# MORE SUCCESS THAN MEETS THE EYE: THE CASE OF M&AS IN THE HIGH-TECH INDUSTRY

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## ABSTRACT

Mergers and acquisitions are staples of the business landscape. On a global basis, companies engage in tens of thousands of deals each year, collectively valued in the trillions of dollars. At the same time, decades of research, predominantly grounded in the finance literature, predicts most deals will fail. These competing ideas of high transaction volume and high failure rate lead researchers to wonder why managers would continue to engage in these deals knowing most are predicted to fail. While some might argue agency theory issues are the answer, the problem is the commonly used assessment measures (e.g., CAR and ROA) are unreliable when trying to determine the success or failure of individual transactions. M&A are complex transactions that may take years to develop value and require a multi-faceted approach for assessment.

Using an inductive, theory-building, case study methodology the overarching focus of this study asks, “How does the use of multiple acquisition success measures help to identify M&A success.” This research develops a random sampling of 50 completed Cisco Systems acquisitions and determines and then compares the CAR, ROA, and managers’ subjective assessment outcomes for each transaction. Primary and secondary objectives and insights concerning cultural fit and talent retention are also found. An additional sample of 600 acquisitions from twelve highly acquisitive firms is developed and CAR results for each transaction, each firm, and the whole sample are determined. I organize this research effort into two studies. The first considers limitations of the commonly used academic measures of acquisition assessment and the second considers how a strategy-focused, multi-faceted or holistic approach to acquisition performance

assessment might produce a more reliable measure of acquisition success. During the second study I obtain due diligence checklists and primary data through practitioner interviews.

The research produces several important findings. The CAR results are not statistically significant and cannot be used to provide an assessment of the sample acquisitions. CAR, which is often used to predict the effect or influence of a piece of information on stock price, is not an effective measure of the success or failure of an individual acquisition transaction and the oft-cited statistics are not an accurate representation of M&A success rates. ROA has limitations in highly acquisitive firms, especially when the acquiring company is larger than the target firm. These findings support the argument by other researchers that suggest the need for another measure and that overreliance on a single success measure produces unreliable results. Additionally, this research offers new insights regarding practitioner assessment criteria, when assessment criteria are developed, and how practitioners assess these deals. More specifically, practitioners determine acquisition assessment criteria during corporate strategy discussions or when developing the business case for a deal. These new insights reinforce the need for a holistic, *ex-post* assessment to effectively determine M&A success or failure.

# DEDICATION

This work is dedicated to my loving and ever patient wife, Xenia, and our children. Thank you for your constant support, allowing me the time to accomplish this effort, and listening to me talk about it over and over again.

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# CHAPTER 1

# INTRODUCTION

*Success is no accident. It is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing or learning to do.*

- Edson Arantes do Nascimento (Pelé)

In 1987, Julian Rappaport described the research phenomenon of interest as “what we want our research to understand, predict, explain, or describe” (p. 129). I am motivated by motivating others and am particularly interested in how learning and leadership principles can influence organizational development and decision making. Over the past 25 years, working in high-tech, government, and non-profit organizations, I am regularly involved in people and program development efforts that are focused on creating and sustaining meaningful change. A positive outcome from my work experience is the ability to recognize problems and seek meaningful solutions. The focus of this dissertation begins with the recognition of a problem that needs a solution. In this case, I notice two competing phenomena. First, firms seem to engage in an extremely high number of merger and acquisition (M&A) deals each year and second, research seems to predict that most of these deals will fail. It doesn’t make sense that managers would continue to engage in something that is predicted to fail so often.

Digging a little deeper, according to the Institute for Mergers, Acquisitions, and Alliances from 1985 to 2019, there are over one million M&A transactions worldwide, representing nearly $78 trillion in deal value (IMAA, 2020). During that same period, the high technology industry accounts for over 10% of the total deals, the second highest of

any category, and represents over $6 trillion in value (IMAA, 2020). Moreover, the rate at which organizational leaders engage in M&As is increasing (IMAA, 2020). For example, in the 10-year period from 2010 to 2019, globally, there are on average about 46,800 M&A deals each year, with an average annual value calculated to be nearly $3.45 trillion (IMAA, 2020). Of the top 25 economies in the world, only four have a nominal GDP that is higher (Silver, 2022). The amount of M&A activity in the world is staggering and demonstrates there are a considerable number of firms engaged in or contemplating such a move. In fact, by 1993 there are estimates that at least one in four workers in the U.S. had been affected by an M&A (Cartwright & Cooper, 1993) and that 91.4% of all publicly traded companies in the U.S. participated in at least one M&A during the 1990s and 2000s (Renneboog & Vansteenkiste, 2019).

