICp			0.126**
t-statistics			3.521
MCp			0.026
t-statistics			1.018
MDp			0.048**
t-statistics			2.384
y2015	0.043	0.046	0.019
t-statistics	0.530	0.576	0.239
y2016	0.050	0.051	0.032
t-statistics	0.609	0.627	0.402
y2017	0.131	0.121	0.094
t-statistics	1.612	1.502	1.200
R Squared	0.023	0.054	0.109
Adjusted RSquared	0.016	0.046	0.096
F	3.318**	6.369**	8.476**
F Sig.	0.006	0.000	0.000

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Hypothesis Testing - Multiple Linear Regression Analyses

To test the hypothesis, “For serial acquirers, there is a positive influence of M&A capability on the long-term performance of the firm”, the regression models introduced in Chapter 3 (Equations 1 and 2) were analyzed for each year using the IBM SPSS software for each of the dependent variables ROE (ROE) and Price-to-Book (P/B).

The standard multiple regression analysis was conducted introducing variables progressively in blocks (SPSS mode “enter”), starting with the independent variable M&A capability (CA) and then the control variables. The purpose of the described procedure was to understand the behavior of the CA when introducing the control variables. Each model was tested for all four years separately. A pooled time-series regression analysis with control for year effects was then executed for each model in a sequential introduction of variables.

Starting with the pooled time-series analysis, Table 10 summarizes the model ROEp with a pooled time-series regression with control for year effects. Three dummies for the years 2015, 2016, and 2017 were used, and the year 2014 omitted. The sequence consisted of introducing each variable progressively together with the year dummies. In all situations, the model resulted highly significant with F-statistics ranging from 4.047 to 3.694 (sequences 1 to 7). The RSquared ranged from .028 to .080 and the Adjusted RSquared from .021 to .059. The primary independent variable CA coefficients varied from .044 to .034 and remained highly significant at the 1% level throughout the model, what suggests the positive relationship to the dependent variable ROE. The variable ownership was then introduced and remained significant but with a negative coefficient ranging from -0.066 to -.070, what may suggest that manager-controlled (or diffused

ownership), and consequently higher agency conflicts are related to lower performance, an indication that the M&A agency motive may lead to the lower performance of the firm. The number of acquisitions (NA) control variable presented significant and positive coefficients when introduced (from .003 to .002), what could indicate the influence of the number of acquisitions in the long-term firm performance. The revenues control variable (RV) was then tested, and its coefficient was negative and significant ranging from -.052 to -.049. The variables IAp and SZp did not present significant coefficients. Finally, the motive market consolidation (MC) coefficient was positive and significant at 1% level with a value of .019 what could be associated with the long-term performance of firms that pursue volume synergies in M&A. The years' coefficients were not significant at any time, that suggests there were no significant changes due to the time series if compared to the omitted dummy of 2014.

Table 10. Regression Results for the ROEp Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	-0.004	-0.002	-0.006	0.008	0.007	-0.011	-0.047
t-statistics	-0.103	-0.057	-0.151	0.189	0.188	-0.222	-0.959
CAp	0.044**	0.046**	0.044**	0.042**	0.042**	0.041**	0.034**
t-statistics	3.890	4.068	3.818	3.618	3.609	3.473	2.875
OWNp		-0.066**	-0.067**	-0.069**	-0.069	-0.072**	-0.070**
t-statistics		-2.398	-2.452	-2.495	-2.494	-2.572	-2.511
NAp			0.003*	0.003*	0.003	0.003	0.002
t-statistics			1.708	1.783	1.782	1.662	0.848
RVp				-0.052*	-0.053	-0.047	-0.049
t-statistics				-1.635	-1.600	-1.370	-1.451
IAp					0.001	0.001	-0.001
t-statistics					0.071	0.068	-0.153
SZp						0.002	0.002
t-statistics						0.674	0.641
MCp							0.019**
t-statistics							2.654
MDp							0.007
t-statistics							1.297
CEp							-0.009
t-statistics							-0.607
ICp							-0.011
t-statistics							-1.125
y2015	0.013	0.010	0.007	0.002	0.002	0.002	-0.002
t-statistics	0.607	0.475	0.299	0.074	0.077	0.104	-0.089
y2016	0.013	0.010	0.005	0.001	0.001	0.002	-0.003
t-statistics	0.591	0.458	0.235	0.054	0.058	0.076	-0.140
y2017	0.014	0.011	0.010	0.009	0.010	0.009	0.006
t-statistics	0.650	0.512	0.432	0.429	0.430	0.408	0.259
R Squared	0.028	0.038	0.043	0.048	0.048	0.048	0.080
Adjusted RSquared	0.021	0.029	0.033	0.036	0.034	0.033	0.059
F	4.047**	4.415**	4.178**	3.973**	3.471**	3.133**	3.694**
F Sig.	0.003	0.001	0.000	0.000	0.001	0.001	0.000

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

Table 11 relates to the Price-to-Book (PBp) model with a pooled time-series regression with control for year effects. The model represents an evaluation of a different dimension of performance. The regression results were highly significant for the last sequences (6,7) with the RSquared oscillating from .010 to .104 and the Adjusted

RSquared from 0.002 to 0.083. The F-statistics provided significant model in sequences 6 and 7 with values of 2.705 and 4.895 respectively. The CA principal variable coefficients were highly significant throughout the model and positive (.005 to .006), which again supports the relationship to the dependent variable. The negative ownership dummy (OWNp) variable coefficients (-.0009 to -.003) provided evidence like the previous model that manager-controlled firms impact performance negatively. The number of acquisitions variable (NAp) was significant in sequence 6 and suggests the firms that acquired more companies may perform better. The SZ control variable presented a negative coefficient (-.003) and highly significant, what could indicate that the size of firms impact their market value performance negatively. The market diversification (MDp), motive control variable, had a significant coefficient of .106 and was significant at 1% level, what could be interpreted as the diversification discount for firms that pursue a diversification strategy through M&A.

Table 11. Regression Results for the PBp Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	0.020	0.021	0.020	0.020	0.020	0.041	0.037
t-statistics	2.578	2.613	2.546	2.454	2.453	4.203	3.853
CAp	0.005**	0.005**	0.005**	0.005**	0.005**	0.006**	0.005*
t-statistics	2.263	2.377	2.207	2.210	2.210	2.765	2.007
OWNp		-0.009*	-0.009*	-0.009*	-0.009*	-0.006	-0.003
t-statistics		-1.636	-1.671	-1.665	-1.662	-0.990	-0.626
NAp			0.000	0.000	0.000	0.001*	0.000
t-statistics			1.159	1.149	1.145	1.715	0.551
RVp				0.001	0.001	-0.006	-0.006
t-statistics				0.169	0.190	-0.807	-0.946
IAp					0.000	0.000	0.000
t-statistics					-0.108	-0.095	-0.269
SZp						-0.003**	-0.003**
t-statistics						-3.831	-4.270
MCp							0.002
t-statistics							1.218
MDp							0.004**
t-statistics							3.840
CEp							-0.008**
t-statistics							-2.637
ICp							-0.002
t-statistics							-0.959
y2015	-0.001	-0.001	-0.002	-0.002	-0.002	-0.002	-0.004
t-statistics	-0.149	-0.240	-0.357	-0.330	-0.334	-0.492	-0.832
y2016	-0.002	-0.002	-0.003	-0.003	-0.003	-0.004	-0.005
t-statistics	-0.461	-0.553	-0.698	-0.675	-0.679	-0.787	-1.252
y2017	0.000	-0.001	-0.001	-0.001	-0.001	0.000	-0.002
t-statistics	-0.030	-0.125	-0.180	-0.180	-0.181	-0.065	-0.476
R Squared	0.010	0.014	0.017	0.017	0.017	0.042	0.104
Adjusted RSquared	0.002	0.005	0.006	0.004	0.003	0.027	0.083
F	1.348	1.617	1.572	1.349	1.180	2.705**	4.895**
F Sig.	0.126	0.077	0.077	0.113	0.155	0.002	0.000

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

A discussion is provided next for the significant results of the models tested for each year separately. Tables 12, 13, and 14 refer to significant regression models for the ROE dependent variables. From all four years tested, three of them showed significance, and in all of them, the variable CA was highly significant. In Table 12, the ROE 2015

model was significant until the introduction of the NA variable in sequence 3. The RSquared values oscillated between .026 and .082, and the Adjusted RSquared from .019 to -.012. The F-statistics ranged from 3.639 to .871 reflecting the loss of significance of the model with the introduction of the control variables, which were not significant, but the main independent variable as already mentioned. Table 13 shows that the ROE 2016 model was significant until the introduction of the variable revenues (RV) and the RSquared remained between .041 and .087. The adjusted RSquared ranged from .034 to -.006 and the F-statistics from 5.889 to .934. The CA variable coefficients varied from .052 to .048, and were the only significant ones throughout the model, as in the model ROE 2015. Table 14 refers to the ROE 2017 model, which provided the most significant results for the yearly analysis, with the RSquared ranging from .043 to .172, the Adjusted RSquared from .036 to .087, and the F-statistic showed significant results all over the model with values from 6.267 to 2.031. The CA variable was highly significant even with the introduction of all other variables, and its coefficients were positive and the highest of all three significant models ranging from .064 to .052. The variable MC resulted highly significant with positive coefficients from .051 to .052 and could be related to the better performance of firms that pursue market expansion through consolidation. The significance of the M&A capability variable throughout the models evidences the influence of the construct in the performance dimension profitability (ROE). In general, the yearly analysis corroborated the findings in the time-series analysis (Table 10), mainly for the main variable M&A capability, highly significant in all situations.

Table 12. Regression Results for the ROE 2015 Model.

B coefficients	1	2	3	4	5	6	7	8
Constant	0.003	0.004	0.007	0.000	0.002	-0.065	-0.104	-0.092
t-statistics	0.041	0.055	0.090	0.001	0.021	-0.633	-0.948	-0.809
CA	0.046	0.048	0.048	0.051	0.050	0.046	0.049	0.042
t-statistics	1.908**	1.987**	1.992**	2.022**	1.964**	1.805*	1.812*	1.496
D4 OWN		-0.088	-0.086	-0.084	-0.084	-0.094	-0.076	-0.066
t-statistics		-1.451	-1.418	-1.381	-1.360	-1.513	-1.171	-0.997
NA			-0.001	-0.001	-0.001	-0.001	-0.002	-0.002
t-statistics			-0.250	-0.322	-0.304	-0.419	-0.532	-0.560
RV				0.034	0.028	0.059	0.043	0.046
t-statistics				0.386	0.311	0.616	0.442	0.468
IA					0.007	0.015	0.024	0.029
t-statistics					0.248	0.523	0.814	0.945
SZ						0.009	0.008	0.008
t-statistics						1.098	1.041	0.957
MC							0.005	0.005
t-statistics							0.348	0.280
MD							0.012	0.010
t-statistics							1.069	0.814
CE							-0.026	-0.025
t-statistics							-0.690	-0.649
IC							-0.022	-0.027
t-statistics							-1.054	-1.256
D1TEC								0.034
t-statistics								0.594
D2FIN								0.005
t-statistics								0.093
D3COM								0.048
t-statistics								0.872
R Squared	0.026	0.040	0.041	0.042	0.042	0.051	0.075	0.082
Adjusted RSquared	0.019	0.026	0.020	0.013	0.007	0.008	0.003	-0.012
F	3.639*	2.887*	1.933	1.478	1.186	1.191	1.049	0.871
F Sig.	0.030	0.030	0.064	0.106	0.160	0.158	0.204	0.293

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 13. Regression Results for the ROE 2016 Model.

B coefficients	1	2	3	4	5	6	7	8
Constant	-0.016	-0.018	-0.024	-0.027	-0.019	-0.015	-0.034	-0.035
t-statistics	-0.221	-0.252	-0.334	-0.372	-0.257	-0.171	-0.362	-0.356
CA	0.052	0.054	0.053	0.054	0.053	0.053	0.050	0.048
t-statistics	2.427**	2.523**	2.463**	2.464**	2.397**	2.368**	2.094*	1.938*
D4 OWN		-0.063	-0.060	-0.062	-0.069	-0.068	-0.073	-0.072
t-statistics		-1.151	-1.088	-1.102	-1.219	-1.198	-1.260	-1.217
NA			0.002	0.002	0.002	0.002	0.001	0.002
t-statistics			0.503	0.510	0.450	0.455	0.201	0.405
RV				0.017	0.050	0.048	0.035	0.043
t-statistics				0.237	0.618	0.594	0.428	0.507
IA					-0.040	-0.040	-0.036	-0.043
t-statistics					-0.931	-0.929	-0.836	-0.974
SZ						-0.001	-0.001	0.001
t-statistics						-0.081	-0.129	0.151
MC							0.007	0.007
t-statistics							0.501	0.473
MD							0.010	0.009
t-statistics							0.828	0.721
CE							-0.027	-0.024
t-statistics							-0.879	-0.769
IC							-0.014	-0.014
t-statistics							-0.703	-0.679
D1TEC								-0.030
t-statistics								-0.594
D2FIN								-0.033
t-statistics								-0.720
D3COM								0.009
t-statistics								0.178
R Squared	0.041	0.050	0.052	0.052	0.058	0.058	0.078	0.087
Adjusted RSquared	0.034	0.036	0.031	0.024	0.023	0.016	0.007	-0.006
F	5.889**	3.614*	2.48*	1.861	1.661	1.375	1.102	0.934
F Sig.	0.009	0.015	0.032	0.061	0.074	0.115	0.183	0.260

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 14. Regression Results for the ROE 2017 Model.

B coefficients	1	2	3	4	5	6	7	8
Constant	-0.053	-0.054	-0.059	-0.053	-0.053	-0.053	-0.125	-0.133
t-statistics	-0.617	-0.638	-0.699	-0.616	-0.616	-0.506	-1.209	-1.243
CA	0.064**	0.067**	0.061**	0.061**	0.061**	0.061**	0.054*	0.052*
t-statistics	2.503	2.631	2.391	2.367	2.356	2.309	2.045	1.834
D4 OWN		-0.108	-0.109	-0.109	-0.109	-0.109	-0.109	-0.108
t-statistics		-1.613	-1.626	-1.627	-1.597	-1.587	-1.642	-1.589
NA			0.005	0.005	0.005	0.005	0.003	0.004
t-statistics			1.087	1.113	1.109	1.085	0.604	0.732
RV				-0.042	-0.041	-0.041	-0.055	-0.047
t-statistics				-0.544	-0.529	-0.522	-0.731	-0.602
IA					-0.001	-0.001	-0.014	-0.014
t-statistics					-0.066	-0.066	-0.807	-0.822
SZ						0.000	-0.001	0.001
t-statistics						-0.002	-0.133	0.126
MC							0.051**	0.052**
t-statistics							3.177	3.159
MD							-0.002	-0.003
t-statistics							-0.153	-0.230
CE							0.002	0.003
t-statistics							0.048	0.078
IC							-0.031	-0.030
t-statistics							-1.329	-1.279
D1TEC								-0.028
t-statistics								-0.479
D2FIN								-0.032
t-statistics								-0.590
D3COM								0.011
t-statistics								0.201
R Squared	0.043	0.061	0.069	0.071	0.071	0.071	0.166	0.172
Adjusted RSquared	0.036	0.047	0.048	0.044	0.037	0.029	0.102	0.087
F	6.267**	4.471**	3.378**	2.594*	2.061*	1.705	2.585**	2.031**
F Sig.	0.007	0.007	0.010	0.020	0.037	0.063	0.004	0.012

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Tables 15, 16, 17, 18, and 19 report the significant results for another set of regressions that were conducted to understand the relationship of the M&A capability (CA), and the performance dimensions in each industry sector. A pooled time-series

regression with control for year effects was executed and each sector was selected in SPSS separately.

Table 15 shows the results for the pooled time-series years analysis of the Finance sector. The model resulted highly significant throughout the introduction of the variables with an RSquared range between .081 and .232, Adjusted RSquared between .056 and .160, and F-statistics highly significant between 3.245 and 3.212. The main variable CAp coefficients were all highly significant ranging from .048 to .056. The OWNp variable coefficients were negative and ranged between -.072 and -.042, significant in all situations. The SZ variable presented negative coefficients between -.008 and -.009 and highly significant, and the MD variable was significant at the 1% level with a positive coefficient of .022. The variable ICp coefficient was negative (-.023) and significant at 5% level.

Table 16 refers to the ROEp Commercial sector regression results with highly significant F-statistics (4.878 to 2.959) and an RSquared of .137 to .252 and an Adjusted RSquared of .109 to .167. The main variable CA again remained highly significant in all situation with positive coefficients between .109 and .106. The MCp control variable coefficient of .032 was also significant at the 1% level. The motives CEp and ICp curiously presented negative coefficients of -.039 and -.033, significant, what indicates that companies that pursue cost-efficiency gains or capabilities acquisitions have a negative influence in the long-term firm performance. CE synergies-oriented companies may have long-term lower performance, but capabilities acquisition (IC) provides a clue to further investigation, considering that the period of four years may be considered a

short-term period for firms to acquire, enhance and benefit from new capabilities. No significant coefficients were reported for the years dummies 2015, 2016, and 2017.

Table 15. Regression Results for the ROEp Finance Sector Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	-0.026	-0.047	-0.048	-0.049	-0.049	0.022	0.046
t-statistics	-0.577	-1.034	-1.061	-1.049	-1.052	0.380	0.816
CAp	0.048**	0.059**	0.061**	0.061**	0.062**	0.063**	0.056**
t-statistics	3.478	4.148	4.211	4.158	4.172	4.305	3.645
OWNp		-0.072**	-0.075**	-0.075**	-0.074**	-0.048**	-0.042*
t-statistics		-2.629	-2.713	-2.684	-2.625	-1.583	-1.399
NAp			-0.002	-0.002	-0.002	-0.002	-0.003
t-statistics			-0.779	-0.783	-0.804	-0.914	-1.579
RVp				0.004	0.006	-0.014	-0.017
t-statistics				0.099	0.149	-0.368	-0.449
IAp					-0.005	-0.009	-0.006
t-statistics					-0.524	-0.970	-0.669
SZp						-0.008**	-0.009**
t-statistics						-2.193	-2.648
MCp							-0.003
t-statistics							-0.340
MDp							0.022**
t-statistics							2.556
CEp							-0.024
t-statistics							-1.449
ICp							-0.023*
t-statistics							-1.700
y2015	0.008	0.006	0.007	0.008	0.008	0.008	0.006
t-statistics	0.338	0.232	0.293	0.303	0.316	0.307	0.266
y2016	-0.001	-0.005	-0.004	-0.003	-0.004	-0.004	-0.011
t-statistics	-0.051	-0.212	-0.148	-0.136	-0.177	-0.162	-0.448
y2017	0.013	0.008	0.009	0.009	0.009	0.015	0.006
t-statistics	0.515	0.316	0.365	0.352	0.374	0.609	0.232
R Squared	0.081	0.123	0.126	0.126	0.128	0.157	0.232
Adjusted RSquared	0.056	0.093	0.090	0.084	0.079	0.103	0.160
F	3.245**	4.083**	3.494**	2.976**	2.625**	2.930**	3.212**
F Sig.	0.014	0.002	0.003	0.006	0.010	0.003	0.000

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 16. Regression Results for the ROEp Commercial Sector Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	-0.201	-0.204	-0.209	-0.213	-0.213	-0.124	-0.179
t-statistics	-2.205	-2.226	-2.274	-2.311	-2.305	-1.136	-1.554
CAp	0.109**	0.111**	0.11**	0.11**	0.111**	0.113**	0.106**
t-statistics	4.371	4.418	4.352	4.356	4.351	4.445	4.248
OWNp		-0.061	-0.072	-0.069	-0.069	-0.056	-0.060
t-statistics		-0.787	-0.919	-0.870	-0.879	-0.714	-0.776
NAp			0.003	0.003	0.003	0.003	0.002
t-statistics			0.792	0.782	0.767	0.915	0.424
RVp				0.057	0.074	0.035	0.042
t-statistics				0.713	0.837	0.384	0.461
IAp					-0.008	-0.006	-0.021
t-statistics					-0.457	-0.362	-1.182
SZp						-0.011	-0.008
t-statistics						-1.503	-1.041
MCp							0.032**
t-statistics							2.254
MDp							-0.001
t-statistics							-0.095
CEp							-0.039*
t-statistics							-1.737
ICp							-0.033*
t-statistics							-1.996
y2015	0.008	0.006	0.003	0.006	0.007	0.005	-0.001
t-statistics	0.184	0.137	0.069	0.145	0.154	0.113	-0.021
y2016	0.013	0.011	0.008	0.007	0.007	0.008	0.003
t-statistics	0.300	0.254	0.180	0.177	0.170	0.201	0.082
y2017	0.016	0.013	0.011	0.007	0.008	0.013	0.018
t-statistics	0.370	0.320	0.259	0.176	0.196	0.305	0.429
R Squared	0.137	0.141	0.146	0.149	0.151	0.167	0.252
Adjusted RSquared	0.109	0.106	0.103	0.100	0.094	0.103	0.167
F	4.878**	4.015**	3.440**	3.009**	2.642**	2.624**	2.959**
F Sig.	0.001	0.001	,002	0.003	0.005	0.004	0.000

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 17 reports the results for the dependent variable price-to-book (PB) that represents the performance dimension market value. Similarly, the PBp results for the

Finance sector were similar to the ROEp Finance ones. The model was significant throughout the analysis with significant Fs (2.459 to 4.549). The Cap variable kept its high significance in all sequences with positive coefficients from .007 to .008. The OWNp variable showed negative coefficients (-.013) as in the other regressions that suggest a negative impact of manager-controlled firms in performance. SZp and CEp were also negative and significant when introduced in the model. The market diversification motive (MDp) presented positive coefficient at the 1% level. There were no significant coefficients for the year dummies, which were negative about the omitted dummy for the year 2014.