Surprisingly, even though this is a frequently occurring business practice, researchers continue to find, or at least predict, for nearly 50 years that M&As will fail, most often reported in terms of a predicted outcome on stock price, at an overly broad rate of somewhere between 20% to 90% (Bruhn, 2001; Cartwright & Cooper, 1994; Christensen et al., 2011; Denison & Ko, 2016; Koi-Akrofi, 2016). Considering the significant amount of scholarship devoted to this topic, it is disturbing there is such a wide variance in the predicted failure rate. It is astonishing that for something firms engage in so often, that the anticipated M&A success rate is not higher. Published research indicates there are virtually no one-off acquirers (Golubov et al., 2015) and there is no consensus on why M&As fail, how success is measured, or what the solution is. To the point on why M&As fail, over the years researchers have offered various opinions.

While some suggest finance measures are the cause (Lubatkin, 1987; Marks & Mirvis, 2001; Renneboog & Vansteenkiste, 2019), others have offered difficulties in overcoming cultural disparities are the culprit (Aguilera & Dencker, 2004; Denison & Ko, 2016; Koi-Akrofi, 2016).

The truth might lie somewhere in between, and the purpose of this study is to seek a better understanding. The difficulty in measuring the success or failure of acquisitions is tied to determining the proper measure. Brouthers et al. note, "Measuring merger performance has been the most onerous problem confronting researchers" (1998, p. 349). They go on to suggest:

> The measures of performance used may be incorrect either because (1) only one measure of merger performance was used and management was attempting to achieve multiple motives; (2) the measure used (an economic measure) was not one of the merger motives of management and therefore would not reflect merger performance; (3) mergers of different sizes were aggregated, thus mixing high-performing smaller mergers with low-performing larger mergers. (Brouthers et al., 1998, p. 349)

This coupled with the likelihood of firms that engage in serial acquisitions, make it difficult to separate the short and long-run financial implications of multiple acquisitions conducted by the same firm over a period of time (Golubov et al., 2015; Renneboog & Vansteenkiste, 2019).

To overcome the dilemma of effectively measuring acquisition success, one needs to conduct this analysis from a different perspective. Schoenberg (2006) and then Papadakis and Thanos (2010) consider multiple assessment measures (e.g., cumulative abnormal returns, return on asset, and managers' subjective assessment). I refer to these measures as the commonly used academic measures of acquisition assessment. These

researchers develop their assessment lists from a literature review of other published studies. While these measures are worthy of attention, the breadth of research also suggests that there are additional measures to consider. For example, prior studies raise organizational development issues (Larsson & Finkelstein, 1999; Tetenbaum, 1999). A more holistic approach acknowledges the idea that "M&As are clearly [a] multifaceted phenomena that are poorly understood through incomplete and partial application of theories from separate fields" (Larsson & Finkelstein, 1999, p. 2).

With these thoughts in mind, this dissertation employs a mixed-method approach. I use a theory-building, case study methodology, based in interpretive philosophical assumptions. The case study approach is desirable to demonstrate the practicality of the findings, bring the subject matter to life (Myers, 2020), and provide a better ability to understand the "hows" and "whys" (Eisenhardt, 1989b; Yin, 2018) that are found. During the research process, because of learnings along the way, I added a quantitative element to the first study. While I planned for this research to be qualitative in nature, the mixed-method approach, including the use of quantitative measures has added to the insights gained. This dissertation focuses on the convergence of diverse M&A assessment phenomena, such as cumulative abnormal returns (CAR), return on assets (ROA), managers' subjective assessments, and the comparison of strategic and organizational objectives and outcomes, and how individuals might use these phenomena to identify a more reliable measure of acquisition success. While researchers have addressed each of these individual phenomena, the purpose of this study is to build upon the existing learning and try to answer the question: "How does the use of multiple acquisition

success measures help identify acquisition success." In other words, is there a single predictive measure that, as some prior studies suggest, researchers can use to assess an acquisition or is reliable assessment found in the use of multiple measures? And, if the use of multiple measures is the answer, then when and where are they determined and how are they best utilized?

Figure 1 depicts a view of the high-level acquisition flow. This model focuses on the fact there are decisions or assessments made before and after implementing the deal and that reviewers should consider similar factors before and after implementation.