Table 18 shows the results for the pooled time-series regression for the PBp variable for the Commercial sector. Likewise, the Finance sector the results for the main variable Cap were highly significant throughout the sequences, and the overall model was significant in sequences 1,2 and 7 with Fs of 2.125, 2.056 and 3.772 respectively. SZp was again significant with a negative coefficient (-.003) and the other significant variables in the model were the motives MCp, CEp, and ICp with respective coefficients of .007, -.011, and -.010. None years dummies resulted in significant coefficients.

Table 17. Regression Results for the PBp Finance Sector Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	0.001	-0.003	-0.003	-0.003	-0.003	0.019	0.023
t-statistics	0.117	-0.356	-0.363	-0.425	-0.427	2.029	2.499
CAp	0.007**	0.009**	0.009**	0.01**	0.01**	0.01**	0.008**
t-statistics	3.091	3.809	3.751	3.739	3.741	4.103	3.351
OWNp		-0.013**	-0.013**	-0.013**	-0.013**	-0.005	-0.003
t-statistics		-2.746	-2.742	-2.695	-2.651	-0.925	-0.655
NAp			0.000	0.000	0.000	0.000	0.000
t-statistics			-0.239	-0.272	-0.286	-0.495	-1.446
RVp				0.002	0.002	-0.004	-0.005
t-statistics				0.302	0.331	-0.644	-0.748
IAp					-0.001	-0.002	-0.001
t-statistics					-0.331	-1.203	-0.959
SZp						-0.002**	-0.003**
t-statistics						-4.193	-4.730
MCp							0.000
t-statistics							-0.292
MDp							0.004**
t-statistics							3.121
CEp							-0.005*
t-statistics							-1.693
ICp							-0.003
t-statistics							-1.336
y2015	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
t-statistics	-0.603	-0.733	-0.709	-0.656	-0.645	-0.707	-0.814
y2016	-0.002	-0.003	-0.003	-0.003	-0.003	-0.003	-0.004
t-statistics	-0.476	-0.653	-0.629	-0.592	-0.615	-0.617	-0.979
y2017	-0.002	-0.003	-0.003	-0.003	-0.003	-0.002	-0.004
t-statistics	-0.556	-0.783	-0.764	-0.788	-0.770	-0.364	-0.885
R Squared	0.063	0.109	0.109	0.110	0.110	0.208	0.300
Adjusted RSquared	0.037	0.078	0.072	0.066	0.061	0.158	0.234
F	2.459*	3.563**	2.960**	2.534**	2.217**	4.153**	4.549**
F Sig.	0.024	0.003	0.005	0.009	0.015	0.000	0.000

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 18. Regression Results for the PBp Commercial Sector Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	-0.013	-0.014	-0.015	-0.015	-0.015	0.011	-0.014
t-statistics	-0.630	-0.675	-0.695	-0.686	-0.684	0.446	-0.567
CAp	0.017**	0.017**	0.017**	0.017**	0.017**	0.018**	0.017**
t-statistics	2.842	2.957	2.919	2.905	2.899	3.024	3.118
OWNp		-0.024	-0.025	-0.025	-0.025	-0.021	-0.020
t-statistics		-1.316	-1.351	-1.348	-1.349	-1.148	-1.211
NAp			0.000	0.000	0.000	0.000	0.000
t-statistics			0.337	0.336	0.328	0.516	-0.042
RVp				-0.001	0.001	-0.010	-0.014
t-statistics				-0.071	0.048	-0.489	-0.683
IAp					-0.001	-0.001	-0.005
t-statistics					-0.268	-0.148	-1.158
SZp						-0.003*	-0.002
t-statistics						-1.900	-1.505
MCp							0.007**
t-statistics							2.250
MDp							0.005*
t-statistics							1.793
CEp							-0.011*
t-statistics							-2.204
ICp							-0.01**
t-statistics							-2.749
y2015	0.002	0.002	0.001	0.001	0.001	0.001	-0.003
t-statistics	0.241	0.163	0.133	0.124	0.129	0.078	-0.302
y2016	-0.002	-0.003	-0.003	-0.003	-0.003	-0.003	-0.008
t-statistics	-0.237	-0.314	-0.343	-0.341	-0.343	-0.310	-0.850
y2017	-0.004	-0.005	-0.006	-0.005	-0.005	-0.004	-0.004
t-statistics	-0.457	-0.540	-0.562	-0.548	-0.533	-0.400	-0.498
R Squared	0.065	0.078	0.079	0.079	0.079	0.107	0.301
Adjusted RSquared	0.034	0.040	0.033	0.025	0.017	0.038	0.221
F	2.125*	2.056*	1.720	1.463	1.279	1.563	3.772**
F Sig.	0.041	0.038	0.066	0.094	0.131	0.067	0.000

**Significant at the 0.01 level (1-tailed).

* Significant at the 0.05 level (1-tailed).

Table 19 refers to the Technology services industry sector and resulted in negative, significant results for the CA, or in the Technology services sector; the CA

suggests a decrease in performance. The RSquared ranged between .044 and .191 and the Adjusted RSquared between .017 and 0.113. The F-statistics were significant after the introduction of the control variable SZp, significant at 1% with a coefficient of .009. The CEp coefficient (-.025) was significant at 1% level. No significance was reported for the years dummy variables. The opposite significant results for the Technology firms in the PBp model could signalize that technology services firms operate in less mature and more dynamic market environments, what could justify a higher dispersion in performance. Specific larger sample sets for the sector could provide more stable results in the regression and confirm the Finance and Commercial sector results. The Consumer sector did not present significant results for the main IV.

Overall the regression models provided evidence of the positive relationship between the main independent variable M&A capability (CAp) to the two dependent variables ROEp and PBp. The control variables provided substantial evidence that supports the literature review and provided outstanding research opportunities. The number of acquisitions (NAp), size of the company (SZp), ownership control (OWNp) and market diversification motive (MDp) were significant in several models. The other variables also presented less prominent significant results, except for the intangible assets (IAp) variable that was not significant in any situation. The Finance sector exhibited the best results in the ROEp and PBp models, followed by the Commercial sector. The Technology sector presented conflicting results in the PBp model, and the Consumer sector no significant results for the main IV.

Recalling the theoretical literature review, the dependent variables represented two performance dimensions (profitability and market value, i.e., Return on Equity and

Price-to-book), and the results suggest that the M&A capability (CA) related highly significantly to both dimensions in the pooled time-series regressions, which supports the rejection of the null hypothesis.

Table 19. Regression Results for the PBp Technology Services Sector Time-Series with Control for Year Effects.

B coefficients	1	2	3	4	5	6	7
Constant	0.093	0.092	0.094	0.086	0.087	0.157	0.162
t-statistics	4.840	4.757	4.628	4.171	4.189	5.723	5.280
CAp	-0.013**	-0.013**	-0.014**	-0.013**	-0.013**	-0.008**	-0.006**
t-statistics	-2.430	-2.543	-2.550	-2.376	-2.371	-1.417	-1.040
OWNp		0.023	0.023	0.024	0.023	0.024	0.022
t-statistics		1.435	1.457	1.489	1.450	1.554	1.440
NAp			0.000	0.000	0.000	0.001	0.001
t-statistics			-0.320	-0.240	-0.246	1.056	0.962
RVp				0.033	0.037	0.026	0.024
t-statistics				1.493	1.570	1.158	1.088
IAp					-0.002	-0.001	-0.002
t-statistics					-0.501	-0.162	-0.374
SZp						-0.009**	-0.009**
t-statistics						-3.700	-3.633
MCp							0.001
t-statistics							0.261
MDp							-0.001
t-statistics							-0.268
CEp							-0.025**
t-statistics							-2.308
ICp							-0.002
t-statistics							-0.327
y2015	-0.002	0.002	0.002	0.004	0.003	0.001	0.002
t-statistics	-0.135	0.134	0.172	0.338	0.240	0.114	0.197
y2016	0.000	0.003	0.003	0.006	0.005	0.001	-0.002
t-statistics	-0.003	0.219	0.279	0.470	0.384	0.117	-0.192
y2017	0.010	0.012	0.013	0.013	0.012	0.012	0.010
t-statistics	0.838	1.056	1.068	1.067	0.973	1.043	0.914
R Squared	0.044	0.058	0.059	0.072	0.075	0.158	0.191
Adjusted RSquared	0.017	0.025	0.019	0.027	0.022	0.104	0.113
F	1.654	1.745	1.462	1.582	1.408	2.887**	2.438**
F Sig.	0.082	0.064	0.098	0.073	0.099	0.002	0.003

**Significant at the 0.01 level (1-tailed).
* Significant at the 0.05 level (1-tailed).

CHAPTER 5: CONCLUSIONS

Chapter 5 is divided into a review of the research objectives, the overall conclusions and main contributions of the study, the research limitations, and recommendations for future research.

Research Overview

The phenomenon observed as an executive in complex industrial companies and the challenge of understanding the underlying factors of success in Strategic Management sparked the interest in conducting an M&A study. The study was interdisciplinary research and adopted a novel mixed-method methodology to assess Strategic Management in the M&A context.

Firms engage in M&A activity to execute their growth strategy, to acquire new capabilities, or gain a competitive advantage through market consolidation, diversification, or cost-efficiency synergies. The M&A management process is gaining importance in academia to explain the antecedents of success for firms that engage in serial acquisitions. The M&A capability construct was defined in a recent study (Trichterborn et al., 2016) using traditional means like subjective surveys and interviews, but new methods are necessary to improve the understanding of the complexity of M&A management and performance. The research problem approached in this study was the M&A Strategic Management relationship to long-term firm performance, anchored on the fundamentals of the dynamic capabilities framework and the knowledge-based view. The research question was defined as: Is M&A capability in serial acquirers related to the long-term performance of the firm? And the hypothesis: For serial acquirers, there is a positive influence of M&A capability on the long-term performance of the firm. Two

regression models were designed and applied for four years and tested on a sample of 141 firms to assess a potential relationship. Further variations of the models and sample were tested in post-hoc analyses.

Conclusions and Contributions

This section is divided into three blocks, i.e., the conclusions and contributions for the construct M&A capability, the hypothesis, and the mixed-method methodology.

M&A Capability. The empirical findings in the analyses of the variable M&A capability contribute to the research on Strategic Management and the understanding of the antecedents of the M&A capability formation. First, the number of acquisitions related significantly to the M&A capability in the regression analysis (Table 9), which reinforces previous findings that experience and frequency of acquisitions contribute to the M&A development. Previous successful studies on acquisition experience accumulation and M&A capability were mostly focused on firms from the same industry (similar SIC industry classification), while this study provides evidence of M&A capability for a diverse sample (four different FactSet industry sectors). Second, the significance of the motives of acquisitions (market diversification and capabilities acquisition) in the M&A capability regression model (Table 9) suggest an influence of the reasons that drive acquisitions in the M&A capability definition. Third, the variable size of the firm (SZ) was significant in the regression model, with a positive coefficient, which supports previous findings in the literature that larger companies have more advanced capabilities (Table 9). Finally, qualitative findings suggest that the reporting on M&A capability was mostly focused on the integration phase and risk management, and less on overall knowledge transfer (examples in Chapter 4). As a conclusion, this

research successfully confirmed previous findings in the literature (Chatterjee, 2009, Laamanen & Keil, 2008; Trichterborn et al., 2016) that companies develop a capability to manage acquisition programs, the M&A capability.

Hypothesis conclusions. Following the analysis of the M&A capability construct and the positive results in measuring M&A capability through a text mining methodology, the hypothesis regression results also unveiled some interesting findings.

The main result was the significant positive relationship between the M&A capability and the ROE performance measure in most years (2015, 2016, and 2017) and in the ROEp pooled time-series analysis (Table 10). The same positive relationship with Price-to-Book value (PB) in the time-series analysis (Table 11) provided evidence of a positive relationship between the M&A capability and the performance construct. Performance is a multidimensional construct, and this research successfully addressed the M&A capability positive relationship with two performance dimensions: profitability (ROE) and market value (Price-to-Book value). The study provides initial mixed-method evidence that the phenomenon observed in the business world can be modeled, i.e., the management of the M&A process for long-term firm performance. The research problem of M&A performance in serial acquirers was addressed, and the findings suggest that serial acquirers develop superior M&A capability and that is related to long-term performance. Regardless of the limitations of such a sophisticated and innovative study, the null hypothesis should be rejected, and the alternative hypothesis accepted.

Practitioners can benefit from the theoretical and empirical sections of this research. M&A teams can benefit from the literature review on strategic management and refocus their strategic management efforts on holistic management of M&A. The M&A

capability empirical findings provided another piece of knowledge to the complex world of M&A strategic management. If highly active serial acquirers tend to perform better in the long-term and have an enhanced M&A capability, by identifying these features in the firms, financial analysts could better predict performance.

Methodology. This research employed a novel method to address both strategic management and M&A studies. Traditionally, M&A studies utilized subjective surveys, interviews, and mostly event studies based on the abnormal return of stocks. Using a mixed-method approach was adopted in this study, a rising approach to assess unstructured data combined with traditional structured data. With all the limitations and simplicity of the methodology used, the results suggest the effort was effective. This study contributes to both strategic management and M&A with an alternative approach that can be advanced when cognitive and artificial intelligence tools become affordable to the academic world. For the qualitative research community, the study provides a text mining alternative to diminish the burden and the laborious task of coding and inter-rate coding. As the cognitive text mining improves, large volumes of documents, interviews, surveys, web content, and other unstructured data will be coded quickly and automatically based on the researcher strategic directives. The M&A capability phenomenon is real and was measured in a new and interesting way in this study.

Remembering engaged scholarship by Van de Ven and Johnson (2006), this research builds on previous knowledge accumulated in both practitioner and academic domains, addresses real anomalies in an interdisciplinary setting, provides an alternative method to existing approaches, and contributes to knowledge in both strategic management and M&A disciplines.

Limitations and Recommendations for Future Research

Although the findings in this research were significant and fruitful, many limitations applied to the study.

First, the sample selection tried to capture the most active firms in M&A worldwide. The choice by industry sectors limited the access to relevant serial acquirers from other segments of the market. Anyhow, the minimum number of acquisitions by the least active firm was seven, higher than most studies performed on serial acquirers until now. Additionally, the number of companies adopted in the study was limited by time of execution and scope. Future research could select serial acquirers regardless of the industry sectors and, afterward, look for patterns and aggregation by economic activity, sectors, or other criteria. Larger samples and longer periods of time would also be recommended.

Second, the methodology has its limitations. M&A capability construct was recently defined by Trichterborn et al. (2016) and based on the M&A learning process foundations, easier to assess with surveys than through document analysis. The qualitative extractions from the annual reports were satisfactory, and the measures resulted acceptably, but the annual reports are limited in M&A capability content. As previously mentioned, there is more M&A integration and risk management related content than overall management and M&A learning process reporting. Some companies report actively the coordination of the M&A while others focus on the integration part, financial benefits, or risk management related to acquisitions. The detailed M&A management plans are usually confidential and not fully reported. Qualitatively, there were large differences among the sample firms. Some examples were provided in the

previous chapter. Further studies could employ artificial intelligence tools to capture the M&A capability construct from interviews, social media posts, press releases, and other unstructured data sources. Inevitably, as automated cognitive qualitative tools evolve, mimicking the traditional coding methodology and broadening scopes, vast volumes of data will be analyzed continuously.

Alternatively, to better explore the motives of acquisitions, and the knowledge articulation, codification, sharing and internalizations, future research on M&A capability could benefit from case-study research in a multinational, large organization, with M&A multi-level, multi-processes interviews, surveys, and preferably an immersion within an M&A transaction. Such a study would not be generalizable but would surely open new frontiers for research on M&A strategic management.

Remembering Edith Penrose's (1959) line of thought on M&A management, successful or failed acquisitions depend on managerial resources and influence the long-term performance of the combined firm. Researchers must try to successfully model this relationship. This dissertation provides another piece of knowledge to the complex M&A and strategic management research domains.

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APPENDIX A

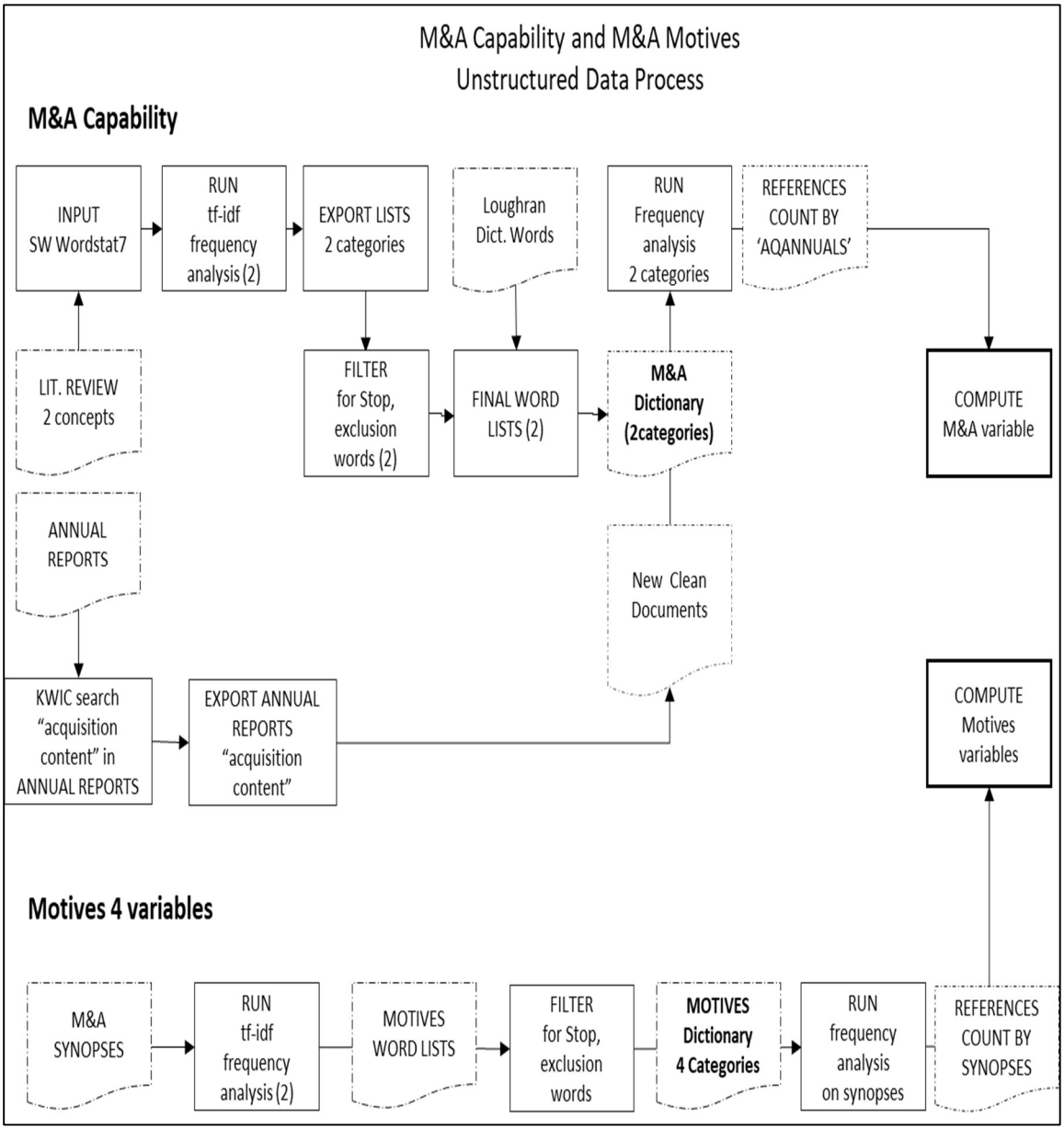
Literature Review - Key Contributors to the Research

Resource-based Theory	Penrose (1959) Wernerfelt (1984) Conner (1991) Barney (1996); Barney et al. (2011)
Dynamic Capabilities	Nelson and Winter (1982) Teece et al. (1997) Eisenhardt and Martin (2000) Helfat and Peteraf (2003) Pitelis (2009) Bingham et al. (2015)
Knowledge-based View	Nonaka (1994) Grant (1996) Zollo and Winter (2002) Eisenhardt and Santos (2002) Kale and Singh (2007) Nonaka and von Krogh (2009)
M&A Process Phases	Penrose (1959) Jemison and Sitkin (1986) Ranft and Lord (2002) Zollo and Singh (2004) Swaminathan et al. (2008) Brueller et al. (2014) Bauer and Matzler (2014) Caiazza and Volpe (2015) Toppenberg et al. (2015)
M&A Learning Process	Haleblian and Finkelstein (1999) Eisenhardt and Santos (2002) Hayward (2002) Zollo and Singh (2004) Barkema and Schijven (2008) Nadolska and Barkema (2014)

M&A Capability Construct	Jemison and Sitkin (1986) Zollo and Singh (2004) Kale and Singh (2007) Laamanen and Keil (2008) Brueller et al. (2014) Junni et al. (2015) Trichterborn et al. (2016)
M&A Performance	N. Venkatraman and Grant (1986) King et al. (2004) Cartwright and Schoenberg (2006) Santos and Brito (2012) Ferreira et al. (2014) Bauer and Matzler (2014)
M&A Serial Acquirers	Fuller et al. (2002) Laamanen and Keil (2008) Chatterjee (2009) Aktas, De Bodt, and Roll (2011)

APPENDIX B

Text Mining Flowchart



APPENDIX C

FactSet Industries and Economic Sectors.
Source: FactSet database.