**Figure 1.** High Level Acquisition Process Flow

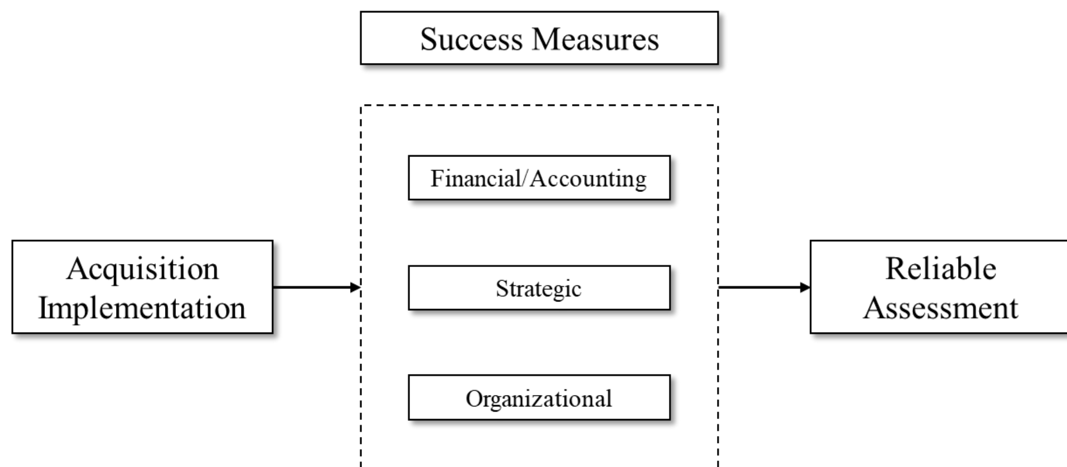
*Source:* Author

Early in the research process, in my analytical memo, I wrote, "Today [November 25, 2020], I've created a…model, which takes into account the decision to engage in an acquisition is complex and multi-faceted and the assessment should also include multiple measures." On the left is recognition that managers must consider financial, strategic, and organizational decision factors. As managers make decisions and one moves right in the model, there are pre-assessment and implementation phases followed by a post-assessment period. Implicit in the model, is my proposition that pre-assessment factors

are the criteria measured in the post-assessment period to determine success or failure. Additionally, while the various decision factors should of necessity be evaluated, I adopt the position that an *ex-post* evaluation is more in line with practitioner thinking than the *ex-ante* method (e.g., CAR) commonly used by academics.

While considering the model depicted in Figure 1, I created a conceptual model that illustrates what I hoped to find through this research. Figure 2 is the conceptual model upon which this dissertation effort is based. This model recognizes there are

**Figure 2.** Conceptual Model




*Source:* Author

*Note:* All measures within the dotted line should be considered when making success determinations.

multiple success measures, grouped into categories, all of which need to be evaluated to reliably assess an acquisition. While both the process overview and the conceptual

models are accurate, additional information found during the ongoing research process, will show they are not necessarily complete.

This study has some important implications for managers. First, M&A failure rate conversations are tied to short-term event studies that predict most transactions fail. Consulting firms, stock analysts, and researchers rely on these event study results, which as will be demonstrated, may be misleading, unreliable, or, at a minimum, have limitations in predicting the future outcome of the deal. If the loudest voice in the conversation – event study results – is really "crying wolf," and managers discover that, what influence would that have on their analysis of a given deal? How would that knowledge influence what support they might look for from outside resources, how they view a change in stock price related to a deal announcement, or how might that influence which deals they pursue and the reasons why? One group of researchers, who believe, without any citation offered, M&As fail 70% to 90% of the time, suggests questions related to target identification, price determination, and integration lead managers to pursue the wrong deals and walk away from potentially transformative deals (Christensen et al., 2011). If the 70% to 90% number is unreliable, how would that influence the rest of the researcher's argument or the manager's willingness to listen to it? There is a need to reset the conversation related to M&A failure rates and this study hopes to set the stage for that reset.

Second, this dissertation consists of two major studies. The first study, which uses a random sampling of 50 acquisitions completed by Cisco Systems, Inc. (see Appendix A for the list of acquisitions in the sample), considers whether there are limitations to the

commonly used academic measures of M&A success (e.g., CAR., ROA, managers' subjective assessment). The findings suggest there are, in fact, limitations to these measures, and echoes what is suggested by others that a multi-faceted assessment approach will produce a more reliable result, and that further study is necessary to determine a reliable assessment measure. The second study uses an archival data review to develop insights about strategic and organizational dimensions of Cisco acquisitions, finds and shares some information for pre-assessment or due diligence checklists and develops primary research data through interviews with M&A practitioners. The due diligence checklists highlight the complexity of acquisition transactions, and the informants provide valuable insights that suggest practitioner determination of success criteria is connected to the business case for the deal and not necessarily a change in stock price. The data collection for the second study has provided informative results about assessment criteria and timing that are vastly different than techniques commonly applied by academics. The hope is these findings will offer insights to a more reliable way to assess the success of these transactions, both in terms of criteria and timing.

Considering the generalizability of the case study results, researchers of both quantitative and qualitative research want generalizable results. To this point Myers (2020) writes:

> A positivist researcher looks to develop law-like generalizations, ones that apply regardless of the context. An interpretive researcher, by contrast, looks to develop generalizations that are more context bound, ones that are more closely related to the researcher and his or her research methods. (p. 48)

Gray (2004) adds, "If two or more cases are shown to support the theory, then it becomes possible to make a claim that the theory has been replicated" (p.127). Yin (2018) adds the goal of case studies is to expand and generalize theories by making analytic generalizations, rather than attempting to extrapolate probabilities or make statistical generalizations. Both Gray and Yin agree a cross-case analysis, especially if the same outcomes are seen in multiple instances, adds credibility and generalizability to the findings.