NUMBER	**SECTOR**	**INDUSTRY**
1100	**Non-Energy Minerals**	
1105		Steel
1115		Aluminum
1120		Precious Metals
1125		Other Metals/Minerals
1130		Forest Products
1135		Construction Materials
1200	**Producer Manufacturing**	
1205		Metal Fabrication
1210		Industrial Machinery
1220		Trucks/Construction/Farm Machinery
1225		Auto Parts: OEM
1230		Building Products
1235		Electrical Products
1245		Office Equipment/Supplies
1250		Miscellaneous Manufacturing
1255		Industrial Conglomerates
1300	**Electronic Technology**	
1305		Semiconductors
1310		Electronic Components
1315		Electronic Equipment/Instruments
1320		Telecommunications Equipment
1330		Aerospace & Defense
1340		Computer Processing Hardware
1345		Computer Peripherals
1352		Computer Communications
1355		Electronic Production Equipment
1400	**Consumer Durables**	
1405		Motor Vehicles
1410		Automotive Aftermarket
1415		Homebuilding
1420		Home Furnishings
1425		Electronics/Appliances
1430		Tools & Hardware
1435		Recreational Products
1445		Other Consumer Specialties
2100	**Energy Minerals**	
2105		Oil & Gas Production
2110		Integrated Oil
2120		Oil Refining/Marketing

2125		Coal
2200	**Process Industries**	
2205		Chemicals: Major Diversified
2210		Chemicals: Specialty
2215		Chemicals: Agricultural
2220		Textiles
2225		Agricultural Commodities/Milling
2230		Pulp & Paper
2235		Containers/Packaging
2240		Industrial Specialties
2300	**Health Technology**	
2305		Pharmaceuticals: Major
2310		Pharmaceuticals: Other
2315		Pharmaceuticals: Generic
2320		Biotechnology
2325		Medical Specialties
2400	**Consumer Non-Durables**	
2405		Food: Major Diversified
2410		Food: Specialty/Candy
2415		Food: Meat/Fish/Dairy
2420		Beverages: Non-Alcoholic
2425		Beverages: Alcoholic
2430		Tobacco
2435		Household/Personal Care
2440		Apparel/Footwear
2450		Consumer Sundries
3100	**Industrial Services**	
3105		Contract Drilling
3110		Oilfield Services/Equipment
3115		Engineering & Construction
3120		Environmental Services
3130		Oil & Gas Pipelines
3200	**Commercial Services**	
3205		Miscellaneous Commercial Services
3210		Advertising/Marketing Services
3215		Commercial Printing/Forms
3220		Financial Publishing/Services
3235		Personnel Services
3250	**Distribution Services**	
3255		Wholesale Distributors
3260		Food Distributors
3265		Electronics Distributors
3270		Medical Distributors
3300	**Technology Services**	
3305		Data Processing Services
3308		Information Technology Services
3310		Packaged Software

3320		Internet Software/Services
3350	**Health Services**	
3355		Managed Health Care
3360		Hospital/Nursing Management
3365		Medical/Nursing Services
3370		Services to the Health Industry
3400	**Consumer Services**	
3405		Media Conglomerates
3410		Broadcasting
3415		Cable/Satellite TV
3420		Publishing: Newspapers
3425		Publishing: Books/Magazines
3430		Movies/Entertainment
3435		Restaurants
3440		Hotels/Resorts/Cruiselines
3445		Casinos/Gaming
3450		Other Consumer Services
3500	**Retail Trade**	
3505		Food Retail
3510		Drugstore Chains
3515		Department Stores
3520		Discount Stores
3525		Apparel/Footwear Retail
3530		Home Improvement Chains
3535		Electronics/Appliance Stores
3540		Specialty Stores
3545		Catalog/Specialty Distribution
3550		Internet Retail
4600	**Transportation**	
4605		Air Freight/Couriers
4610		Airlines
4615		Trucking
4620		Railroads
4625		Marine Shipping
4630		Other Transportation
4700	**Utilities**	
4705		Electric Utilities
4735		Gas Distributors
4755		Water Utilities
4760		Alternative Power Generation
4800	**Finance**	
4805		Major Banks
4810		Regional Banks
4825		Savings Banks
4830		Finance/Rental/Leasing
4840		Investment Banks/Brokers
4845		Investment Managers

4850		Financial Conglomerates
4855		Property/Casualty Insurance
4860		Multi-Line Insurance
4865		Life/Health Insurance
4875		Specialty Insurance
4880		Insurance Brokers/Services
4885		Real Estate Development
4890		Real Estate Investment Trusts
4900	**Communications**	
4905		Major Telecommunications
4910		Specialty Telecommunications
4915		Wireless Telecommunications
6000	**Miscellaneous**	
6005		Miscellaneous
6010		Investment Trusts/Mutual Funds

Appendix D

Sample Size and Selection by FactSet Sectors.

Sector Rank	Target Sector	Number of acquisitions by Sector	%	Number of companies with 8 or more acquisitions in 4 years	Sample Size	Number of Acquisitions of Sample
1	Technology Services	6731	13.87	166	37	966
2	Finance	6719	13.85	132	38	709
3	Commercial Services	5823	12.00	52	32	544
4	Consumer Services	3237	6.67	97	34	398
5	Producer Manufacturing	3209	6.61			
6	Distribution Services	2676	5.51			
7	Industrial Services	2326	4.79			
8	Process Industries	2067	4.26			
9	Non-Energy Minerals	2031	4.19			
10	Retail Trade	1807	3.72			
11	Health Technology	1761	3.63			
12	Electronic Technology	1718	3.54			
13	Health Services	1710	3.52			
14	Consumer Non-Durables	1364	2.81			
15	Transportation	1339	2.76			
16	Utilities	1248	2.57			
17	Communications	799	1.65			
18	Energy Minerals	791	1.63			
19	Consumer Durables	741	1.53			
20	Miscellaneous	351	0.72			
21	Government	82	0.17			
	Total	48530	100.00		141	2617
Source: FactSet Database.						

Appendix E

Master Database with Dependent and Independent Variables Scores.

The tables below summarize the complete dataset by variables.

Firm	CA13	CA14	CA15	CA16	MC13	MC14	MC15	MC16
3i Group plc	3.970	4.240	3.520	4.030	4.780	6.250	5.440	0.000
Accenture Plc Class A	4.540	4.520	4.510	4.310	3.010	2.600	5.630	4.420
Accor SA	2.440	2.960	3.110	3.150	0.000	3.110	2.690	2.820
Adecco Group AG	3.760	4.010	4.230	4.180	0.000	5.410	1.830	2.550
AF AB Class B	3.230	3.680	3.520	3.620	3.030	1.490	3.800	3.640
AFH Financial Group PLC	2.840	2.200	1.720	3.000	1.980	2.870	1.780	1.380
Allianz SE	3.730	4.120	3.880	3.530	4.050	1.430	2.670	4.220
Alphabet Inc. Class A	3.780	3.460	3.410	3.900	4.290	3.010	2.590	2.600
Ama Group Limited	3.000	2.840	2.400	2.410	0.000	1.760	2.700	1.630
AMC Entertainment Holdings, Inc. Class A	3.630	3.500	3.410	3.300	1.620	2.100	2.510	1.400
America Movil SAB de CV Class L	2.180	2.280	2.630	2.500	1.440	0.000	2.650	1.610
American Hotel Income Properties REIT LP	2.170	1.980	3.050	3.440	1.670	2.070	2.030	3.700
Apple Inc.	3.310	3.130	3.320	3.780	3.970	2.980	3.420	2.930
Arthur J. Gallagher & Co.	4.180	3.960	4.150	4.190	2.610	3.750	2.330	3.410
Ashford Hospitality Trust, Inc.	3.940	3.190	3.190	2.820	0.000	2.060	1.910	0.000
Ashtead Group plc	3.660	3.570	3.630	3.570	2.120	2.930	2.890	1.750
Autodesk, Inc.	3.750	4.050	3.820	3.550	4.000	3.120	3.950	2.610
Avis Budget Group, Inc.	3.620	3.780	4.240	4.430	3.560	2.330	2.670	5.390
AXA SA	3.150	3.070	3.200	2.960	0.830	3.410	3.820	3.210
Axel Springer SE	3.660	3.620	3.440	3.400	2.540	3.260	2.130	0.000
Azimut Holding Spa	2.260	1.910	2.690	2.810	0.000	0.000	2.140	1.690
Banco Santander S.A.	3.730	3.720	4.700	4.170	2.030	3.680	3.450	1.650
BB&T Corporation	3.710	3.040	3.050	2.770	4.050	3.890	3.990	2.710
Belvoir Lettings PLC	2.990	4.530	3.360	3.310	4.400	2.990	2.310	2.700
Berkshire Hathaway Inc. Class B	2.400	2.580	2.060	2.080	2.980	3.450	3.880	3.460
Bertelsmann SE & Co. KGaA. 15 % Pref	2.550	2.790	2.870	2.730	2.060	2.830	1.330	1.140
BGC Partners, Inc. Class A	3.050	3.210	3.120	3.270	2.630	2.620	2.570	3.450
Blackstone Group L.P.	2.870	3.820	2.350	3.600	2.880	2.040	2.590	2.330
BNP Paribas SA Class A	3.280	3.610	3.410	3.940	3.780	4.510	1.330	2.850
Boyd Group Income Fund	2.890	3.140	3.140	2.990	5.000	4.130	3.040	4.170
Brookfield Asset Management Inc. Class A	2.560	2.350	2.510	2.710	2.520	1.220	4.150	2.100
Brooks Macdonald Group plc	1.970	2.500	2.350	2.450	0.000	2.070	0.000	1.620
Brown & Brown, Inc.	3.630	3.690	3.790	3.690	2.970	2.400	2.220	1.550
Bureau Veritas SA	3.650	3.870	3.730	4.050	5.540	5.130	4.550	5.260
Canon Inc.	2.220	2.650	2.230	3.000	1.450	2.970	4.170	1.250
CapitaLand Limited	2.660	2.270	2.720	2.800	1.870	1.980	2.050	0.000
Carrols Restaurant Group, Inc.	3.780	3.740	3.620	3.560	0.000	3.640	3.830	3.370
CBRE Group, Inc. Class A	2.980	2.750	2.860	2.440	2.620	4.360	3.660	3.740
CCL Industries Inc. Class B	2.890	2.850	2.780	2.890	4.210	2.300	6.140	3.300
CenterState Bank Corporation	2.780	2.730	2.370	2.620	2.000	4.030	3.430	3.180
Chanticleer Holdings, Inc.	3.430	3.060	2.930	3.280	1.660	2.840	4.180	0.000
Chatham Lodging Trust	2.810	2.980	2.650	2.690	3.060	1.840	2.170	0.000
Cisco Systems, Inc.	4.220	4.380	4.380	4.290	3.800	2.490	1.980	4.340
Comcast Corporation Class A	3.270	3.260	2.990	3.100	3.100	4.480	2.470	3.320

Firm	CA13	CA14	CA15	CA16	MC13	MC14	MC15	MC16
Constellation Software Inc.	2.340	2.100	2.220	2.330	3.880	4.070	3.830	3.290
Corporate Travel Management Limited	2.430	2.980	1.950	2.490	1.830	3.380	2.380	1.820
Dassault Systemes SA	3.500	3.360	4.060	4.600	4.110	3.220	0.000	4.580
Dentsu Inc.	3.630	3.260	3.790	3.450	2.920	2.770	3.420	2.930
D'Ieteren SA	2.420	2.610	3.050	2.630	0.760	0.000	3.240	0.620
Discovery, Inc. Class A	3.270	2.700	2.470	2.550	3.240	3.460	2.110	3.750
DXC Technology Co.	3.490	2.970	2.840	2.770	3.650	2.850	2.970	1.570
eBay Inc.	2.900	3.410	4.350	4.350	2.880	1.330	2.540	3.290
ENGIE SA	3.150	3.010	2.770	3.160	3.900	2.950	4.230	3.300
Equity LifeStyle Properties, Inc.	2.590	3.020	2.950	2.850	5.260	1.300	0.000	0.000
Eurofins Scientific Societe Europeenne	2.970	2.870	2.730	2.940	5.180	3.920	4.510	4.150
F.N.B. Corporation	2.470	2.180	2.160	2.410	0.000	4.120	3.730	2.680
Facebook, Inc. Class A	3.060	3.680	3.520	3.580	3.110	2.100	1.740	2.910
Fairfax Financial Holdings Limited	2.510	2.710	2.840	2.590	3.570	2.410	2.930	2.160
Fidelity National Financial, Inc. - FNF	3.080	2.740	2.700	2.690	2.910	3.040	0.000	2.860
General Electric Company	3.060	3.960	3.410	3.390	0.000	2.270	2.640	2.500
Goldman Sachs Group, Inc.	3.660	3.550	3.360	3.400	1.890	1.870	2.340	3.210
Gray Television, Inc.	3.670	3.310	3.550	3.420	2.380	1.980	3.520	3.190
Groupon, Inc.	3.000	2.860	3.370	3.450	3.660	3.870	1.560	0.000
Heiwa Corporation	2.500	2.350	3.520	4.140	2.050	0.000	1.730	2.310
Helios Underwriting PLC	2.300	2.240	2.230	2.020	1.570	4.580	3.270	2.560
Hersha Hospitality Trust Class A	2.640	2.590	3.040	1.300	0.000	2.740	2.970	1.940
Hexagon AB Class B	4.130	3.680	4.020	3.940	4.620	2.100	3.230	3.100
Hyatt Hotels Corporation Class A	2.370	2.270	2.530	2.510	3.480	2.650	0.000	1.460
IAC/InterActiveCorp.	2.550	2.740	2.710	2.840	2.410	2.490	3.160	4.620
Industrial Alliance Insurance and Financ	3.050	3.580	3.520	3.230	2.520	2.040	5.300	3.780
Intel Corporation	3.600	3.830	3.670	4.000	3.580	2.730	1.940	2.260
International Business Machines Corporat	2.970	3.230	3.050	3.520	4.050	3.710	3.510	2.870
Interpublic Group of Companies, Inc.	3.500	3.570	3.570	3.910	2.560	2.820	1.170	3.420
Intrum AB	3.190	2.930	3.330	3.650	2.900	3.140	4.860	5.760
Intuit Inc.	3.510	3.460	3.400	3.680	3.770	3.420	1.890	2.760
Iron Mountain, Inc.	4.300	3.960	4.100	4.360	3.660	4.440	6.210	1.690
ITV plc	2.120	3.030	2.760	1.940	1.990	4.550	1.900	4.230
j2 Global, Inc.	2.570	2.720	2.940	2.930	5.080	3.830	3.880	3.660
Jardine Lloyd Thompson Group plc	3.920	3.380	3.910	4.100	5.070	2.950	4.440	7.080
Jones Lang LaSalle Incorporated	3.850	3.680	3.680	3.940	0.000	4.410	2.170	2.350
KKR & Co. L.P.	3.410	3.130	3.270	3.330	2.630	2.630	2.560	5.040
Konica Minolta, Inc.	2.910	3.080	3.470	3.310	2.150	2.130	2.960	3.510
Lagardere SCA	2.910	2.900	2.720	2.890	0.000	3.400	2.860	2.480
Liberty Global Plc Class A	3.450	3.600	3.190	2.990	4.270	2.500	3.400	3.900
Lloyds Banking Group plc	3.340	2.740	2.890	4.110	3.640	3.470	2.310	4.050
Malaysian Resources Corp. Bhd.	3.000	4.050	2.900	3.990	0.000	0.780	0.000	3.210
Microsoft Corporation	2.210	3.360	3.160	3.700	2.780	3.350	2.270	2.510
Mitsubishi UFJ Financial Group, Inc.	2.730	2.450	2.510	2.970	4.000	2.920	2.780	3.430
Monro Inc	2.240	2.370	2.600	2.350	1.980	1.520	1.670	4.720
Multi-Color Corporation	3.150	3.170	2.870	2.820	2.730	2.930	3.640	1.000
News Corporation Class A	2.910	2.720	2.670	2.530	0.000	1.250	2.650	1.960
Nippon Telegraph and Telephone Corporati	2.180	2.550	2.980	2.630	1.790	3.370	3.490	2.440
NV5 Global Inc	3.050	2.770	2.850	2.730	2.250	3.410	3.150	3.540
Old Mutual plc	3.150	3.940	3.060	3.050	3.630	1.560	1.740	4.070
Olympic Entertainment Group AS	2.640	2.200	2.790	2.740	1.920	4.000	4.870	6.740
Omnicom Group Inc	3.650	3.720	3.390	3.290	3.070	2.020	2.990	4.780

Firm	CA13	CA14	CA15	CA16	MC13	MC14	MC15	MC16
Onex Corporation	2.530	2.810	2.850	2.520	4.480	1.740	3.540	3.630
Open Text Corporation	3.490	3.840	3.930	4.160	3.680	3.410	4.450	4.380
Oracle Corporation	3.770	3.930	3.470	3.490	4.300	4.110	3.610	2.530
Partners Group Holding AG	2.190	3.070	2.820	3.570	0.000	5.000	3.830	4.420
Pebblebrook Hotel Trust	3.100	3.220	3.340	3.260	4.780	4.680	4.570	2.560
Pinnacle Financial Partners, Inc.	1.870	1.960	2.110	2.600	3.170	5.390	3.160	3.110
Power Corporation of Canada	2.570	2.710	2.520	2.740	3.820	6.110	2.300	4.140
Publicis Groupe SA	2.650	3.290	3.580	3.480	3.060	2.830	2.270	4.660
QUALCOMM Incorporated	3.990	3.640	3.180	3.870	1.370	2.970	2.390	1.960
Rakuten, Inc.	1.990	4.270	4.980	5.050	2.830	1.770	3.150	3.120
Randall & Quilter Investment Holdings Lt	2.630	3.050	3.230	3.470	2.070	3.520	3.570	2.930
Randstad N.V.	3.450	3.730	3.510	3.280	4.460	3.230	2.940	2.120
Realogy Holdings Corp.	3.360	2.830	3.250	3.140	3.560	3.010	2.360	3.730
RELX PLC	3.160	3.120	3.580	3.610	4.290	2.110	2.330	3.900
Rentokil Initial plc	4.410	4.570	4.610	4.970	5.000	6.610	4.050	3.480
Rollins, Inc.	2.460	2.940	2.920	2.670	4.930	3.980	5.190	2.920
Roper Technologies, Inc.	3.850	3.950	3.510	3.550	2.700	4.130	4.640	3.770
RPS Group Plc	4.140	4.160	3.830	4.200	2.130	2.140	2.240	0.000
Salem Media Group, Inc. Class A	2.940	2.870	2.340	1.990	3.250	3.490	2.940	0.000
salesforce.com, inc.	2.520	2.730	2.850	3.350	1.670	2.700	3.670	3.800
Samsung Electronics Co., Ltd.	2.400	2.310	6.110	5.540	4.460	2.830	3.080	1.980
SAP SE Sponsored ADR	4.200	4.270	4.810	4.580	3.270	3.850	2.430	3.740
Savills plc	3.590	3.530	4.020	4.030	0.000	2.920	3.650	3.020
SGS SA	4.400	3.800	4.860	4.700	4.100	4.470	3.320	5.430
Siemens AG	6.530	6.420	4.770	4.990	4.630	3.380	3.660	3.130
Sinclair Broadcast Group, Inc. Class A	2.880	3.040	2.990	2.700	3.250	3.680	0.000	2.620
Societe Generale S.A. Class A	3.970	3.530	3.410	3.340	4.500	4.530	1.880	2.440
SoftBank Group Corp.	2.310	2.250	2.550	2.290	2.530	2.370	2.800	2.370
Sony Corporation	2.570	2.750	2.720	2.930	3.280	0.000	4.090	1.710
Standard Life Aberdeen PLC	3.300	4.220	3.680	3.810	2.910	0.000	5.560	4.210
Stifel Financial Corp.	2.590	2.700	2.660	2.620	4.120	2.370	2.890	3.760
Summit Hotel Properties, Inc.	3.180	3.160	3.030	3.190	3.240	2.870	2.840	0.770
Sun Communities, Inc.	2.810	2.320	2.380	2.270	2.170	2.900	0.000	2.910
Synopsys, Inc.	3.330	3.380	3.600	3.640	0.000	4.780	6.630	5.280
Trimble Inc.	2.830	2.900	2.940	3.110	3.940	5.240	4.170	1.610
TripAdvisor, Inc.	3.740	3.500	3.080	2.880	3.180	3.310	3.560	0.000
TrueBlue, Inc.	4.160	4.090	4.190	3.660	4.570	6.060	1.480	2.220
Twitter, Inc.	2.670	2.610	2.560	2.880	0.000	3.700	2.830	2.980
Verizon Communications Inc.	4.000	3.980	3.640	4.010	4.260	4.390	2.240	4.120
Vivendi SA	3.580	3.100	3.520	3.670	0.000	1.320	2.660	2.220
W. P. Carey Inc.	2.030	2.470	2.360	2.220	1.790	2.300	1.850	2.590
Wells Fargo & Company	3.730	3.620	3.780	3.400	0.000	1.640	1.560	3.350
Wintrust Financial Corporation	2.850	2.880	2.650	2.610	3.860	2.250	5.010	5.520
WPP Plc	3.560	3.680	3.220	3.280	5.140	4.020	2.580	2.780
Wyndham Worldwide Corporation	3.080	3.550	3.190	3.080	2.560	0.000	3.730	4.460

The tables below summarize the complete dataset by variables.

Firm	MD13	MD14	MD15	MD16	CE13	CE14	CE15	CE16
3i Group plc	5.370	5.270	3.350	0.000	0.000	0.000	2.090	0.000
Accenture Plc Class A	2.680	1.300	4.710	3.390	0.330	0.000	0.460	0.290
Accor SA	0.000	3.110	2.020	1.490	0.000	0.390	0.150	0.150
Adecco Group AG	0.000	5.410	4.030	1.640	0.000	0.000	0.000	0.180
AF AB Class B	3.030	2.990	3.800	3.640	0.000	0.000	0.000	0.660
AFH Financial Group PLC	1.520	3.020	1.850	2.300	0.760	0.760	0.540	0.920
Allianz SE	5.780	1.020	2.670	3.110	0.580	0.820	0.760	0.220
Alphabet Inc. Class A	4.140	4.650	5.140	3.870	0.300	0.660	0.190	0.070
Ama Group Limited	0.000	2.350	3.770	2.440	0.000	1.760	0.540	0.000
AMC Entertainment Holdings, Inc. Class A	1.850	0.930	3.350	0.590	0.460	0.000	1.670	0.220
America Movil SAB de CV Class L	1.440	0.000	2.650	6.450	0.960	0.000	0.000	1.610
American Hotel Income Properties REIT LP	1.670	1.810	2.960	4.880	1.110	0.490	0.160	0.840
Apple Inc.	3.090	4.760	4.970	4.790	0.000	0.000	0.170	0.000
Arthur J. Gallagher & Co.	3.430	4.260	3.590	4.120	0.490	0.470	0.400	0.610
Ashford Hospitality Trust, Inc.	0.000	2.060	3.090	0.000	0.000	0.000	0.000	0.000
Ashtead Group plc	3.810	2.930	4.470	4.140	0.000	0.930	0.000	0.160
Autodesk, Inc.	6.220	2.640	4.210	4.210	0.150	0.320	0.260	0.000
Avis Budget Group, Inc.	1.470	4.650	4.890	4.380	0.840	0.000	0.890	0.000
AXA SA	1.660	2.270	3.060	1.920	0.550	0.000	0.310	0.000
Axel Springer SE	1.020	1.400	5.530	0.000	0.000	0.000	0.000	0.000
Azimut Holding Spa	0.000	0.000	1.690	2.220	0.000	0.000	0.000	0.000
Banco Santander S.A.	1.360	2.150	2.760	1.460	0.410	0.000	0.000	0.370
BB&T Corporation	2.890	2.250	1.450	1.550	0.000	0.610	0.360	0.000
Belvoir Lettings PLC	2.750	3.730	2.310	1.800	1.650	1.120	1.160	1.800
Berkshire Hathaway Inc. Class B	2.980	3.450	4.310	4.560	0.000	0.180	0.000	0.000
Bertelsmann SE & Co. KGaA. 15 % Pref	0.880	1.410	6.670	4.550	0.290	1.060	0.000	0.000
BGC Partners, Inc. Class A	3.280	3.060	2.830	3.450	0.220	0.870	0.770	0.190
Blackstone Group L.P.	2.650	1.530	1.650	2.530	0.220	0.260	0.470	0.100
BNP Paribas SA Class A	3.090	2.380	2.210	3.090	0.000	0.000	0.440	0.000
Boyd Group Income Fund	5.000	4.850	3.040	3.570	0.000	1.260	0.830	0.000
Brookfield Asset Management Inc. Class A	1.550	0.240	4.150	0.380	0.780	0.000	0.690	0.000
Brooks Macdonald Group plc	0.000	3.190	0.000	3.230	0.000	0.000	0.000	0.000
Brown & Brown, Inc.	3.120	2.640	3.320	4.420	0.450	0.240	0.340	0.440
Bureau Veritas SA	5.060	2.680	3.640	4.820	0.240	0.890	0.000	0.440
Canon Inc.	1.450	4.090	5.210	5.000	2.900	0.000	0.000	0.000
CapitaLand Limited	2.340	0.990	1.030	0.000	0.930	0.280	0.770	0.000
Carrols Restaurant Group, Inc.	0.000	2.270	4.640	3.370	0.000	0.000	0.000	0.000
CBRE Group, Inc. Class A	4.120	4.360	4.010	3.740	0.190	0.440	0.000	0.220
CCL Industries Inc. Class B	4.210	1.380	5.700	2.550	1.050	0.460	0.000	0.150
CenterState Bank Corporation	1.000	2.100	1.900	1.240	0.000	0.700	0.190	0.000
Chanticleer Holdings, Inc.	1.660	1.970	3.040	0.000	0.410	0.000	0.000	0.000
Chatham Lodging Trust	1.670	1.840	2.610	0.000	0.280	0.460	0.430	0.000
Cisco Systems, Inc.	3.470	4.080	4.130	4.190	0.540	0.680	0.340	0.780
Comcast Corporation Class A	4.480	4.660	3.630	5.690	0.000	0.000	0.290	0.470
Constellation Software Inc.	4.310	4.420	4.790	4.300	0.360	0.000	0.000	0.130
Corporate Travel Management Limited	2.750	1.690	1.790	2.730	1.380	1.270	1.790	1.820
Dassault Systemes SA	4.860	1.610	0.000	6.250	0.000	0.000	0.000	0.830
Dentsu Inc.	1.910	3.560	2.560	2.890	0.560	0.000	0.380	0.590
D'Ieteren SA	1.530	0.000	3.240	1.860	0.760	0.000	0.000	0.000

Firm	MD13	MD14	MD15	MD16	CE13	CE14	CE15	CE16
Discovery, Inc. Class A	3.490	2.590	1.580	5.630	0.750	0.580	0.000	0.000
DXC Technology Co.	3.300	3.910	3.670	0.200	0.520	0.710	0.700	0.290
eBay Inc.	2.090	3.110	3.810	2.870	0.260	0.000	0.000	0.210
ENGIE SA	2.600	3.350	0.000	2.830	3.900	0.980	0.000	0.000
Equity LifeStyle Properties, Inc.	5.260	1.300	0.000	0.000	0.000	0.000	0.000	0.000
Eurofins Scientific Societe Europeenne	4.570	4.810	4.920	4.440	0.610	0.530	0.000	0.000
F.N.B. Corporation	0.000	1.850	2.330	1.340	0.000	0.430	0.160	0.000
Facebook, Inc. Class A	3.110	1.730	4.880	4.850	0.000	0.000	0.000	0.970
Fairfax Financial Holdings Limited	1.120	1.690	2.070	2.160	0.220	0.480	0.950	1.440
Fidelity National Financial, Inc. - FNF	3.880	3.800	0.000	3.810	0.190	0.000	0.000	0.000
General Electric Company	0.000	3.900	3.520	5.000	0.000	0.320	0.000	0.000
Goldman Sachs Group, Inc.	6.920	4.580	4.470	5.650	0.630	0.090	0.260	0.130
Gray Television, Inc.	3.970	1.390	3.270	2.840	0.000	0.990	1.010	1.060
Groupon, Inc.	8.130	1.760	4.690	0.000	0.000	0.350	0.000	0.000
Heiwa Corporation	1.030	0.000	1.160	2.780	0.000	0.000	0.290	0.460
Helios Underwriting PLC	1.570	3.520	1.380	1.710	0.890	0.700	0.860	0.850
Hersha Hospitality Trust Class A	0.000	2.740	4.290	2.180	0.000	0.680	0.330	0.000
Hexagon AB Class B	4.360	3.780	3.760	3.940	1.280	1.680	0.270	0.280
Hyatt Hotels Corporation Class A	2.170	3.540	0.000	1.460	0.000	0.000	0.000	0.000
IAC/InterActiveCorp.	2.410	4.140	3.160	1.540	1.410	0.000	0.530	0.000
Industrial Alliance Insurance and Financ	1.680	3.060	3.540	2.410	1.400	1.530	3.790	1.720
Intel Corporation	3.080	6.560	4.480	4.670	0.300	0.000	0.470	0.000
International Business Machines Corporat	4.320	5.560	4.040	2.750	0.540	0.510	0.620	0.570
Interpublic Group of Companies, Inc.	2.390	3.630	1.560	5.140	0.340	0.000	0.390	2.400
Intrum AB	2.900	1.350	4.320	3.600	0.000	0.450	1.080	0.000
Intuit Inc.	5.190	3.420	1.890	3.450	0.470	0.260	0.000	0.000
Iron Mountain, Inc.	5.240	4.440	6.210	0.680	0.000	1.110	0.560	0.170
ITV plc	2.240	6.820	2.220	0.350	1.240	2.270	0.630	0.700
j2 Global, Inc.	4.660	4.410	4.220	2.230	0.850	0.190	0.330	0.000
Jardine Lloyd Thompson Group plc	3.880	1.690	6.670	4.420	0.600	1.270	0.000	0.000
Jones Lang LaSalle Incorporated	0.000	4.040	2.420	3.730	0.000	0.000	0.720	0.590
KKR & Co. L.P.	4.900	4.900	3.710	6.530	0.350	0.350	0.070	0.590
Konica Minolta, Inc.	3.760	3.830	3.550	5.260	0.000	1.700	0.100	0.000
Lagardere SCA	0.000	1.830	1.570	1.490	0.000	0.000	0.290	0.000
Liberty Global Plc Class A	2.560	2.000	2.940	5.190	0.000	0.500	0.310	0.000
Lloyds Banking Group plc	3.640	3.960	5.040	6.080	0.450	0.000	0.210	0.000
Malaysian Resources Corp. Bhd.	0.000	0.910	0.000	1.920	0.000	0.000	0.000	0.000
Microsoft Corporation	5.560	4.050	4.470	2.600	0.250	0.140	0.080	0.000
Mitsubishi UFJ Financial Group, Inc.	1.000	0.420	1.040	2.970	0.000	0.000	0.350	0.000
Monro Inc	2.970	3.030	2.680	4.720	0.000	0.000	0.000	0.000
Multi-Color Corporation	1.820	1.950	4.640	2.990	0.910	0.490	0.000	0.000
News Corporation Class A	0.000	1.100	3.540	5.880	0.000	0.470	0.290	0.000
Nippon Telegraph and Telephone Corporati	2.110	2.830	1.860	2.440	0.490	0.670	0.230	0.280
NV5 Global Inc	3.930	5.120	2.250	4.550	1.120	1.020	1.800	1.520
Old Mutual plc	2.070	1.560	1.740	4.360	0.520	0.310	0.000	0.000
Olympic Entertainment Group AS	1.920	4.000	1.540	7.870	0.000	0.000	0.000	0.000
Omnicom Group Inc	3.450	2.020	3.990	3.190	0.190	0.130	0.330	0.000
Onex Corporation	2.990	2.610	3.540	3.230	0.000	0.000	0.980	0.400
Open Text Corporation	3.680	2.650	2.580	2.190	1.050	0.760	0.000	1.460
Oracle Corporation	5.010	3.150	4.090	2.090	0.430	0.290	0.480	0.140
Partners Group Holding AG	0.000	10.000	6.270	7.080	0.000	0.000	0.000	0.000
Pebblebrook Hotel Trust	5.460	7.130	4.060	2.560	0.340	0.220	0.000	0.000

Firm	MD13	MD14	MD15	MD16	CE13	CE14	CE15	CE16
Pinnacle Financial Partners, Inc.	0.530	1.160	1.710	0.700	0.000	0.000	0.090	0.100
Power Corporation of Canada	4.200	6.990	2.950	3.760	0.760	0.000	0.000	0.380
Publicis Groupe SA	2.720	3.050	2.310	3.620	0.410	0.340	0.240	0.170
QUALCOMM Incorporated	1.370	2.480	5.070	5.230	1.370	0.000	0.560	0.650
Rakuten, Inc.	2.830	2.300	5.410	4.320	0.000	0.530	0.450	0.960
Randall & Quilter Investment Holdings Lt	1.550	1.320	3.570	2.560	0.520	0.000	0.890	0.180
Randstad N.V.	3.180	6.450	3.920	1.210	1.910	0.000	0.000	0.450
Realogy Holdings Corp.	2.870	3.660	3.420	2.830	0.000	0.470	0.150	0.500
RELX PLC	5.000	4.220	4.320	5.190	0.000	0.230	0.000	0.000
Rentokil Initial plc	5.000	3.310	2.760	3.740	0.000	0.000	0.320	0.000
Rollins, Inc.	8.450	5.110	6.490	3.080	0.000	0.000	0.000	0.160
Roper Technologies, Inc.	8.110	5.100	3.600	4.810	0.000	0.240	0.700	0.000
RPS Group Plc	0.970	1.600	2.240	0.000	0.770	1.070	1.280	0.000
Salem Media Group, Inc. Class A	1.630	1.590	1.730	0.000	0.000	0.320	0.000	0.000
salesforce.com, inc.	2.640	5.410	3.670	3.470	0.350	1.350	0.260	0.540
Samsung Electronics Co., Ltd.	6.930	5.660	2.200	3.470	0.000	0.470	0.440	0.000
SAP SE Sponsored ADR	4.770	3.000	4.420	4.160	0.250	0.290	0.000	0.000
Savills plc	0.000	1.250	3.650	3.520	0.000	1.670	1.220	0.500
SGS SA	2.650	4.090	4.980	6.960	0.660	0.190	0.170	0.650
Siemens AG	4.980	5.260	3.660	3.130	0.180	0.750	0.000	0.850
Sinclair Broadcast Group, Inc. Class A	1.350	2.010	0.000	1.500	0.680	0.110	0.000	0.370
Societe Generale S.A. Class A	1.800	2.470	1.410	2.740	2.700	0.000	0.230	0.610
SoftBank Group Corp.	2.530	3.790	4.530	5.030	0.000	0.000	0.160	0.300
Sony Corporation	1.640	0.000	2.790	1.020	0.000	0.000	0.560	0.000
Standard Life Aberdeen PLC	0.970	0.000	3.140	2.750	0.000	0.000	0.240	0.000
Stifel Financial Corp.	2.800	1.190	2.360	3.290	0.160	0.890	0.790	1.410
Summit Hotel Properties, Inc.	2.880	2.870	3.400	2.310	0.540	0.150	0.190	0.000
Sun Communities, Inc.	2.170	2.900	0.000	1.940	1.450	0.000	0.000	0.490
Synopsys, Inc.	0.000	7.320	7.460	6.500	0.000	0.960	0.000	1.220
Trimble Inc.	4.720	7.140	4.770	6.450	0.000	0.240	0.200	0.000
TripAdvisor, Inc.	4.950	4.300	5.210	2.170	0.000	0.330	0.000	0.000
TrueBlue, Inc.	4.570	6.060	3.700	2.220	0.000	0.000	1.480	3.330
Twitter, Inc.	0.000	4.500	3.700	2.550	0.000	0.000	0.220	0.000
Verizon Communications Inc.	4.260	5.640	2.900	3.950	0.000	0.310	0.000	0.160
Vivendi SA	0.000	6.580	0.970	1.900	0.000	0.000	0.000	0.320
W. P. Carey Inc.	0.000	3.450	1.850	3.890	0.000	0.380	0.000	0.000
Wells Fargo & Company	0.000	3.280	3.380	4.270	0.000	0.000	0.000	0.000
Wintrust Financial Corporation	2.210	2.250	3.270	3.250	0.550	0.000	0.000	0.000
WPP Plc	4.200	3.330	2.410	2.150	0.430	0.450	0.170	0.450
Wyndham Worldwide Corporation	2.140	0.000	5.390	4.950	0.000	0.000	0.000	0.500

The tables below summarize the complete dataset by variables.

Firm	IC13	IC14	IC15	IC16	Own13	Own14	Own15	Own16
3i Group plc	0.300	0.780	0.420	0.000	0	0	0	0
Accenture Plc Class A	1.340	1.300	1.150	1.180	0	0	0	0
Accor SA	0.000	0.390	0.450	0.300	0	0	0	0
Adecco Group AG	0.000	2.700	0.000	0.730	0	0	1	1
AF AB Class B	0.000	0.000	6.330	1.660	0	0	0	0
AFH Financial Group PLC	0.150	0.150	0.390	0.000	0	0	0	0
Allianz SE	0.000	0.610	0.000	0.670	1	1	1	1
Alphabet Inc. Class A	0.440	0.870	0.930	1.200	0	0	0	0
Ama Group Limited	0.000	0.000	0.270	0.000	0	0	0	0
AMC Entertainment Holdings, Inc. Class A	0.000	0.000	0.000	0.150	0	0	0	0
America Movil SAB de CV Class L	0.000	0.000	0.000	0.000	0	0	0	0
American Hotel Income Properties REIT LP	0.000	0.100	0.000	0.000	1	1	1	1
Apple Inc.	0.220	0.890	0.340	0.000	1	0	0	0
Arthur J. Gallagher & Co.	0.760	0.850	0.810	0.760	0	0	0	0
Ashford Hospitality Trust, Inc.	0.000	0.000	0.210	0.000	0	0	0	0
Ashtead Group plc	0.850	0.130	0.000	0.320	0	1	0	0
Autodesk, Inc.	1.480	1.520	0.790	0.800	0	0	0	0
Avis Budget Group, Inc.	0.000	0.000	0.440	0.000	0	0	0	0
AXA SA	0.000	0.570	0.310	0.210	0	0	0	0
Axel Springer SE	0.000	0.470	0.000	0.000	0	0	0	0
Azimut Holding Spa	0.000	0.000	0.270	0.000	0	0	0	0
Banco Santander S.A.	0.140	0.310	0.000	0.000	1	1	1	1
BB&T Corporation	0.000	0.200	0.180	0.000	1	0	0	0
Belvoir Lettings PLC	2.200	2.990	0.190	0.900	0	0	0	0
Berkshire Hathaway Inc. Class B	0.600	0.540	0.000	0.310	0	0	0	0
Bertelsmann SE & Co. KGaA. 15 % Pref	0.290	0.000	0.000	5.680	1	1	0	0
BGC Partners, Inc. Class A	1.090	0.440	0.510	0.380	1	0	0	0
Blackstone Group L.P.	0.660	0.770	0.000	0.390	0	0	0	0
BNP Paribas SA Class A	3.090	0.710	0.290	0.000	0	0	0	0
Boyd Group Income Fund	0.000	0.000	0.280	0.300	0	1	1	1
Brookfield Asset Management Inc. Class A	1.550	1.590	0.690	0.190	0	0	0	0
Brooks Macdonald Group plc	0.000	0.640	0.000	0.000	0	0	0	0
Brown & Brown, Inc.	0.300	0.720	0.940	0.000	0	0	0	0
Bureau Veritas SA	0.240	0.450	0.910	3.070	0	0	0	0
Canon Inc.	0.000	0.740	1.040	0.000	0	0	0	0
CapitaLand Limited	0.470	0.420	3.590	0.000	0	0	0	0
Carrols Restaurant Group, Inc.	0.000	0.000	0.000	0.240	0	0	0	0
CBRE Group, Inc. Class A	1.310	1.530	0.700	1.540	0	0	0	0
CCL Industries Inc. Class B	0.000	1.150	0.440	1.050	0	0	0	0
CenterState Bank Corporation	0.000	0.000	0.190	0.000	0	0	0	0
Chanticleer Holdings, Inc.	0.410	0.000	0.380	0.000	0	0	1	1
Chatham Lodging Trust	0.000	0.000	0.000	0.000	0	0	0	0
Cisco Systems, Inc.	0.650	0.680	0.340	0.780	1	0	0	0
Comcast Corporation Class A	0.340	1.080	1.310	0.470	0	0	0	0
Constellation Software Inc.	0.430	0.880	0.270	1.010	0	0	1	1
Corporate Travel Management Limited	0.000	0.000	0.000	0.450	0	0	0	0
Dassault Systemes SA	0.560	0.920	0.000	0.420	0	0	0	0
Dentsu Inc.	1.120	0.130	0.470	0.860	0	0	0	0
D'Ieteren SA	0.000	0.000	0.540	0.000	0	0	0	0