This research has led to several important findings, including: there are limitations, at least in the case of highly acquisitive firms, to using CAR and ROA for acquisition assessment; a multi-faceted assessment approach can produce a more reliable assessment; insight as to why managers continue to pursue acquisitions despite published academic findings that predict most acquisitions will fail; when and how practitioners develop assessment criteria and when that criteria is used; and sets the stage for the potential next steps in acquisition success research.

# CHAPTER 2

# LITERATURE REVIEW

There has been a significant contribution to the literature regarding M&As. The wide-ranging topics have included research on management (Barkema & Schijven, 2008; Child et al., 2003), learning (Collins et al., 2009; Zollo & Singh, 2004), knowledge sharing (Lervik, 2008; Mudambi, 2002), success measures (Bertrand & Betschinger, 2012; Brouthers et al., 1998; Haleblian & Finkelstein, 1999; Lubatkin, 1983), human resource considerations (Aguilera & Dencker, 2004; Capron et al., 1998; Marks & Mirvis, 2011), cultural concerns (Carleton, 1997; Denison & Ko, 2016; Stahl, 2008), types (Ghuari & Buckley, 2003; OECD, 2009), and strategy (Brueller et al., 2014; Dunning, 2001; Hopkins, 2008) to name a few. This literature review will consider some key topics or themes related to M&As and examine them with both integrative and methodological lenses. The integrative literature review seeks to compare, contrast and synthesize relevant literature with the hope of generating new perspectives (Torraco, 2005) and the methodological approach will help identify previously used methodologies and research techniques (Randolph, 2009). Two aims of this review are to frame the present study and highlight potential limitations of what has been done before.

This study, in part, uses a random sampling of 50 acquisitions announced by Cisco from 1993 to 2017 (see Appendix A for further details). An acquisition refers to one company purchasing an ownership stake or taking control of the assets of another (Ghuari & Buckley, 2003). The ownership stake purchased could represent a minority

(10% to 49%), majority (50% to 99%), or a full controlling stake (UNCTAD, 2000). The level of ownership is shown to positively influence the end result of acquisition attempts (Zhang et al., 2011). Researchers categorize acquisitions into four types (see Table 1 for further details), including horizontal, vertical, conglomerate, and congeneric (Sureka, 2020), and six strategic rationales for acquisitions, including improve target performance, consolidate excess industry capacity, accelerate market access for products, obtain skills

**Table 1.** Four Primary Acquisition Types

| Acquisition Type | Definition |
|---|---|
| Horizontal | Acquiring company buys a target company that is a competitor in the same industry or sector. |
| Vertical | Company acquires a target that is a supplier or distributor in the same supply chain. |
| Conglomerate | Company acquires a target in a completely different business, industry, or sector. |
| Congeneric | Company acquires a target with non-related product, which share any similarity (e.g., production technology, distribution channel). |

*Source:* Adapted from Sureka (2020)

or technologies in less time or for lower prices, exploit a business's industry-specific scalability, and developing new market entrants (Goedhart et al., 2017). A merger, which could also share the same four types, on the other hand, is the combination of two or more separate companies to form a new single entity (OECD, 2009). In the case of the Cisco sample transactions, they constitute full controlling stake acquisitions, of one of the first three types listed in Table 1, where complete integration is necessary.

Acquisition transactions occur regularly, affect nearly every industry, and a majority of countries (IMAA, 2020). Research predicts that acquisitions fail much of the time. An often asked, but unanswered question is: “if M&As are so prone to failure, then why do management teams still carry on making deals” (Harrison & Farrell, 2008, p. 5). Insightfully, Harrison and Farrell (2008) also wonder why old measures are still being used to assess acquisition performance. Tetenbaum (1999) suggests the reason managers continue to pursue M&As despite high failure rates, “can be explained by their potential to cut costs and to improve efficiency, both of which are irresistible to organizations” (p. 2). According to Palmer (2021), firms participate in M&As to find synergies, facilitate growth, increase supply-chain pricing power, or to eliminate competition.

Regarding this elusive notion of *synergy*, some researchers have offered a potential benefit of M&As is the opportunity to achieve synergies, and offered that synergy is “Putting 2 and 2 together to make 5” (Kitching, 1967, p. 92). More specifically, “synergy occurs when two operating units can be run more efficiently (i.e., with lower costs) and/or more effectively (i.e., with a more appropriate allocation of scarce resources, given environmental constraints) together than apart” (Lubatkin, 1983, p. 218). While a common rationale for M&A activity is the search for synergy, one author notes it may be too nebulous of a concept to explain why managers pursue M&As (King et al., 2004). That said, two researchers who conducted a significant study on synergy realization offer, “Of all the determinants of synergy realization we studied, organizational integration was the strongest predictor” (Larsson & Finkelstein, 1999, p. 16). Or, perhaps, the manager (Ghuari & Buckley, 2003; Karolyi et al., 2015; Koi-Akrofi,

2016; Lubatkin, 1983), acquiring manager (Graebner et al., 2010; Stahl & Voigt, 2008), or senior manager (UNCTAD, 2000), referring to the decision-maker, executive, or director-level resource leading the acquisition effort and not necessarily the individual implementing aspects of the deal, has access to information or knows something researchers might not.