Firm	IC13	IC14	IC15	IC16	Own13	Own14	Own15	Own16
Discovery, Inc. Class A	0.500	0.580	0.130	0.000	0	0	0	0
DXC Technology Co.	0.170	0.710	0.700	0.000	0	0	0	0
eBay Inc.	0.790	1.780	0.320	1.640	0	0	0	0
ENGIE SA	0.000	0.790	0.000	1.420	0	0	0	0
Equity LifeStyle Properties, Inc.	0.000	0.000	0.000	0.000	0	0	0	0
Eurofins Scientific Societe Europeenne	0.300	0.360	0.410	0.300	0	0	0	0
F.N.B. Corporation	0.000	0.140	0.160	0.150	0	0	0	0
Facebook, Inc. Class A	1.040	0.620	0.000	1.940	0	0	0	0
Fairfax Financial Holdings Limited	0.450	0.240	0.260	0.240	0	0	0	0
Fidelity National Financial, Inc. - FNF	0.580	1.140	0.000	0.680	0	0	0	0
General Electric Company	0.000	2.270	0.440	0.000	1	0	0	0
Goldman Sachs Group, Inc.	1.260	1.590	0.420	0.900	0	0	0	0
Gray Television, Inc.	0.000	0.000	0.000	0.350	0	0	0	0
Groupon, Inc.	1.220	0.350	0.000	0.000	0	0	0	0
Heiwa Corporation	0.000	0.000	0.000	0.460	0	0	0	0
Helios Underwriting PLC	1.120	0.000	1.380	2.560	0	0	0	0
Hersha Hospitality Trust Class A	0.000	0.000	0.000	0.000	0	0	0	0
Hexagon AB Class B	1.030	0.840	2.960	0.850	0	0	0	0
Hyatt Hotels Corporation Class A	0.430	0.880	0.000	0.000	0	0	0	0
IAC/InterActiveCorp.	0.200	1.100	0.000	0.000	0	0	0	0
Industrial Alliance Insurance and Financ	0.000	0.000	0.000	0.340	0	0	0	0
Intel Corporation	0.800	0.730	0.650	0.570	1	0	0	0
International Business Machines Corporat	0.950	0.670	0.790	1.030	0	0	0	0
Interpublic Group of Companies, Inc.	0.850	0.810	0.780	1.710	0	0	0	0
Intrum AB	0.000	0.450	0.000	0.000	0	0	0	0
Intuit Inc.	0.940	0.260	0.000	0.000	0	0	0	0
Iron Mountain, Inc.	0.000	0.000	1.130	0.080	0	0	0	0
ITV plc	2.490	0.000	0.950	0.350	0	0	0	0
j2 Global, Inc.	1.270	0.000	0.330	0.130	0	0	0	0
Jardine Lloyd Thompson Group plc	0.000	0.000	0.000	0.000	0	0	0	0
Jones Lang LaSalle Incorporated	0.000	1.840	0.970	1.180	0	0	0	0
KKR & Co. L.P.	1.580	1.580	0.610	2.370	0	0	0	0
Konica Minolta, Inc.	0.000	1.060	0.590	0.000	0	0	0	0
Lagardere SCA	0.000	0.260	0.570	0.000	0	0	0	0
Liberty Global Plc Class A	0.000	0.170	0.310	0.000	0	0	0	0
Lloyds Banking Group plc	3.180	1.490	1.260	2.030	0	0	0	0
Malaysian Resources Corp. Bhd.	0.000	1.300	0.000	0.640	0	0	0	0
Microsoft Corporation	0.250	0.560	0.760	0.450	1	0	0	0
Mitsubishi UFJ Financial Group, Inc.	0.500	0.000	0.350	0.230	1	1	1	1
Monro Inc	0.000	0.760	0.330	0.790	0	0	0	0
Multi-Color Corporation	1.140	0.000	1.660	1.000	0	0	0	0
News Corporation Class A	0.000	0.160	1.470	0.000	0	0	0	0
Nippon Telegraph and Telephone Corporati	0.160	0.270	0.930	0.190	0	0	0	0
NV5 Global Inc	0.560	1.020	0.000	1.010	0	0	0	0
Old Mutual plc	0.000	1.250	0.290	1.450	0	0	0	0
Olympic Entertainment Group AS	0.000	0.000	1.030	0.000	0	0	0	0
Omnicom Group Inc	0.770	2.290	0.000	0.000	0	0	0	0
Onex Corporation	0.000	0.000	0.200	0.000	0	0	0	0
Open Text Corporation	0.530	0.000	0.470	0.240	0	0	0	0
Oracle Corporation	0.570	0.480	0.000	0.430	0	0	0	0
Partners Group Holding AG	0.000	0.000	0.000	0.440	0	0	0	0
Pebblebrook Hotel Trust	0.000	0.000	0.510	0.000	0	0	0	0

Firm	IC13	IC14	IC15	IC16	Own13	Own14	Own15	Own16
Pinnacle Financial Partners, Inc.	0.000	0.190	0.720	0.000	0	0	0	0
Power Corporation of Canada	0.000	0.000	0.000	0.380	0	0	0	0
Publicis Groupe SA	0.950	0.960	0.710	0.520	0	0	0	0
QUALCOMM Incorporated	0.000	7.430	1.130	1.960	1	0	0	0
Rakuten, Inc.	0.000	0.890	0.450	1.440	0	0	0	0
Randall & Quilter Investment Holdings Lt	0.000	0.440	0.000	0.180	0	0	0	0
Randstad N.V.	2.550	0.000	1.960	0.300	0	0	0	0
Realogy Holdings Corp.	0.300	0.410	0.300	1.920	0	0	0	0
RELX PLC	0.710	0.940	0.660	0.000	0	0	0	0
Rentokil Initial plc	0.000	0.000	0.160	0.000	0	0	0	0
Rollins, Inc.	0.700	0.000	0.000	0.160	0	0	0	0
Roper Technologies, Inc.	1.350	1.210	1.740	2.510	0	0	0	0
RPS Group Plc	0.770	1.070	0.960	0.000	0	0	0	0
Salem Media Group, Inc. Class A	0.000	0.000	0.000	0.000	0	0	0	0
salesforce.com, inc.	0.880	0.000	0.260	0.650	0	0	0	0
Samsung Electronics Co., Ltd.	1.490	0.000	0.440	2.230	0	0	0	0
SAP SE Sponsored ADR	1.510	2.140	2.210	0.420	1	1	1	1
Savills plc	0.000	0.000	0.300	2.510	0	0	0	0
SGS SA	1.060	1.950	0.500	0.430	0	0	0	0
Siemens AG	0.710	1.130	1.920	1.140	0	0	0	0
Sinclair Broadcast Group, Inc. Class A	0.950	0.560	0.000	0.000	0	0	0	0
Societe Generale S.A. Class A	0.000	0.000	0.000	0.300	0	0	0	0
SoftBank Group Corp.	0.420	0.630	1.070	1.180	0	0	0	0
Sony Corporation	0.000	0.000	0.370	0.340	1	1	1	1
Standard Life Aberdeen PLC	0.000	0.000	0.970	0.970	1	1	1	1
Stifel Financial Corp.	0.000	0.000	0.520	0.940	0	0	0	0
Summit Hotel Properties, Inc.	0.000	0.000	0.000	0.000	0	0	0	0
Sun Communities, Inc.	0.000	0.000	0.000	0.000	0	0	0	0
Synopsys, Inc.	0.000	0.960	2.490	1.220	0	0	0	0
Trimble Inc.	1.970	0.950	1.390	0.000	0	0	0	0
TripAdvisor, Inc.	0.350	0.330	0.820	0.000	0	0	0	0
TrueBlue, Inc.	1.710	3.790	0.000	0.000	0	0	0	0
Twitter, Inc.	0.000	0.530	0.220	1.700	0	0	0	0
Verizon Communications Inc.	4.260	0.310	1.450	0.160	0	0	0	0
Vivendi SA	0.000	0.000	0.720	0.950	0	0	0	0
W. P. Carey Inc.	0.000	0.000	0.000	0.260	0	0	0	0
Wells Fargo & Company	0.000	0.000	1.040	1.220	0	0	0	0
Wintrust Financial Corporation	0.000	0.000	0.000	0.320	0	0	0	0
WPP Plc	0.360	0.910	0.580	0.630	1	1	0	0
Wyndham Worldwide Corporation	0.850	0.000	0.000	0.990	0	0	0	0

The tables below summarize the complete dataset by variables.

Firm	TECH	FIN	COMM	CONS	NA13	NA14	NA15	NA16
3i Group plc	0	0	1	0	4	7	2	0
Accenture Plc Class A	0	0	1	0	3	1	13	8
Accor SA	0	0	0	1	0	3	4	4
Adecco Group AG	0	0	1	0	0	1	3	3
AF AB Class B	0	0	1	0	1	1	1	5
AFH Financial Group PLC	0	1	0	0	6	6	9	2
Allianz SE	0	1	0	0	2	4	4	5
Alphabet Inc. Class A	1	0	0	0	11	27	27	17
Ama Group Limited	0	0	0	1	0	1	4	2
AMC Entertainment Holdings, Inc. Class A	0	0	0	1	4	2	2	3
America Movil SAB de CV Class L	0	0	0	1	3	0	8	1
American Hotel Income Properties REIT LP	0	0	0	1	2	20	1	6
Apple Inc.	1	0	0	0	8	7	10	7
Arthur J. Gallagher & Co.	0	1	0	0	20	33	22	24
Ashford Hospitality Trust, Inc.	0	0	0	1	0	2	9	0
Ashtead Group plc	0	1	0	0	3	12	6	10
Autodesk, Inc.	1	0	0	0	9	11	4	3
Avis Budget Group, Inc.	0	1	0	0	3	2	2	4
AXA SA	0	1	0	0	3	2	6	4
Axel Springer SE	0	0	1	0	2	2	3	0
Azimut Holding Spa	0	1	0	0	0	0	8	10
Banco Santander S.A.	0	1	0	0	4	4	2	3
BB&T Corporation	0	1	0	0	1	4	4	4
Belvoir Lettings PLC	0	1	0	0	3	4	3	1
Berkshire Hathaway Inc. Class B	0	1	0	0	9	7	6	8
Bertelsmann SE & Co. KGaA. 15 % Pref	0	0	0	1	3	3	2	1
BGC Partners, Inc. Class A	0	1	0	0	5	2	3	7
Blackstone Group L.P.	0	1	0	0	5	4	7	10
BNP Paribas SA Class A	0	1	0	0	3	4	6	3
Boyd Group Income Fund	0	0	0	1	1	5	4	5
Brookfield Asset Management Inc. Class A	0	1	0	0	3	3	3	2
Brooks Macdonald Group plc	0	1	0	0	0	8	0	5
Brown & Brown, Inc.	0	1	0	0	4	7	12	5
Bureau Veritas SA	0	0	1	0	5	6	3	3
Canon Inc.	0	0	1	0	2	3	1	1
CapitaLand Limited	0	1	0	0	3	4	5	0
Carrols Restaurant Group, Inc.	0	0	0	1	0	3	6	6
CBRE Group, Inc. Class A	0	1	0	0	8	6	5	6
CCL Industries Inc. Class B	0	0	1	0	1	3	3	6
CenterState Bank Corporation	0	1	0	0	1	4	4	3
Chanticleer Holdings, Inc.	0	0	0	1	2	5	2	0
Chatham Lodging Trust	0	0	0	1	6	4	2	0
Cisco Systems, Inc.	1	0	0	0	9	5	13	7
Comcast Corporation Class A	1	0	0	0	3	7	9	6
Constellation Software Inc.	1	0	0	0	15	8	10	11
Corporate Travel Management Limited	0	0	0	1	1	2	2	2
Dassault Systemes SA	1	0	0	0	10	3	0	3
Dentsu Inc.	0	0	1	0	8	8	10	23
D'Ieteren SA	0	0	0	1	2	0	3	2

Firm	TECH	FIN	COMM	CONS	NA13	NA14	NA15	NA16
Discovery, Inc. Class A	0	0	0	1	5	3	6	2
DXC Technology Co.	1	0	0	0	7	4	6	2
eBay Inc.	1	0	0	0	4	3	3	5
ENGIE SA	0	0	1	0	1	5	1	2
Equity LifeStyle Properties, Inc.	0	0	0	1	2	6	0	0
Eurofins Scientific Societe Europeenne	0	0	1	0	5	7	8	9
F.N.B. Corporation	0	1	0	0	4	4	2	3
Facebook, Inc. Class A	1	0	0	0	4	7	5	4
Fairfax Financial Holdings Limited	0	1	0	0	2	3	7	4
Fidelity National Financial, Inc. - FNF	0	1	0	0	6	3	0	8
General Electric Company	0	0	1	0	0	3	3	1
Goldman Sachs Group, Inc.	1	0	0	0	2	10	21	9
Gray Television, Inc.	0	0	0	1	2	6	4	2
Groupon, Inc.	1	0	0	0	5	4	4	0
Heiwa Corporation	0	0	0	1	0	2	4	2
Helios Underwriting PLC	0	1	0	0	4	4	6	3
Hersha Hospitality Trust Class A	0	0	0	1	0	3	4	5
Hexagon AB Class B	1	0	0	0	6	3	6	6
Hyatt Hotels Corporation Class A	0	0	0	1	3	2	0	2
IAC/InterActiveCorp.	1	0	0	0	6	6	3	1
Industrial Alliance Insurance and Financ	0	1	0	0	3	2	4	4
Intel Corporation	1	0	0	0	9	12	7	19
International Business Machines Corporat	1	0	0	0	10	8	13	9
Interpublic Group of Companies, Inc.	0	0	1	0	7	6	3	3
Intrum AB	0	0	1	0	1	3	2	2
Intuit Inc.	1	0	0	0	6	6	2	2
Iron Mountain, Inc.	0	0	1	0	3	1	3	2
ITV plc	0	0	0	1	3	1	4	1
j2 Global, Inc.	1	0	0	0	4	11	9	9
Jardine Lloyd Thompson Group plc	0	1	0	0	6	2	1	2
Jones Lang LaSalle Incorporated	0	0	1	0	0	3	5	6
KKR & Co. L.P.	1	0	0	0	6	6	14	4
Konica Minolta, Inc.	1	0	0	0	3	5	11	3
Lagardere SCA	0	0	0	1	0	4	6	2
Liberty Global Plc Class A	0	0	0	1	2	6	6	2
Lloyds Banking Group plc	0	0	1	0	2	2	5	2
Malaysian Resources Corp. Bhd.	0	1	0	0	0	11	0	1
Microsoft Corporation	1	0	0	0	6	10	18	10
Mitsubishi UFJ Financial Group, Inc.	0	1	0	0	3	2	2	3
Monro Inc	0	0	0	1	1	3	4	2
Multi-Color Corporation	0	0	1	0	5	2	4	3
News Corporation Class A	0	0	1	0	0	2	4	1
Nippon Telegraph and Telephone Corporati	1	0	0	0	5	14	5	8
NV5 Global Inc	0	0	1	0	2	3	2	3
Old Mutual plc	0	1	0	0	2	2	2	4
Olympic Entertainment Group AS	0	0	0	1	2	1	4	1
Omnicom Group Inc	0	0	1	0	6	8	5	3
Onex Corporation	0	0	1	0	1	1	5	4
Open Text Corporation	1	0	0	0	3	2	3	4
Oracle Corporation	1	0	0	0	11	10	5	9
Partners Group Holding AG	0	0	0	1	0	1	4	4
Pebblebrook Hotel Trust	0	0	0	1	4	6	2	1

Firm	TECH	FIN	COMM	CONS	NA13	NA14	NA15	NA16
Pinnacle Financial Partners, Inc.	0	1	0	0	1	3	5	3
Power Corporation of Canada	0	1	0	0	2	4	4	2
Publicis Groupe SA	0	0	1	0	13	22	17	7
QUALCOMM Incorporated	1	0	0	0	1	4	9	2
Rakuten, Inc.	1	0	0	0	2	6	3	5
Randall & Quilter Investment Holdings Lt	0	1	0	0	3	2	1	6
Randstad N.V.	0	0	1	0	1	1	1	5
Realogy Holdings Corp.	0	1	0	0	11	18	14	11
RELX PLC	0	0	1	0	2	6	4	1
Rentokil Initial plc	0	0	1	0	1	2	7	6
Rollins, Inc.	0	0	1	0	2	2	1	7
Roper Technologies, Inc.	1	0	0	0	1	4	8	5
RPS Group Plc	0	0	1	0	4	4	2	0
Salem Media Group, Inc. Class A	0	0	0	1	2	5	10	0
salesforce.com, inc.	1	0	0	0	3	2	5	11
Samsung Electronics Co., Ltd.	1	0	0	0	3	3	3	4
SAP SE Sponsored ADR	1	0	0	0	12	6	5	8
Savills plc	0	1	0	0	0	1	8	2
SGS SA	0	0	1	0	11	8	8	7
Siemens AG	1	0	0	0	7	4	4	3
Sinclair Broadcast Group, Inc. Class A	0	0	0	1	7	7	0	2
Societe Generale S.A. Class A	0	1	0	0	2	2	4	3
SoftBank Group Corp.	1	0	0	0	3	7	15	4
Sony Corporation	0	0	0	1	1	0	5	2
Standard Life Aberdeen PLC	0	1	0	0	2	0	4	6
Stifel Financial Corp.	0	1	0	0	5	3	3	3
Summit Hotel Properties, Inc.	0	0	0	1	5	9	7	3
Sun Communities, Inc.	0	0	0	1	0	4	3	2
Synopsys, Inc.	1	0	0	0	0	5	6	3
Trimble Inc.	1	0	0	0	3	5	8	1
TripAdvisor, Inc.	1	0	0	0	4	5	5	1
TrueBlue, Inc.	0	0	1	0	3	2	1	1
Twitter, Inc.	1	0	0	0	0	6	5	3
Verizon Communications Inc.	1	0	0	0	1	4	7	7
Vivendi SA	0	0	0	1	0	1	2	4
W. P. Carey Inc.	0	0	0	1	1	3	1	5
Wells Fargo & Company	0	0	1	0	0	1	4	4
Wintrust Financial Corporation	0	1	0	0	3	3	4	3
WPP Plc	0	0	1	0	18	16	10	11
Wyndham Worldwide Corporation	0	0	0	1	2	0	3	3

The tables below summarize the complete dataset by variables.

Firm	RV14	RV15	RV16	RV17	IA14	IA15	IA16	IA17
3i Group plc	0.800	0.020	-0.420	0.800	1.740	-0.320	-0.390	-1.000
Accenture Plc Class A	0.050	0.030	0.060	0.060	0.540	0.220	0.210	0.390
Accor SA	0.000	-0.790	0.200	0.200	-0.110	-0.080	2.770	0.110
Adecco Group AG	0.020	-0.080	0.030	0.060	-0.090	-0.220	-0.020	0.040
AF AB Class B	0.000	-0.090	0.110	0.150	-0.150	0.050	0.150	0.220
AFH Financial Group PLC	0.480	0.300	0.040	0.270	0.310	1.080	-0.190	0.980
Allianz SE	-0.020	-0.100	0.000	0.060	-0.080	-0.120	-0.010	0.100
Alphabet Inc. Class A	0.100	0.120	0.220	0.240	0.150	-0.020	0.000	-0.020
Ama Group Limited	-0.120	0.370	1.440	0.500	0.170	0.280	1.980	0.100
AMC Entertainment Holdings, Inc. Class A	-0.020	0.090	0.100	0.570	0.000	0.050	0.620	0.240
America Movil SAB de CV Class L	0.040	-0.120	-0.070	0.040	0.700	-0.110	-0.020	0.020
American Hotel Income Properties REIT LP	0.930	0.550	0.210	0.750	-0.030	0.550	-0.150	0.140
Apple Inc.	0.070	0.260	-0.070	0.070	0.520	0.030	-0.040	-0.070
Arthur J. Gallagher & Co.	0.460	0.170	0.040	0.100	0.620	0.030	0.010	0.080
Ashford Hospitality Trust, Inc.	-0.150	0.670	0.110	-0.040	0.000	0.000	-0.110	-0.010
Ashtead Group plc	0.220	0.240	0.170	0.080	0.130	0.240	0.000	0.340
Autodesk, Inc.	-0.020	0.110	-0.010	-0.180	0.100	0.460	0.030	-0.010
Avis Budget Group, Inc.	0.070	0.000	0.020	0.020	0.070	0.090	-0.010	0.020
AXA SA	0.040	-0.110	0.020	-0.040	-0.060	-0.050	-0.050	0.060
Axel Springer SE	0.080	-0.090	0.000	0.100	0.150	0.100	0.040	0.070
Azimut Holding Spa	0.220	-0.090	-0.040	0.150	-0.060	0.020	0.120	0.230
Banco Santander S.A.	0.030	-0.160	-0.030	0.050	0.020	-0.130	-0.030	0.110
BB&T Corporation	-0.080	0.050	0.110	0.060	0.000	0.250	0.140	-0.020
Belvoir Lettings PLC	0.190	0.000	0.240	0.050	-0.520	6.590	0.750	0.170
Berkshire Hathaway Inc. Class B	0.080	0.080	0.060	0.080	0.070	0.030	0.570	0.010
Bertelsmann SE & Co. KGaA. 15 % Pref	0.030	-0.140	-0.010	0.030	-0.030	-0.060	0.000	0.120
BGC Partners, Inc. Class A	0.020	0.500	0.110	0.160	1.320	1.490	0.070	0.120
Blackstone Group L.P.	0.230	-0.310	-0.010	0.400	-0.040	-0.080	-0.040	0.100
BNP Paribas SA Class A	0.040	-0.120	0.020	0.080	-0.040	-0.110	-0.030	0.090
Boyd Group Income Fund	0.360	0.200	0.140	0.150	0.740	0.070	0.230	0.660
Brookfield Asset Management Inc. Class A	-0.110	0.080	0.210	0.690	-0.140	0.350	0.280	0.980
Brooks Macdonald Group plc	0.130	0.090	-0.020	-0.030	0.390	0.090	-0.140	-0.080
Brown & Brown, Inc.	0.160	0.060	0.060	0.050	0.240	0.030	0.020	-0.010
Bureau Veritas SA	0.060	-0.070	-0.020	0.050	0.210	-0.120	0.060	0.110
Canon Inc.	-0.080	-0.110	0.000	0.160	0.110	0.850	0.980	0.020
CapitaLand Limited	0.090	0.110	0.100	-0.120	-0.060	-0.070	-0.060	0.380
Carrols Restaurant Group, Inc.	0.040	0.240	0.100	0.150	0.230	0.150	0.130	0.200
CBRE Group, Inc. Class A	0.260	0.200	0.200	0.090	0.000	0.450	-0.030	0.060
CCL Industries Inc. Class B	0.280	0.010	0.260	0.220	0.030	0.230	0.500	0.700
CenterState Bank Corporation	0.320	0.180	0.180	0.250	0.810	-0.030	0.360	1.310
Chanticleer Holdings, Inc.	2.620	0.180	0.180	-0.010	0.920	0.020	-0.030	-0.020
Chatham Lodging Trust	0.930	0.150	0.050	0.020	0.000	0.000	0.000	0.000
Cisco Systems, Inc.	-0.030	0.040	0.000	-0.030	0.090	-0.020	0.080	0.110
Comcast Corporation Class A	0.060	0.080	0.080	0.050	0.000	0.050	0.030	0.020
Constellation Software Inc.	0.380	0.100	0.160	0.170	-0.100	0.070	0.040	0.190
Corporate Travel Management Limited	0.270	0.640	0.150	0.290	0.480	0.780	0.250	0.470
Dassault Systemes SA	0.110	0.030	0.070	0.080	0.540	-0.100	0.060	0.160
Dentsu Inc.	-0.720	0.180	-0.010	0.070	0.220	-0.060	0.120	0.120
D'Ieteren SA	0.000	-0.070	-0.480	0.110	-0.160	-0.080	0.310	-0.650

Discovery, Inc. Class A	0.130	0.020	0.020	0.060	0.150	-0.030	-0.030	-0.070
DXC Technology Co.	-0.410	-0.090	-0.120	0.070	0.220	-0.350	0.360	0.470
eBay Inc.	-0.450	-0.020	0.050	0.070	-0.530	-0.050	0.010	0.050
ENGIE SA	-0.150	-0.220	-0.070	0.020	-0.080	-0.190	-0.100	0.130
Equity LifeStyle Properties, Inc.	0.070	0.060	0.060	0.060	0.190	0.000	0.000	0.000
Eurofins Scientific Societe Europeenne	0.150	0.160	0.300	0.190	0.410	0.810	0.080	0.870
F.N.B. Corporation	0.160	0.070	0.240	0.400	0.080	-0.010	0.250	1.160
Facebook, Inc. Class A	0.580	0.440	0.540	0.470	11.720	-0.030	-0.030	-0.030
Fairfax Financial Holdings Limited	0.240	0.310	-0.070	0.340	0.190	1.060	0.200	0.580
Fidelity National Financial, Inc. - FNF	-0.060	0.140	-0.200	0.050	1.320	0.070	-0.500	0.070
General Electric Company	-0.190	-0.010	0.030	0.000	-0.280	0.260	0.040	0.200
Goldman Sachs Group, Inc.	-0.010	-0.050	-0.020	0.160	-0.050	0.000	-0.010	-0.010
Gray Television, Inc.	0.470	0.180	0.360	0.090	0.410	0.100	0.180	0.180
Groupon, Inc.	0.240	-0.020	-0.030	-0.060	1.240	-0.420	-0.020	-0.040
Heiwa Corporation	-0.150	0.000	-0.010	-0.040	0.090	-0.140	0.340	0.010
Helios Underwriting PLC	0.490	0.110	0.330	0.160	1.050	0.260	0.060	0.240
Hersha Hospitality Trust Class A	0.230	0.130	-0.010	0.070	-0.040	0.830	0.270	-0.030
Hexagon AB Class B	0.080	-0.030	0.030	0.120	0.120	0.000	0.020	0.240
Hyatt Hotels Corporation Class A	0.060	-0.020	0.020	0.010	-0.070	-0.010	0.070	0.150
IAC/InterActiveCorp.	0.030	0.040	-0.030	0.050	0.060	0.200	-0.150	0.410
Industrial Alliance Insurance and Financ	0.000	-0.080	0.080	0.170	0.070	-0.040	0.050	0.440
Intel Corporation	0.060	-0.010	0.070	0.060	-0.020	0.000	0.550	0.570
International Business Machines Corporat	-0.060	-0.120	-0.020	-0.010	-0.040	0.050	0.150	-0.010
Interpublic Group of Companies, Inc.	0.060	0.010	0.030	0.000	0.010	-0.060	0.060	0.040
Intrum AB	0.080	-0.120	-0.040	0.720	-0.130	-0.040	0.030	9.600
Intuit Inc.	0.020	-0.010	0.120	0.100	0.040	-0.070	-0.020	-0.010
Iron Mountain, Inc.	0.030	-0.040	0.170	0.100	-0.010	-0.020	0.740	0.060
ITV plc	0.140	0.060	-0.090	-0.020	0.110	0.260	-0.090	0.110
j2 Global, Inc.	0.150	0.200	0.210	0.280	0.390	0.220	0.410	0.030
Jardine Lloyd Thompson Group plc	0.190	-0.030	-0.040	0.070	0.060	0.010	-0.100	0.170
Jones Lang LaSalle Incorporated	0.220	0.100	0.140	0.170	0.000	0.220	0.210	0.050
KKR & Co. L.P.	0.410	-0.450	-0.410	0.550	0.120	-0.110	-0.160	-0.050
Konica Minolta, Inc.	-0.050	-0.020	-0.060	0.030	-0.020	-0.090	0.510	0.180
Lagardere SCA	-0.010	-0.170	0.020	-0.030	-0.020	0.070	-0.090	0.080
Liberty Global Plc Class A	0.260	0.000	-0.050	-0.130	0.310	-0.100	-0.440	0.050
Lloyds Banking Group plc	-0.220	-0.280	0.400	-0.200	-0.100	-0.110	-0.200	0.520
Malaysian Resources Corp. Bhd.	0.550	-0.060	0.340	0.130	3.860	-0.180	-0.100	-0.830
Microsoft Corporation	0.120	0.070	-0.090	0.060	0.530	-0.200	-0.010	1.090
Mitsubishi UFJ Financial Group, Inc.	-0.120	-0.010	-0.080	0.170	0.240	-0.250	0.030	0.010
Monro Inc	0.140	0.080	0.050	0.080	0.130	0.280	0.150	0.260
Multi-Color Corporation	0.070	0.150	0.070	0.060	0.180	-0.060	0.150	-0.020
News Corporation Class A	-0.040	-0.010	0.030	-0.070	0.000	0.070	0.120	0.030
Nippon Telegraph and Telephone Corporati	-0.150	-0.070	-0.050	0.090	0.050	-0.130	0.060	0.060
NV5 Global Inc	0.590	0.430	0.450	0.490	0.620	1.080	1.940	0.640
Old Mutual plc	-0.180	-0.220	-0.590	0.610	-0.080	0.120	-0.370	-0.820
Olympic Entertainment Group AS	0.030	-0.080	-0.070	0.140	-0.040	0.270	-0.100	0.140
Omnicom Group Inc	0.050	-0.010	0.020	-0.010	-0.010	-0.020	0.040	0.030
Onex Corporation	-0.110	-0.080	-0.030	0.140	-0.220	-0.390	-0.260	-0.600
Open Text Corporation	0.190	0.140	-0.010	0.260	0.670	0.060	0.050	0.650
Oracle Corporation	0.030	0.000	-0.030	0.020	0.050	0.130	-0.020	0.280
Partners Group Holding AG	0.170	0.030	0.460	0.280	-0.180	-0.050	0.070	0.270
Pebblebrook Hotel Trust	0.220	0.300	0.060	-0.060	0.000	0.000	0.000	0.000
Pinnacle Financial Partners, Inc.	0.100	0.240	0.410	0.640	-0.010	0.810	0.270	2.270

Power Corporation of Canada	0.000	-0.010	0.130	0.080	-0.050	-0.110	0.020	0.110
Publicis Groupe SA	0.040	0.110	0.010	0.020	-0.010	0.330	-0.130	0.040
QUALCOMM Incorporated	0.070	-0.050	-0.070	-0.050	0.080	0.300	0.000	0.130
Rakuten, Inc.	0.060	0.040	0.220	0.170	0.820	0.050	0.010	0.080
Randall & Quilter Investment Holdings Lt	0.260	-0.050	-0.230	1.930	0.260	0.080	0.050	-0.310
Randstad N.V.	0.040	-0.070	0.070	0.150	-0.140	-0.080	0.230	0.210
Realogy Holdings Corp.	0.010	0.070	0.020	0.050	0.010	0.010	0.000	-0.010
RELX PLC	0.010	-0.040	0.020	0.020	0.000	-0.030	0.000	0.000
Rentokil Initial plc	0.020	-0.060	0.090	0.060	-0.040	0.790	0.020	0.340
Rollins, Inc.	0.060	0.050	0.060	0.060	0.140	0.000	0.070	0.340
Roper Technologies, Inc.	0.100	0.010	0.060	0.220	0.020	0.250	0.470	0.000
RPS Group Plc	0.060	-0.080	-0.070	0.010	0.020	-0.030	-0.080	-0.050
Salem Media Group, Inc. Class A	0.120	0.000	0.030	-0.040	0.020	0.010	0.000	-0.020
salesforce.com, inc.	0.330	0.320	0.240	0.260	1.450	0.030	-0.010	0.900
Samsung Electronics Co., Ltd.	-0.060	-0.090	-0.020	0.220	0.150	0.060	-0.040	2.120
SAP SE Sponsored ADR	0.040	-0.010	0.060	0.100	0.350	-0.050	-0.020	0.020
Savills plc	0.260	0.100	-0.010	0.060	0.530	0.140	-0.040	0.250
SGS SA	0.020	-0.080	0.020	0.060	-0.020	-0.030	0.090	0.060
Siemens AG	0.000	-0.100	0.020	0.040	-0.090	0.240	0.030	0.280
Sinclair Broadcast Group, Inc. Class A	0.450	0.120	0.230	0.000	0.500	-0.030	0.070	0.000
Societe Generale S.A. Class A	-0.120	-0.120	-0.360	0.060	-0.210	-0.090	0.020	0.260
SoftBank Group Corp.	0.720	0.160	-0.040	0.110	3.850	-0.050	0.000	0.390
Sony Corporation	-0.060	-0.030	-0.100	0.040	-0.070	-0.240	0.080	-0.090
Standard Life Aberdeen PLC	0.040	-0.500	0.830	-0.160	0.770	-0.050	-0.150	7.640
Stifel Financial Corp.	0.120	0.060	0.110	0.140	0.090	0.150	0.100	0.000
Summit Hotel Properties, Inc.	0.350	0.150	0.020	0.090	0.000	0.000	0.020	-1.000
Sun Communities, Inc.	0.140	0.430	0.240	0.180	0.150	0.460	1.270	-0.130
Synopsys, Inc.	0.050	0.090	0.090	0.120	0.130	0.080	-0.020	0.060
Trimble Inc.	0.050	-0.040	0.030	0.120	0.030	-0.040	-0.070	0.100
TripAdvisor, Inc.	0.320	0.200	-0.010	0.050	0.710	-0.040	-0.010	0.000
TrueBlue, Inc.	0.300	0.240	0.020	-0.090	2.330	0.120	-0.170	-0.050
Twitter, Inc.	1.110	0.580	0.140	-0.030	0.650	0.740	0.010	-0.030
Verizon Communications Inc.	0.050	0.040	-0.040	0.000	0.000	0.130	0.030	0.040
Vivendi SA	-0.020	-0.110	0.000	0.170	-0.560	-0.060	0.030	0.240
W. P. Carey Inc.	1.000	-0.040	0.010	-0.100	1.090	-0.060	-0.090	-0.060
Wells Fargo & Company	0.010	0.010	0.050	0.100	-0.040	-0.040	0.030	-0.040
Wintrust Financial Corporation	0.030	0.110	0.150	0.120	0.080	0.170	0.050	0.000
WPP Plc	0.100	-0.020	0.040	0.010	-0.020	0.010	0.040	0.060
Wyndham Worldwide Corporation	0.050	0.050	-0.110	0.030	-0.030	0.010	-0.170	0.080

The tables below summarize the complete dataset by variables.

Firm	SZ14	SZ15	SZ16	SZ17	ROE14	ROE15	ROE16	ROE17
3i Group plc	8.907	8.895	8.985	9.035	0.166	0.197	0.192	0.297
Accenture Plc Class A	9.794	9.809	9.933	10.030	0.550	0.515	0.601	0.417
Accor SA	9.268	9.183	9.435	9.582	0.073	0.026	0.026	0.060
Adecco Group AG	9.343	9.265	9.273	9.382	0.173	0.002	0.207	0.214
AF AB Class B	6.841	6.897	7.047	7.243	0.145	0.148	0.163	0.154
AFH Financial Group PLC	3.367	3.837	3.720	4.299	0.067	0.101	0.102	0.115
Allianz SE	13.794	13.739	13.783	13.936	0.112	0.107	0.107	0.103
Alphabet Inc. Class A	11.769	11.901	12.029	12.192	0.142	0.141	0.150	0.087
Ama Group Limited	3.968	4.158	5.249	5.413	0.134	0.195	0.072	0.111
AMC Entertainment Holdings, Inc. Class A	8.469	8.535	9.064	9.191	0.042	0.068	0.063	-0.236
America Movil SAB de CV Class L	11.371	11.226	11.206	11.238	0.239	0.236	0.054	0.146
American Hotel Income Properties REIT LP	6.072	6.359	6.674	7.167	0.014	0.025	0.027	0.000
Apple Inc.	12.354	12.579	12.681	12.836	0.336	0.462	0.369	0.369
Arthur J. Gallagher & Co.	9.211	9.297	9.349	9.465	0.114	0.104	0.115	0.120
Ashford Hospitality Trust, Inc.	7.931	8.510	8.495	8.449	-0.061	0.398	-0.059	-0.096
Ashtead Group plc	8.415	8.721	8.877	8.994	0.307	0.313	0.315	0.290
Autodesk, Inc.	8.433	8.500	8.615	8.476	0.106	0.037	-0.172	-0.495
Avis Budget Group, Inc.	9.742	9.790	9.786	9.789	0.341	0.567	0.494	0.909
AXA SA	13.835	13.756	13.738	13.844	0.089	0.087	0.094	0.093
Axel Springer SE	8.857	8.876	8.837	8.964	0.087	0.122	0.199	0.153
Azimut Holding Spa	8.735	8.929	9.006	9.183	0.139	0.386	0.287	0.386
Banco Santander S.A.	14.242	14.191	14.161	14.366	0.076	0.071	0.066	0.067
BB&T Corporation	12.146	12.264	12.307	12.314	0.091	0.081	0.085	0.080
Belvoir Lettings PLC	2.699	3.429	3.732	3.855	0.189	0.160	0.115	0.161
Berkshire Hathaway Inc. Class B	13.173	13.222	13.339	13.462	0.086	0.097	0.089	0.142
Bertelsmann SE & Co. KGaA. 15 % Pref	10.206	10.164	10.169	10.292	0.024	0.096	0.089	0.100
BGC Partners, Inc. Class A	7.920	8.290	8.527	8.605	0.010	0.234	0.204	0.057
Blackstone Group L.P.	10.358	10.029	10.185	10.450	0.237	0.106	0.163	0.225
BNP Paribas SA Class A	14.737	14.589	14.600	14.672	-0.001	0.075	0.083	0.081
Boyd Group Income Fund	6.043	6.131	6.310	6.694	-0.141	-0.137	0.134	0.161
Brookfield Asset Management Inc. Class A	11.771	11.846	11.982	12.169	0.138	0.096	0.062	0.054
Brooks Macdonald Group plc	5.152	5.174	5.046	5.081	0.145	0.129	0.162	0.069
Brown & Brown, Inc.	8.508	8.526	8.582	8.666	0.098	0.111	0.111	0.158
Bureau Veritas SA	8.663	8.631	8.769	8.772	0.285	0.232	0.279	0.290
Canon Inc.	10.524	10.513	10.693	10.740	0.087	0.074	0.052	0.086
CapitaLand Limited	10.413	10.409	10.363	10.736	0.069	0.061	0.067	0.086
Carrols Restaurant Group, Inc.	5.912	6.057	6.277	6.426	-0.415	0.000	0.342	0.044
CBRE Group, Inc. Class A	8.942	9.307	9.285	9.349	0.233	0.220	0.200	0.197
CCL Industries Inc. Class B	7.723	7.855	8.157	8.498	0.194	0.208	0.204	0.241
CenterState Bank Corporation	8.238	8.301	8.535	8.872	0.036	0.083	0.081	0.076
Chanticleer Holdings, Inc.	3.578	3.743	3.511	3.407	-0.524	-0.515	-0.250	-0.562
Chatham Lodging Trust	7.061	7.198	7.172	7.239	0.137	0.051	0.046	0.040
Cisco Systems, Inc.	11.563	11.639	11.709	11.774	0.136	0.154	0.174	0.148
Comcast Corporation Class A	11.979	12.047	12.103	12.139	0.162	0.156	0.164	0.371
Constellation Software Inc.	7.268	7.402	7.541	7.736	0.390	0.589	0.506	0.420
Corporate Travel Management Limited	5.472	5.833	6.064	6.347	0.164	0.152	0.175	0.169
Dassault Systemes SA	8.700	8.851	8.899	9.041	0.105	0.125	0.122	0.132
Dentsu Inc.	10.169	10.146	10.206	10.362	0.082	0.077	0.083	0.104
D'Ieteren SA	8.318	8.195	8.304	8.548	0.015	0.100	0.053	0.041