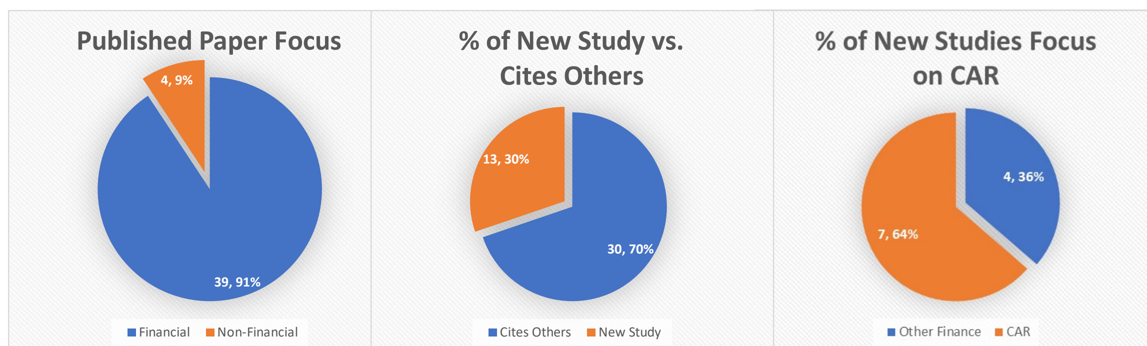
## Comparison of Acquisition Failure Studies

There is an issue with today's methods for assessing acquisition performance and the response produced is an unreliable one. While completing this literature review, I conducted an analysis of 43 published articles, spanning 50 years of research that combine to allege a failure rate that ranges from 20% to 90%. Appendix B provides of list of these articles, including author, predicted failure rate, and the focus of the study. Interestingly, 90% of these articles have a finance focus and only 13 are new studies. The other 30 articles cite one of the 13 empirical studies or cite someone who cited one of those 13 studies. 11 of the new studies are finance focused and 7 of the 11 new studies use a short-term event study (e.g., CAR) as a measure. Figure 3 presents three side-by-side graphs I refer to as a comparison of acquisition failure studies.

The fact that most of the actual studies rely on CAR is somewhat troubling as the use of this event study methodology has morphed from a tool designed to measure the predicted effect of some event on stock price to the most often cited statistic for predicting the success or failure of acquisitions. Mandelker (1974) writes the CAR review is a measure of "market adjustment to any new information" (p. 310). Jensen and

Ruback (1983) add that the event study focus could be used to estimate the effects M&A announcements had on stock prices. And, Lubatkin (1987) writes that CAR measures

**Figure 3.** Comparison of Acquisition Failure Studies




*Source:* Author

"changes in stockholder value" (p. 42). Further, Haleblian and Finkelstein (1999) suggest that the use of abnormal returns has "predictive validity" in determining the success of an acquisition. In this context, academics use CAR, an *ex-ante* measure of acquisition performance, to predict or measure the effect of the acquisition announcement on stock price. Published research demonstrates there are many who believe the use of CAR is the right way to measure acquisition success. It is interesting to contemplate that an event study, designed to capture predicted stock returns that are compared to actual stock returns, the timing for which comparison is based on the announcement date of an acquisition, can with any pragmatic level of confidence predict the outcome of a deal that can take years to create value (I14, personal communication, February 16, 2022) is dubious. The only part of the transaction that has been completed by the announcement date may be a portion of the pre-assessment and decision to or expressed intention to

purchase a target firm. The actual acquisition, including integration, product production, revenue realization, and so on would not have started, much less finished. Regarding the use of CAR, one informant offers:

> If someone announces a deal and the stock price moves because of that…when that announcement takes place, there's usually guidance on, this is what it's going to do for us. It's going to…have an accretive or dilutive impact to our business. But after that initial measurement…that ability to measure based off [CAR] goes away, because you've seen the bump in the share price. You've assumed investors have evaluated that and adjusted their models. But what do you do a year from now when you're still integrating this business? How do you determine that you're being successful or what's the share price done? So, there's a whole host of factors that could come into play that are going to move that share price. And I think that no longer becomes a very useful measurement of whether or not that particular acquisition is or has been successful. (I5, personal communication, October 15, 2021)

Thus, while CAR may be effective in measuring the predictive effect or influence of some announcement on stock price, as a measure of acquisition success it is unreliable, produces a misleading statistic, and as will be demonstrated later is not used by practitioners, except, perhaps, as a marketing tool.