Firm	SZ14	SZ15	SZ16	SZ17	ROE14	ROE15	ROE16	ROE17
Discovery, Inc. Class A	9.681	9.672	9.665	10.024	0.193	0.187	0.225	-0.046
DXC Technology Co.	9.340	9.232	8.954	9.067	0.148	-0.060	0.029	-0.063
eBay Inc.	10.717	9.786	10.079	10.165	-0.040	0.147	0.851	-0.109
ENGIE SA	12.206	12.070	12.027	12.104	0.051	-0.111	-0.012	0.031
Equity LifeStyle Properties, Inc.	8.145	8.137	8.154	8.191	0.142	0.152	0.179	0.194
Eurofins Scientific Societe Europeenne	7.726	8.299	8.379	8.854	0.266	0.245	0.251	0.175
F.N.B. Corporation	9.688	9.773	9.992	10.355	0.076	0.078	0.073	0.057
Facebook, Inc. Class A	10.601	10.808	11.082	11.345	0.113	0.091	0.197	0.238
Fairfax Financial Holdings Limited	10.495	10.634	10.678	11.068	0.181	0.058	-0.049	0.148
Fidelity National Financial, Inc. - FNF	9.537	9.553	9.592	9.137	0.104	0.090	0.099	0.115
General Electric Company	13.392	13.108	12.808	12.843	0.074	0.015	0.112	-0.078
Goldman Sachs Group, Inc.	13.660	13.666	13.665	13.729	0.105	0.072	0.085	0.051
Gray Television, Inc.	7.535	7.663	7.920	8.090	0.246	0.122	0.135	0.353
Groupon, Inc.	7.709	7.493	7.474	7.425	-0.099	-0.166	-0.484	0.062
Heiwa Corporation	8.357	8.225	8.297	8.302	0.150	0.171	0.155	0.130
Helios Underwriting PLC	4.384	4.599	4.788	4.915	0.181	0.062	0.037	-0.032
Hersha Hospitality Trust Class A	7.526	7.582	7.677	7.668	0.082	0.055	0.154	0.119
Hexagon AB Class B	9.017	8.996	9.030	9.246	0.127	0.133	0.134	0.144
Hyatt Hotels Corporation Class A	9.005	8.935	8.955	8.945	0.073	0.029	0.052	0.067
IAC/InterActiveCorp.	8.356	8.554	8.444	8.677	0.131	0.063	-0.023	0.142
Industrial Alliance Insurance and Financ	10.652	10.524	10.638	10.800	0.114	0.095	0.125	0.108
Intel Corporation	11.429	11.527	11.638	11.722	0.203	0.192	0.160	0.140
International Business Machines Corporat	11.672	11.613	11.674	11.739	0.909	1.023	0.731	0.321
Interpublic Group of Companies, Inc.	9.453	9.440	9.432	9.449	0.220	0.223	0.306	0.275
Intrum AB	7.278	7.273	7.369	9.021	0.333	0.386	0.398	0.103
Intuit Inc.	8.557	8.511	8.355	8.311	0.258	0.153	0.461	0.772
Iron Mountain, Inc.	8.799	8.761	9.158	9.303	0.334	0.179	0.081	0.089
ITV plc	8.292	8.418	8.396	8.419	0.498	0.465	0.489	0.581
j2 Global, Inc.	7.441	7.486	7.632	7.805	0.159	0.154	0.166	0.142
Jardine Lloyd Thompson Group plc	8.136	8.101	8.084	8.206	0.334	0.343	0.254	0.335
Jones Lang LaSalle Incorporated	8.532	8.730	8.940	8.989	0.169	0.173	0.116	0.084
KKR & Co. L.P.	11.095	11.172	10.573	10.734	0.118	0.089	0.054	0.155
Konica Minolta, Inc.	9.166	9.023	9.070	9.108	0.059	0.080	0.061	0.061
Lagardere SCA	9.114	9.108	9.009	9.095	0.017	0.037	0.090	0.097
Liberty Global Plc Class A	11.196	11.121	11.137	10.961	-0.077	-0.091	0.158	-0.185
Lloyds Banking Group plc	14.103	13.989	13.826	13.910	0.029	0.013	0.050	0.073
Malaysian Resources Corp. Bhd.	7.612	7.411	7.423	7.842	0.075	0.156	0.103	0.043
Microsoft Corporation	12.057	12.070	12.173	12.393	0.262	0.144	0.221	0.294
Mitsubishi UFJ Financial Group, Inc.	14.734	14.685	14.792	14.817	0.079	0.073	0.062	0.060
Monro Inc	6.633	6.811	6.907	7.078	0.139	0.139	0.132	0.110
Multi-Color Corporation	6.872	6.832	6.975	6.996	0.099	0.156	0.152	0.170
News Corporation Class A	9.710	9.618	9.647	9.585	0.018	0.024	0.014	-0.066
Nippon Telegraph and Telephone Corporati	12.191	12.059	12.140	12.158	0.070	0.060	0.084	0.089
NV5 Global Inc	4.014	4.716	5.400	5.723	0.152	0.146	0.101	0.146
Old Mutual plc	12.295	12.179	12.245	12.412	0.093	0.086	0.025	0.049
Olympic Entertainment Group AS	5.029	5.172	5.082	5.320	0.214	0.234	0.325	0.228
Omnicom Group Inc	9.979	10.004	10.050	10.124	0.337	0.408	0.495	0.455
Onex Corporation	4.351	4.243	4.493	4.488	0.013	0.037	-0.016	0.025
Open Text Corporation	8.273	8.387	8.548	8.920	0.148	0.136	0.155	0.380
Oracle Corporation	11.411	11.616	11.628	11.813	0.239	0.208	0.186	0.185
Partners Group Holding AG	7.135	7.313	7.548	8.010	0.383	0.340	0.404	0.430
Pebblebrook Hotel Trust	7.927	8.026	7.941	7.860	0.044	0.053	0.039	0.064

Firm	SZ14	SZ15	SZ16	SZ17	ROE14	ROE15	ROE16	ROE17
Pinnacle Financial Partners, Inc.	8.705	9.075	9.325	10.010	0.092	0.098	0.096	0.067
Power Corporation of Canada	12.681	12.614	12.648	12.770	0.115	0.141	0.081	0.094
Publicis Groupe SA	10.125	10.227	10.176	10.260	0.129	0.143	-0.084	0.144
QUALCOMM Incorporated	10.791	10.836	10.866	11.090	0.200	0.149	0.181	0.079
Rakuten, Inc.	10.332	10.477	10.584	10.913	0.196	0.082	0.057	0.162
Randall & Quilter Investment Holdings Lt	6.347	6.307	6.581	7.002	-0.048	0.035	0.079	0.072
Randstad N.V.	9.060	9.009	9.209	9.389	0.109	0.145	0.147	0.150
Realogy Holdings Corp.	8.928	8.927	8.912	8.901	0.068	0.080	0.087	0.170
RELX PLC	9.758	9.710	9.709	9.718	0.425	0.474	0.520	0.710
Rentokil Initial plc	7.933	8.066	8.053	8.344	0.013	0.796	0.585	1.055
Rollins, Inc.	6.695	6.785	6.821	6.982	0.306	0.308	0.306	0.293
Roper Technologies, Inc.	9.038	9.227	9.570	9.569	0.144	0.138	0.119	0.154
RPS Group Plc	6.882	6.822	6.722	6.720	0.088	0.018	0.065	-0.043
Salem Media Group, Inc. Class A	6.368	6.391	6.381	6.351	0.027	0.054	0.042	0.111
salesforce.com, inc.	9.122	9.277	9.454	9.775	-0.087	-0.075	-0.011	0.029
Samsung Electronics Co., Ltd.	12.253	12.238	12.288	12.549	0.151	0.112	0.125	0.210
SAP SE Sponsored ADR	10.749	10.714	10.752	10.840	0.190	0.138	0.152	0.157
Savills plc	7.180	7.291	7.257	7.449	0.207	0.185	0.174	0.189
SGS SA	8.666	8.681	8.568	8.716	0.281	0.259	0.295	0.336
Siemens AG	11.794	11.808	11.859	11.972	0.175	0.161	0.153	0.155
Sinclair Broadcast Group, Inc. Clas A	8.604	8.600	8.693	8.836	0.515	0.360	0.440	0.534
Societe Generale S.A. Class A	14.275	14.187	14.172	14.242	0.043	0.062	0.061	0.045
SoftBank Group Corp.	11.996	12.075	12.124	12.306	0.294	0.280	0.160	0.283
Sony Corporation	11.911	11.791	11.907	11.973	-0.058	-0.055	0.062	0.030
Standard Life Aberdeen PLC	12.638	12.439	12.340	12.474	0.085	0.064	0.088	0.108
Stifel Financial Corp.	9.166	9.501	9.862	9.973	0.082	0.038	0.031	0.065
Summit Hotel Properties, Inc.	7.286	7.362	7.449	7.701	0.026	0.152	0.115	0.087
Sun Communities, Inc.	7.985	8.341	8.678	8.718	0.045	0.126	0.016	0.031
Synopsys, Inc.	8.471	8.526	8.564	8.593	0.089	0.073	0.084	0.042
Trimble Inc.	8.262	8.211	8.209	8.366	0.094	0.053	0.059	0.052
TripAdvisor, Inc.	7.580	7.663	7.713	7.728	0.227	0.156	0.082	-0.013
TrueBlue, Inc.	6.972	7.138	7.030	7.011	0.152	0.142	-0.029	0.103
Twitter, Inc.	8.627	8.771	8.835	8.911	-0.176	-0.130	-0.102	-0.022
Verizon Communications Inc.	12.358	12.406	12.406	12.457	0.376	1.245	0.674	0.917
Vivendi SA	10.678	10.544	10.438	10.627	-0.014	0.032	0.061	0.066
W. P. Carey Inc.	9.064	9.076	9.042	9.016	0.072	0.046	0.058	0.075
Wells Fargo & Company	14.347	14.404	14.480	14.488	0.130	0.121	0.112	0.109
Wintrust Financial Corporation	9.908	10.043	10.157	10.240	0.076	0.071	0.082	0.091
WPP Plc	10.645	10.665	10.675	10.726	0.143	0.153	0.165	0.193
Wyndham Worldwide Corporation	9.218	9.169	9.261	9.295	0.368	0.555	0.654	1.028

The tables below summarize the complete dataset by variables.

Firm	PB14	PB15	PB16	PB17
3i Group plc	0.012	0.012	0.010	0.012
Accenture Plc Class A	0.089	0.096	0.094	0.090
Accor SA	0.024	0.025	0.018	0.023
Adecco Group AG	0.026	0.032	0.029	0.030
AF AB Class B	0.025	0.026	0.028	0.028
AFH Financial Group PLC	0.028	0.026	0.020	0.023
Allianz SE	0.010	0.012	0.011	0.013
Alphabet Inc. Class A	0.035	0.044	0.039	0.048
Ama Group Limited	0.021	0.041	0.027	0.031
AMC Entertainment Holdings, Inc. Class A	0.017	0.015	0.018	0.009
America Movil SAB de CV Class L	0.061	0.071	0.041	0.058
American Hotel Income Properties REIT LP	0.011	0.010	0.011	0.011
Apple Inc.	0.053	0.054	0.047	0.059
Arthur J. Gallagher & Co.	0.024	0.020	0.026	0.028
Ashford Hospitality Trust, Inc.	0.018	0.007	0.009	0.010
Ashtead Group plc	0.053	0.051	0.031	0.041
Autodesk, Inc.	0.051	0.055	0.065	0.244
Avis Budget Group, Inc.	0.105	0.081	0.143	0.062
AXA SA	0.008	0.010	0.009	0.009
Axel Springer SE	0.024	0.027	0.022	0.031
Azimut Holding Spa	0.038	0.047	0.038	0.037
Banco Santander S.A.	0.011	0.007	0.008	0.009
BB&T Corporation	0.013	0.012	0.014	0.015
Belvoir Lettings PLC	0.045	0.024	0.019	0.018
Berkshire Hathaway Inc. Class B	0.015	0.013	0.014	0.014
Bertelsmann SE & Co. KGaA. 15 % Pref	0.003	0.003	0.002	0.002
BGC Partners, Inc. Class A	0.050	0.039	0.024	0.070
Blackstone Group L.P.	0.029	0.029	0.027	0.032
BNP Paribas SA Class A	0.007	0.007	0.008	0.008
Boyd Group Income Fund	0.057	0.060	0.055	0.045
Brookfield Asset Management Inc. Class A	0.015	0.014	0.014	0.017
Brooks Macdonald Group plc	0.032	0.033	0.027	0.038
Brown & Brown, Inc.	0.022	0.021	0.027	0.028
Bureau Veritas SA	0.072	0.073	0.067	0.101
Canon Inc.	0.014	0.014	0.013	0.016
CapitaLand Limited	0.008	0.008	0.007	0.008
Carrols Restaurant Group, Inc.	0.025	0.038	0.035	0.025
CBRE Group, Inc. Class A	0.050	0.043	0.035	0.037
CCL Industries Inc. Class B	0.036	0.045	0.052	0.048
CenterState Bank Corporation	0.012	0.015	0.022	0.017
Chanticleer Holdings, Inc.	0.012	0.010	0.007	0.007
Chatham Lodging Trust	0.017	0.011	0.012	0.013
Cisco Systems, Inc.	0.023	0.024	0.024	0.024
Comcast Corporation Class A	0.028	0.026	0.030	0.027
Constellation Software Inc.	0.243	0.261	0.211	0.213
Corporate Travel Management Limited	0.046	0.045	0.053	0.063
Dassault Systemes SA	0.043	0.054	0.048	0.057
Dentsu Inc.	0.013	0.018	0.017	0.012
D'Ieteren SA	0.010	0.011	0.014	0.012

Firm	PB14	PB15	PB16	PB17
Discovery, Inc. Class A	0.027	0.020	0.026	0.018
DXC Technology Co.	0.022	0.031	0.023	0.052
eBay Inc.	0.035	0.049	0.031	0.048
ENGIE SA	0.010	0.010	0.008	0.010
Equity LifeStyle Properties, Inc.	0.056	0.071	0.071	0.076
Eurofins Scientific Societe Europeenne	0.090	0.139	0.067	0.062
F.N.B. Corporation	0.012	0.012	0.014	0.010
Facebook, Inc. Class A	0.060	0.067	0.056	0.069
Fairfax Financial Holdings Limited	0.013	0.012	0.013	0.012
Fidelity National Financial, Inc. - FNF	0.021	0.021	0.019	0.024
General Electric Company	0.020	0.030	0.036	0.024
Goldman Sachs Group, Inc.	0.011	0.010	0.012	0.014
Gray Television, Inc.	0.030	0.027	0.016	0.015
Groupon, Inc.	0.073	0.039	0.071	0.114
Heiwa Corporation	0.011	0.012	0.012	0.013
Helios Underwriting PLC	0.009	0.013	0.010	0.010
Hersha Hospitality Trust Class A	0.017	0.014	0.011	0.008
Hexagon AB Class B	0.026	0.030	0.027	0.033
Hyatt Hotels Corporation Class A	0.019	0.016	0.019	0.025
IAC/InterActiveCorp.	0.026	0.028	0.027	0.042
Industrial Alliance Insurance and Financ	0.013	0.012	0.013	0.014
Intel Corporation	0.032	0.027	0.026	0.031
International Business Machines Corporat	0.134	0.093	0.086	0.080
Interpublic Group of Companies, Inc.	0.041	0.048	0.045	0.035
Intrum AB	0.058	0.068	0.055	0.018
Intuit Inc.	0.076	0.126	0.247	0.259
Iron Mountain, Inc.	0.095	0.112	0.044	0.046
ITV plc	0.085	0.100	0.115	0.097
j2 Global, Inc.	0.036	0.044	0.042	0.035
Jardine Lloyd Thompson Group plc	0.068	0.065	0.063	0.078
Jones Lang LaSalle Incorporated	0.028	0.027	0.016	0.021
KKR & Co. L.P.	0.019	0.013	0.013	0.015
Konica Minolta, Inc.	0.010	0.012	0.009	0.009
Lagardere SCA	0.014	0.018	0.018	0.019
Liberty Global Plc Class A	0.030	0.035	0.020	0.043
Lloyds Banking Group plc	0.013	0.013	0.010	0.011
Malaysian Resources Corp. Bhd.	0.011	0.010	0.010	0.010
Microsoft Corporation	0.038	0.044	0.055	0.073
Mitsubishi UFJ Financial Group, Inc.	0.006	0.007	0.005	0.006
Monro Inc	0.043	0.044	0.042	0.029
Multi-Color Corporation	0.019	0.040	0.026	0.032
News Corporation Class A	0.008	0.007	0.006	0.007
Nippon Telegraph and Telephone Corporati	0.007	0.009	0.012	0.011
NV5 Global Inc	0.021	0.022	0.024	0.033
Old Mutual plc	0.014	0.013	0.013	0.014
Olympic Entertainment Group AS	0.025	0.024	0.022	0.020
Omnicom Group Inc	0.067	0.074	0.092	0.064
Onex Corporation	0.005	0.006	0.003	0.005
Open Text Corporation	0.036	0.027	0.036	0.024
Oracle Corporation	0.040	0.039	0.035	0.035
Partners Group Holding AG	0.069	0.078	0.082	0.091
Pebblebrook Hotel Trust	0.018	0.011	0.013	0.017

Firm	PB14	PB15	PB16	PB17
Pinnacle Financial Partners, Inc.	0.018	0.018	0.021	0.014
Power Corporation of Canada	0.013	0.010	0.011	0.011
Publicis Groupe SA	0.021	0.021	0.024	0.022
QUALCOMM Incorporated	0.032	0.026	0.029	0.025
Rakuten, Inc.	0.053	0.030	0.024	0.020
Randall & Quilter Investment Holdings Lt	0.010	0.008	0.010	0.010
Randstad N.V.	0.024	0.029	0.025	0.024
Realogy Holdings Corp.	0.030	0.022	0.015	0.013
RELX PLC	0.112	0.117	0.128	0.148
Rentokil Initial plc	0.221	0.137	0.112	0.062
Rollins, Inc.	0.104	0.108	0.129	0.155
Roper Technologies, Inc.	0.033	0.036	0.032	0.039
RPS Group Plc	0.012	0.014	0.012	0.016
Salem Media Group, Inc. Class A	0.010	0.006	0.008	0.005
salesforce.com, inc.	0.122	0.092	0.091	0.075
Samsung Electronics Co., Ltd.	0.012	0.011	0.014	0.017
SAP SE Sponsored ADR	0.035	0.037	0.037	0.044
Savills plc	0.027	0.032	0.023	0.031
SGS SA	0.067	0.076	0.088	0.100
Siemens AG	0.025	0.019	0.025	0.023
Sinclair Broadcast Group, Inc. Class A	0.061	0.059	0.051	0.025
Societe Generale S.A. Class A	0.005	0.006	0.007	0.006
SoftBank Group Corp.	0.048	0.029	0.024	0.024
Sony Corporation	0.009	0.016	0.015	0.019
Standard Life Aberdeen PLC	0.020	0.019	0.017	0.015
Stifel Financial Corp.	0.015	0.011	0.013	0.016
Summit Hotel Properties, Inc.	0.014	0.012	0.015	0.012
Sun Communities, Inc.	0.033	0.027	0.024	0.028
Synopsys, Inc.	0.021	0.025	0.028	0.040
Trimble Inc.	0.030	0.024	0.033	0.043
TripAdvisor, Inc.	0.095	0.088	0.044	0.035
TrueBlue, Inc.	0.020	0.021	0.020	0.020
Twitter, Inc.	0.064	0.037	0.026	0.036
Verizon Communications Inc.	0.158	0.115	0.097	0.050
Vivendi SA	0.012	0.013	0.012	0.016
W. P. Carey Inc.	0.019	0.018	0.019	0.023
Wells Fargo & Company	0.017	0.016	0.016	0.016
Wintrust Financial Corporation	0.011	0.011	0.015	0.016
WPP Plc	0.023	0.026	0.025	0.018
Wyndham Worldwide Corporation	0.083	0.087	0.113	0.132

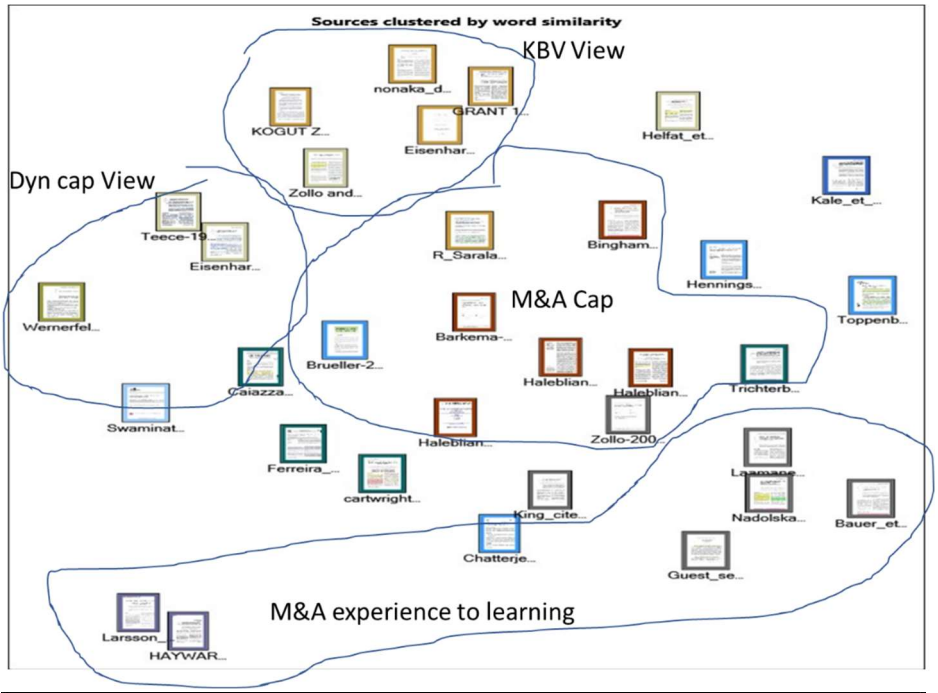
Appendix F

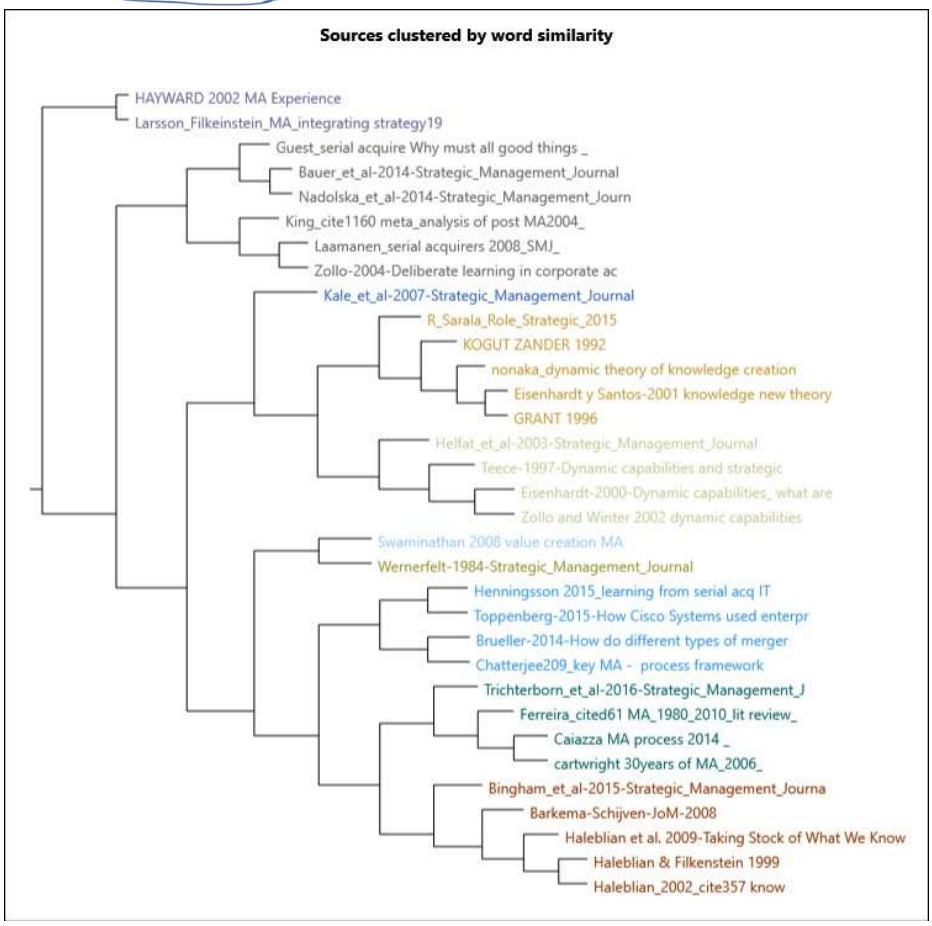
Motives Dictionaries.

Market consolidation	**Market diversification**	**Cost-efficiency**	**Capabilities acquisition**
Approval	Amplify	Accretive	Capabilities
Area	Amplifies	Combination	Capacity
Areas	Broaden	Combine	Competence
Conditions	Broadens	Cost	Develop
Enables	Diversification	Costs	Development
Enlarge	Diversify	Cut	Director
Evolution	Enhance	Dilute	Engineering
Expand	Enhances	Earnings	Increase
Expands	Expand	Efficiencies	Integrated
Expansion	Expands	Efficiency	Intellectual
Geographic	Exposition	Facilities	Learning
Geographical	Extend	Factories	Managing
Globally	Extension	Factory	Patent
Grow	Footprint	Gain	Property
Growth	Geographic	Gains	Rights
Includes	Geographical	Gross	Role
Increase	Located	Industrial	Skill
Line	Market	Integrated	Staff
Located	Offer	Operational	Staffing
Market	Offering	Operations	Team
Markets	Offerings	Optimal	Technical
Mature	Portfolio	Optimization	Technological
Position	Presence	Optimize	Technologies
Presence	Product	Performance	Technology
Product	Products	Proceedings	
Products	Provide	Process	
Regulatory	Service	Profit	
Revenue	Strengthen	Rationalization	
Share	Strengthens	Reduce	
Strategy	Widen	Reduced	
Strengthen	Widening	Reduction	
Strengthens		Site	
Thrive		Sites	

Appendix G

Literature Review Documents and Clustering Analysis





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Correlations by Words

Source A	Source B	Pearson correlation coefficient
Internals\\Larsson_Filkeinstein_MA_integrating strategy19	Internals\\HAYWARD 2002 MA Experience	1.00
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\Bauer_et_al-2014-Strategic_Management_Journal	0.84
Internals\\GRANT 1996	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.83
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\Laamanen_serial acquirers 2008_SMJ_	0.80
Internals\\nonaka_dynamic theory of knowledge creation	Internals\\GRANT 1996	0.76
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\Guest_serial acquire Why must all good things _	0.74
Internals\\nonaka_dynamic theory of knowledge creation	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.74
Internals\\Haleblian_2002_cite357 know	Internals\\Haleblian & Filkenstein 1999	0.74
Internals\\KOGUT ZANDER 1992	Internals\\GRANT 1996	0.73
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Laamanen_serial acquirers 2008_SMJ_	0.73
Internals\\Guest_serial acquire Why must all good things _	Internals\\Bauer_et_al-2014-Strategic_Management_Journal	0.71
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.70
Internals\\KOGUT ZANDER 1992	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.70
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Guest_serial acquire Why must all good things _	0.69
Internals\\Haleblian & Filkenstein 1999	Internals\\Barkema-Schijven-JoM-2008	0.69

Source A	Source B	Pearson correlation coefficient
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	0.69
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Haleblian & Filkenstein 1999	0.68
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\King_cite1160 meta_analysis of post MA2004_	0.67
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Bauer_et_al-2014-Strategic_Management_Journal	0.67
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Haleblian_2002_cite357 know	0.65
Internals\\cartwright 30years of MA_2006_	Internals\\Caiazza MA process 2014 _	0.65
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Haleblian_2002_cite357 know	0.64
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\cartwright 30years of MA_2006_	0.64
Internals\\R_Sarala_Role_Strategic_2015	Internals\\GRANT 1996	0.64
Internals\\Ferreira_cited61 MA_1980_2010_lit review_	Internals\\cartwright 30years of MA_2006_	0.64
Internals\\Haleblian_2002_cite357 know	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.63
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Barkema-Schijven-JoM-2008	0.63
Internals\\nonaka_dynamic theory of knowledge creation	Internals\\KOGUT ZANDER 1992	0.62
Internals\\Ferreira_cited61 MA_1980_2010_lit review_	Internals\\Caiazza MA process 2014 _	0.62
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.61
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\cartwright 30years of MA_2006_	0.61
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Haleblian & Filkenstein 1999	0.61
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Guest_serial acquire Why must all good things _	0.60

Source A	Source B	Pearson correlation coefficient
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Ferreira_cited61 MA_1980_2010_lit review_	0.59
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Henningsson 2015_learning from serial acq IT	0.57
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Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Haleblian & Filkenstein 1999	0.57
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Ferreira_cited61 MA_1980_2010_lit review_	0.57
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Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\King_cite1160 meta_analysis of post MA2004_	0.56
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Haleblian_2002_cite357 know	0.55
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Bauer_et_al-2014-Strategic_Management_Journal	0.55
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\Eisenhardt-2000-Dynamic capabilities_ what are	0.55
Internals\\Toppenberg-2015-How Cisco Systems used enterpr	Internals\\Henningsson 2015_learning from serial acq IT	0.55
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\Bauer_et_al-2014-Strategic_Management_Journal	0.55
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Haleblian & Filkenstein 1999	0.55
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\Haleblian_2002_cite357 know	0.54
Internals\\Haleblian_2002_cite357 know	Internals\\Guest_serial acquire Why must all good things _	0.54
Internals\\Haleblian & Filkenstein 1999	Internals\\Chatterjee209_key MA - process framework	0.53
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Trichterborn_et_al-2016-Strategic_Management_J	0.53

Source A	Source B	Pearson correlation coefficient
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Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\Eisenhardt-2000-Dynamic capabilities_ what are	0.53
Internals\\Haleblian_2002_cite357 know	Internals\\Barkema-Schijven-JoM-2008	0.53
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\King_cite1160 meta_analysis of post MA2004_	0.53
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Haleblian_2002_cite357 know	0.52
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Chatterjee209_key MA - process framework	0.52
Internals\\R_Sarala_Role_Strategic_2015	Internals\\nonaka_dynamic theory of knowledge creation	0.52
Internals\\Chatterjee209_key MA - process framework	Internals\\Brueller-2014-How do different types of merger	0.52
Internals\\R_Sarala_Role_Strategic_2015	Internals\\KOGUT ZANDER 1992	0.52
Internals\\Toppenberg-2015-How Cisco Systems used enterpr	Internals\\Chatterjee209_key MA - process framework	0.51
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Brueller-2014-How do different types of merger	0.51
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Caiazza MA process 2014 _	0.51
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Barkema-Schijven-JoM-2008	0.51
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.51
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Caiazza MA process 2014 _	0.51
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Chatterjee209_key MA - process framework	0.51
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\cartwright 30years of MA_2006_	0.51
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.51
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Chatterjee209_key MA - process framework	0.50

Source A	Source B	Pearson correlation coefficient
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Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\nonaka_dynamic theory of knowledge creation	0.50
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Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\KOGUT ZANDER 1992	0.50
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.50
Internals\\cartwright 30years of MA_2006_	Internals\\Barkema-Schijven-JoM-2008	0.49
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\cartwright 30years of MA_2006_	0.49
Internals\\R_Sarala_Role_Strategic_2015	Internals\\cartwright 30years of MA_2006_	0.48
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\King_cite1160 meta_analysis of post MA2004_	0.48
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\Guest_serial acquire Why must all good things _	0.48
Internals\\Caiazza MA process 2014 _	Internals\\Brueller-2014-How do different types of merger	0.48
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\Laamanen_serial acquirers 2008_SMJ_	0.48
Internals\\Helfat_et_al-2003-Strategic_Management_Journal	Internals\\Eisenhardt-2000-Dynamic capabilities_ what are	0.48
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Haleblian & Filkenstein 1999	0.48
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\GRANT 1996	0.48
Internals\\cartwright 30years of MA_2006_	Internals\\Brueller-2014-How do different types of merger	0.47
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\KOGUT ZANDER 1992	0.47

Source A	Source B	Pearson correlation coefficient
Internals\\Swaminathan 2008 value creation MA	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.47
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Chatterjee209_key MA - process framework	0.47
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Barkema-Schijven-JoM-2008	0.46
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\Teece-1997-Dynamic capabilities and strategic	0.46
Internals\\Haleblian_2002_cite357 know	Internals\\cartwright 30years of MA_2006_	0.46
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Henningsson 2015_learning from serial acq IT	0.46
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Brueller-2014-How do different types of merger	0.46
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Guest_serial acquire Why must all good things _	0.46
Internals\\Haleblian & Filkenstein 1999	Internals\\Brueller-2014-How do different types of merger	0.46
Internals\\Haleblian & Filkenstein 1999	Internals\\cartwright 30years of MA_2006_	0.45
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.45
Internals\\Haleblian_2002_cite357 know	Internals\\Brueller-2014-How do different types of merger	0.45
Internals\\Haleblian & Filkenstein 1999	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.45
Internals\\Toppenberg-2015-How Cisco Systems used enterpr	Internals\\Brueller-2014-How do different types of merger	0.45
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Brueller-2014-How do different types of merger	0.45
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Haleblian et al. 2009-Taking Stock of What We Know	0.45
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Caiazza MA process 2014 _	0.44

Source A	Source B	Pearson correlation coefficient
Internals\\Eisenhardt-2000-Dynamic capabilities_ what are	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.44
Internals\\Brueller-2014-How do different types of merger	Internals\\Barkema-Schijven-JoM-2008	0.44
Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\Caiazza MA process 2014 _	0.44
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Ferreira_cited61 MA_1980_2010_lit review_	0.44
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Ferreira_cited61 MA_1980_2010_lit review_	0.44
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Haleblian_2002_cite357 know	0.44
Internals\\Wernerfelt-1984-Strategic_Management_Journal	Internals\\Teece-1997-Dynamic capabilities and strategic	0.44
Internals\\Nadolska_et_al-2014-Strategic_Management_Journ	Internals\\Haleblian & Filkenstein 1999	0.43
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Toppenberg-2015-How Cisco Systems used enterpr	0.43
Internals\\Ferreira_cited61 MA_1980_2010_lit review_	Internals\\Barkema-Schijven-JoM-2008	0.43
Internals\\Ferreira_cited61 MA_1980_2010_lit review_	Internals\\Brueller-2014-How do different types of merger	0.43
Internals\\Eisenhardt-2000-Dynamic capabilities_ what are	Internals\\Eisenhardt y Santos-2001 knowledge new theory	0.42
Internals\\King_cite1160 meta_analysis of post MA2004_	Internals\\Chatterjee209_key MA - process framework	0.42
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Brueller-2014-How do different types of merger	0.42
Internals\\Swaminathan 2008 value creation MA	Internals\\Brueller-2014-How do different types of merger	0.42
Internals\\Haleblian et al. 2009-Taking Stock of What We Know	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.42
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.42
Internals\\Caiazza MA process 2014 _	Internals\\Barkema-Schijven-JoM-2008	0.42

Source A	Source B	Pearson correlation coefficient
Internals\\Swaminathan 2008 value creation MA	Internals\\Ferreira_cited61 MA_1980_2010_lit review_	0.42
Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\Brueller-2014-How do different types of merger	0.42
Internals\\Haleblian_2002_cite357 know	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.42
Internals\\Brueller-2014-How do different types of merger	Internals\\Bingham_et_al-2015-Strategic_Management_Journa	0.41
Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\Swaminathan 2008 value creation MA	0.41
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\Haleblian_2002_cite357 know	0.41
Internals\\Teece-1997-Dynamic capabilities and strategic	Internals\\GRANT 1996	0.41
Internals\\R_Sarala_Role_Strategic_2015	Internals\\Barkema-Schijven-JoM-2008	0.41
Internals\\Toppenberg-2015-How Cisco Systems used enterpr	Internals\\Haleblian & Filkenstein 1999	0.41
Internals\\Zollo-2004-Deliberate learning in corporate ac	Internals\\Caiazza MA process 2014 _	0.41
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Henningsson 2015_learning from serial acq IT	0.41
Internals\\Zollo and Winter 2002 dynamic capabilities	Internals\\Barkema-Schijven-JoM-2008	0.40
Internals\\Laamanen_serial acquirers 2008_SMJ_	Internals\\Barkema-Schijven-JoM-2008	0.40
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\Barkema-Schijven-JoM-2008	0.40
Internals\\Trichterborn_et_al-2016-Strategic_Management_J	Internals\\R_Sarala_Role_Strategic_2015	0.40
Internals\\Henningsson 2015_learning from serial acq IT	Internals\\Barkema-Schijven-JoM-2008	0.40
Internals\\Swaminathan 2008 value creation MA	Internals\\cartwright 30years of MA_2006_	0.40

Appendix H

M&A Capability Dictionary based on text mining of 33 literature review articles.

M&A CAPABILITY DICTIONARY	
CATEGORIES	
M&A_PROCESS_PHASES	**M&A_LEARNING_PROCESS**
ABSORPTION	ABILITIES
ACCULTURATE	ACADEMIA
ACCULTURATES	ACADEMIC
ACCULTURATING	ACADEMICIANS
ACCULTURATION	ACADEMICS
ACCULTURATIONS	ACADEMY
ACHIEVE	ACCOUNTABILITY
ACTION	ACCOUNTABLE
ACTIONS	ACCUMULATE
AGREEMENT	ACCUMULATED
AGREEMENTS	ACTION
ALIGNMENT	ACTIONS
ALLOCATE	ACTIVITIES
ALLOCATION	ADVISOR
ANNUALLY	ANCHORED
ANTECEDENT	ARCHITECTS
APPROVAL	ARTICLES
APPROVALS	ARTICULATION
APPROVE	BID
APPROVED	BIDDER
APPROVES	BIDDERS
APPROVING	BOARD
ARCHITECTURE	CAPABILITIES
AUDIT	CAPABILITY
AUDITED	CEO
AUDITING	CEOS
AUTHORITY	CODIFICATION
AUTHORIZATION	CODIFIED
AUTHORIZE	COGNITIVE
AUTHORIZED	COLLECTIVE
AUTHORIZES	COMPENSATION
BOLT	COMPETENCES
CAPABILITIES	COMPLETELY
CAPABILITY	COMPLETES
CATEGORIZATION	COMPLETING
CHAIRMAN	COMPLETION
CLOSING	CONDUCT

M&A CAPABILITY DICTIONARY	
CATEGORIES	
M&A_PROCESS_PHASES	**M&A_LEARNING_PROCESS**
COMMITTEE	CONTEXTUALIZATION
COMMITTEES	CONTINGENCIES
COMPETITIVE	CONTROLS
COMPLEMENTARITY	COORDINATION
COMPLETE	CREATION
COMPLETED	CULTURE
COMPLIANCE	DEDICATE
COMPLIANT	DEDICATED
CONSEQUENCES	DELIBERATE
CONSOLIDATION	DEPARTMENTS
CONTINUOUS	DIALOGUE
CONTINUOUSLY	DISCIPLINED
CONTROL	EDUCATIONAL
COORDINATE	EFFECTIVE
COORDINATES	EMPHASIS
COORDINATING	EVOLUTION
COORDINATION	EXPERIENCE
COORDINATIONS	EXPERIENCES
COORDINATOR	EXPERTISE
CULTURAL	EXPLICIT
DECISION	FIT
DEDICATE	FOUNDING
DEGREE	FREQUENCY
DILIGENCE	FUNCTION
DISCIPLINED	GENERALIZATION
DIVERSIFICATION	GUIDELINE
ENTIRE	GUIDELINES
EVALUATES	HOMOGENOUS
EVALUATION	IMITATION
EXAMINATION	INDIVIDUAL
EXAMINE	INDIVIDUALS
FUNCTIONAL	INFLUENCE
GOALS	INFORMATION
GREATER	INTELLECTUAL
GROUP	INTERACTION
IMPLEMENT	INTERNAL
IMPLEMENTATION	INTERNALIZATION
IMPLEMENTED	INTERNALIZE
INTEGRATE	INTERNALIZED
INTEGRATED	INTERNALIZES

M&A CAPABILITY DICTIONARY	
CATEGORIES	
M&A_PROCESS_PHASES	**M&A_LEARNING_PROCESS**
INTEGRATES	INTERNALIZING
INTEGRATING	JOINT
INTEGRATION	KNOWLEDGE
INTEGRATIONS	LANGUAGE
LEARNING	LEADERS
LIFECYCLE	LEARNERS
MANAGEMENT	LEARNING
MANAGER	MANAGERS
MANAGERIAL	MECHANISMS
MANAGERS	MEMBER
MEET	MEMBERS
MEETING	MULTIDISCIPLINARY
MEMBER	ORGANIZATION
MEMBERS	ORGANIZATIONS
MODELS	OUTCOME
MONITOR	OUTCOMES
MONITORED	OVERSEE
MONITORING	OVERSEEING
MONITORS	OVERSEEN
MOTIVE	OVERSEES
OBJECTIVES	PLAN
OBLIGATIONS	PLANED
ONGOING	POST
OPERATIONS	PRACTICES
OPPORTUNITY	PREMIUMS
ORGANIZATIONAL	PRESIDENT
PHASE	PRIOR
POSTCLOSING	RELATIONSHIP
POSTMERGER	REPLICATION
PREAPPROVAL	REPORT
PREAPPROVE	REPORTING
PREAPPROVED	REPORTS
PREAUTHORIZATION	RESOURCES
PREAUTHORIZED	REVIEW
PRECLOSING	REVIEWED
PROBLEM	REVIEWS
PROCESS	ROLE
PROCESSES	ROLES
PRODUCT	RULES
PROGRAMME	SELECTION

M&A CAPABILITY DICTIONARY	
CATEGORIES	
M&A_PROCESS_PHASES	**M&A_LEARNING_PROCESS**
PROGRAMMES	SHARING
PROGRAMS	SIMILAR
PROGRESS	SKILLS
PROGRESSIVELY	STANDARD
PROJECT	STANDARDIZED
RATE	STANDARDS
RELATEDNESS	STEERING
REPEATEDLY	STRUCTURAL
REPLACEMENT	STUDIES
RESOURCE	STUDY
RISK	TACIT
ROUTINE	TASK
ROUTINELY	TEAMS
ROUTINES	TENURE
SENIOR	TRANSFER
SERIAL	VALIDATING
SIGNIFICANT	VALIDATION
SIMILARITY	WORK
SPEED	VALIDATE
STAGE	
STRATEGIC	
STRATEGIZING	
STRATEGY	
SUBMIT	
SUBMITS	
SUBMITTED	
SUCCESS	
SYSTEMS	
TARGET	
TEAM	
TEAMS	
TERMS	
TRANSACTION	
TRANSACTIONS	
VELOCITY	