To the point of an unreliable measure, or the limitations of published research conducted to date, researchers have made several notable comments. For example, Brouthers et al. (1998) offer:

> If the existence of multiple merger motives is correct, then past merger studies that attempt to measure merger success by examining single financial indicators of performance (most commonly profitability or share value) tend to undervalue the achievement of other goals and may fail to provide an accurate picture of merger success. (pp. 347-348)

Papadakis and Thanos (2010) add, "These one-dimensional approaches of measuring M&A performance may be partially responsible for some of the contradictory results

often published in the M&A literature regarding the antecedents of successful acquisitions" (p. 859). Additionally, Schoenberg (2006) offers, "The selection of appropriate performance metrics is of particular relevance in inter-disciplinary fields such as mergers and acquisitions" (p. 361), and "[cautions] that inconsistent use of the available performance measures may have held back knowledge development" (p. 364). This dissertation attempts to address the noted limitations, and the remainder of this literature review will consider (1) acquisition assessment practices, (2) acquisition assessment concerns and (3) use published research to lay the foundation for a novel approach.

## Acquisition Assessment Practices

### *Financial/Accounting Perspective*

Referring again to Appendix B, which is a comparison of studies with predicted failure rates, there are some key insights gained during the review which should be discussed. Several decades ago, researchers concluded the primary role of the corporation is to maximize stockholder wealth (Lubatkin, 1983; Mandelker, 1974). Subsequent researchers, believing that premise to be true, suggest the right way to assess the success of M&As is to use financial measures (Lubatkin, 1983) and many researchers primarily use various financial and economic means to determine failure rates for M&As. Their collective findings suggest that M&As fail to create value, fail to create positive returns, or lead to negative abnormal returns 20% to 90% of the time (see Appendix B). Haleblian and Finkelstein (1999) consider measurement of abnormal returns to be an

objective assessment of finance events. In reliance on event studies, King et al. (2004) conducted a meta-analysis of 93 prior studies and concluded:

> We find no evidence that acquisitions, on average, improve the financial performance (e.g., abnormal returns or accounting performance) of acquiring firms after the day completed acquisitions are announced. Instead, we find that acquisitions either have no significant effect or a modest negative effect on an acquiring firm's financial performance in the post-announcement period. (p. 195)

Inherent in that critique is the question why keep engaging in this activity? As noted above, however, the most often used financial assessment for acquisitions is the CAR event study methodology. Lubatkin (1983) defines abnormal returns as “the variance in [a firm’s] monthly performance not explained by the market portfolio” (p. 222). Another researcher offers the concept originated in financial economics literature and attempts to assess:

> [The] impact of an event (acquisition announcement) on a firm’s share price by estimating the ‘normal’ or expected return to its share in the absence of an event and comparing it to the actual return achieved during a period of time around the event. (Schoenberg, 2006, p. 362)

MacKinlay (1997) gives credit for the modern-day method of conducting event studies to Ray Ball and Philip Brown. Ball and Brown (1968), were not satisfied with the use of net income as a meaningful figure for accounting research when attempting to compare firms of diverse sizes. They suggest markets are efficient, unbiased, react to new information, and that asset prices will also quickly adjust to this new information. Interestingly, they argue, “An empirical evaluation of accounting income numbers requires agreement as to what real-world outcome constitutes an appropriate test of usefulness” (Ball & Brown, 1968, p. 160). With that statement, they argue the event study method they introduce is

better than net income because they could see a real-world connection. Using that same argument, what if we can see that CAR results today are disconnected from real-world outcomes? What if we can see that CAR results do not match reality? What then? If we are willing to accept the Ball and Brown argument in 1968, then we should be willing to accept it today. And, if we are willing to accept the argument that a financial measure must have real-world agreement, then I echo other researchers who argue against CAR (Brouthers et al., 1998; Meglio & Risberg, 2010; Papadakis & Thanos, 2010; Porter, 1987; Schoenberg, 2006) and say it is time to take a hard look at CAR as a predictor of acquisition success.

An important foundation for the work of Ball and Brown (1968) is the efficient market hypothesis or model first shared in the dissertation completed by Eugene F. Fama in 1960. Fama (1970) theorizes that markets fully reflect all available information and stock prices adjust accordingly, resulting in an efficient market. The suggestion that event studies have predictive validity (Haleblian & Finkelstein, 1999) is based upon the fact that markets are efficient (MacKinlay, 1997). While the present study neither takes on the argument of whether markets are efficient, nor whether investors are rational, it may be surprising to note that in a 2016 Chicago Booth Review interview, when pressed about the topic, Fama, over the course of the interview, made the following comments:

> It's a very simple statement: prices reflect all available information…It's a model, so it's not completely true. No models are completely true. They are approximations to the world…The point is not that markets are efficient. They're not. It's just a model. The question is, "How inefficient are they? (Fama & Thaler, 2016)

The counterpart in the interview, Richard Thaler, offers, "The efficient-markets hypothesis remains the standard…but people don't make decisions that way." He went on to say, "I believe the rational model…and that we can build richer models with a better predictive power if we include the way people actually behave" (Fama & Thaler, 2016). Both Ball and Brown and Thaler hint at the need for a connection with reality. The present study suggests commonly used predictors of acquisition performance may not have as strong a connection to reality as the user of the model hopes.

Returning to the use of CAR, in simple language, the event study, as used in the context of acquisition assessment, is really an indicator of the effect of the acquisition announcement on stock price. Some use such studies to conclude acquisitions are failures if the abnormal return numbers show a zero or negative return of any amount (Datta et al., 1992; King et al., 2004). Ironically, Golubov et al. (2015) note that Cisco's CAR on acquisitions is -1.05% (without providing an indication of statistical significance), which according to the generally accepted practice would predict Cisco acquisitions, on average, are failures. This would be a surprise considering Cisco is considered a respected leader in acquisition success (Chatman et al., 2005; Mayer & Kenney, 2004; Rifkin, 1997).

An important observation should be inserted here. On November 2, 2021, following my oral dissertation proposal defense I was considering one reviewer's comment that CAR can account for cultural differences. While the complexity of measuring culture seems to make that unlikely, the reviewer referenced a study published

in the *Journal of Financial Economics* (Ahern et al., 2015) alleging this to be true. The reviewer argues, as do others, that, “Theoretically, a stock price takes into account all available information and expectations about the future,” (Hayes, 2020) and, therefore, event study results represent the net present value of the future cash flows of the deal. My November $2^{nd}$ observation, however, is this: It appears that many, if not all, event studies are trying to measure the “influence” or “effect” of some variable on stock price and not the success or failure of an acquisition per se. The event study, as used in this context, is intended to measure the effect of the corporate announcement on stock price. Since Ball and Brown (1968) theorized the event study a better economic measure than income for related research, many have tried to use the same math to find the effect of some facet of corporate finance or managerial practice on stock price. As a few examples, some have tried to measure the influence of individual firm acquisition experience or the persistence of results from one transaction to the next (Golubov et al., 2015; Haleblian & Finkelstein, 1999), or the effect of cultural distance (Ahern et al., 2015; Alexandridis et al., 2016) on deal volume or abnormal returns. While this is laudable, the focus of the present study is not to measure the effect of something on stock price. Rather, the focus is trying to determine a reliable measure of individual acquisition transaction success or failure.

To that point, a growing number of researchers question the accuracy of CAR for acquisition assessment. Graebner et al. (2010) write, CAR transactions are “particularly problematic for technology acquisitions” (p. 86), due to the fact that in technology acquisitions the buyer is often much larger than the seller, “so these transactions may have little or no immediate influence on buyers’ stock prices…[and] financial markets

may struggle to accurately gauge the value of a technology transaction" (p. 86). In a study conducted by Zollo and Meier (2008), wherein they focus on whether various assessments measure a single construct and how those constructs are related, they find that CAR has no connection to any of the other measures used and that "this measure clearly loads on a separate factor from all the other measures, confirming its empirical distance from the other proxies of M&A performance" (p. 71). They also suggest that CAR measures something other than actual acquisition performance and studies using CAR "should refer to their dependent variable as 'market expectation about firm performance,' rather than acquisition performance per se" (Zollo & Meier, 2008, p. 72). Kummer (n.d), taking on efficient markets, adds "The announcement-period stock price reaction…does not fully reflect all relevant information. Hence, the accuracy of inferences based on announcement-period event windows is questioned" (4th paragraph). Finally, Papadakis and Thanos (2010) echo Zollo and Meier's finding that CAR gauges something other than actual performance and "that the capital market does not have enough information to accurately predict the long-term success of an acquisition" (p. 869).

Further, some researchers argue against the strict financial analysis related to shareholder wealth. For example, King et al. (2004) note that the vast majority of M&A research constructs are based on secondary data and offer, "This leads one to wonder whether data relevance has been sacrificed in favor of data availability in the creation of research models" (p. 196). They also note that they have "failed to uncover even a single moderator of post-acquisition performance whose significant effect has been replicated

across the established minimum of three studies" (p. 197). Lubatkin (1983) adds "Methodological problems have prevented empirically based studies from detecting the benefits" (p. 222) of M&As and that the capital asset pricing model[1] often used in studies has limitations. While Lubatkin believes finance-based methodology is the right way to measure success, he notes financial analysis does not allow for the measure of strategic fit and there is a need "to integrate techniques currently being employed in the empirically based studies with the concepts developed in industrial organizations and strategic management literature" (1987, p. 223), which may provide a better understanding of merger activities. Another group of researchers finds that unsuccessful M&As tend to only focus on financial aspects of the deal and successful M&As tend to pay attention to both the financial and strategic outcomes (Marks & Mirvis, 2001). Further, a United Nations report indicates:

> Whether the observed rates of failure are high or low is difficult to determine, since it is not known how the individual firms would have managed in the absence of M&As. When assessing the outcome of M&As it is therefore necessary to take realistic counterfactuals into account. (UNCTAD, 2000, p. 8)

Michael Porter (1987), a well-respected management author and professor, notes:

> Most studies have approached the question by measuring the stock market valuation of mergers, captured in the movement of stock prices of acquiring companies immediately before and after mergers are announced.
>
> These studies show that the market values mergers as neutral or slightly negative, hardly cause for serious concern. Yet the short-term reaction is a highly imperfect measure of the long-term success of diversification, and no self-respecting executive would judge a corporate strategy this way. (pp. 44-45)

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[1] Still possessing limitations, more recent CAR assessments utilize a "market model constant for the acquiring firm (*ai)*" (Schoenberg, 2006, p. 364), rather than the risk-free rate of return value ($r_f$) as is normally used in a CAPM calculation.

While there should be some financial assessment (e.g., accretive, or dilutive effects on revenue) when contemplating acquisition performance, the above points demonstrate there are limitations to this commonly used finance-based measure of acquisition success.

Two other points related to monetary assessments should be made. First, of the various performance accounting criteria that have been studied (e.g., profit/sales ratio, return on equity, and ROA), some researchers conclude that ROA is the most appropriate (Papadakis & Thanos, 2010). While the net income divided by assets formula has been adjusted to suit the needs of a given study (Bertrand & Betschinger, 2012; Papadakis & Thanos, 2010), researchers believe it is a useful metric. Comparing ROA and CAR, however, Papadakis and Thanos (2010) find there is no correlation. They note:

> CARs, an *ex ante* measure of acquisition performance which measures investors' expectations, do not predict *ex post* financial performance successfully. This is a notable finding as it provides support to one of the most serious criticisms of the event study methodology which is that the CAR measure should not be used as it does not measure realized performance. (p. 869)

Second, it should be noted the notion that the role of the corporation is to maximize stockholder wealth (Mandelker, 1974), or shareholder value in today's parlance, is changing. While the Business Roundtable adopted the idea that the role of the firm is to increase shareholder value in 1997, in 2019, the group redefines the purpose of the corporation around the idea of being committed to all of the corporate stakeholders (BRT, 2019). Freeman et al. (2007), discussing what they refer to as stakeholder capitalism, offer stakeholders are essential to value creation and Aguilera and Dencker (2004), who focus on human resource aspects of M&As, note in "stakeholder capitalism national

models, employees, suppliers, customers and financial institutions are part of the context within which the overall firm is judged" (p. 1360). The current study acknowledges the evaluation of acquisition success must consider the notion of stakeholders and not focus solely on shareholders.

### *Strategic Perspective*

The two most common strategic assessments for acquisitions are managers' subjective assessments (Papadakis & Thanos, 2010; Schoenberg, 2006) and comparing the acquisition outcomes to strategic objectives or managerial motives (Brouthers et al., 1998). Subjective assessments involve perceptions and feelings, are harder to measure, and involve concerns with reliability, validity, and bias, and answer questions like, "how do you feel that went?" A review of strategic objectives, on the other hand, is a more tangible assessment that might answer a question like, "What was the goal and what did you accomplish?" Concerning "managerial motives," in an analysis of 33 mergers, Brouthers et al. (1998) find 17 motivations for participation in M&As. They also find "a better measure of merger success or failure is the degree to which the merger achieves predetermined objectives" (Brouthers et al., 1998, p. 349). Table 2 lists the 17 motivations identified by Brouthers et al., which they group into three broad categories. In addition to Brouthers et al., nine other research efforts have sought to determine managerial objectives for engaging in acquisitions. Appendix C captures these efforts and includes the study sample the researchers use to find the noted motivations.

Not surprising, there are similarities and differences in the findings. For example, topics such as overcoming issues with excess capacity, easier market entry, acquiring

products or technology resulting in reduced R&D costs, and protection or enhancement of market position are found in multiple instances. At the same time, one group of researchers (Danzon et al., 2007), who focus on why M&As are contemplated by pharmaceutical and biotech firms, find that firm size makes a difference as to why a

**Table 2.** List of Motivations Identified by Brouthers et al. (1998)

| | |
|---|---|
| **Economic Motives** | |
| - Marketing economies of scale | - Differential valuation of target |
| - Increase profitability | - Defense mechanism |
| - Risk-spreading | - Respond to market failures |
| - Cost reduction | - Create shareholder value |
| - Technical economies of scale | |
| **Personal Motives** | |
| - Increase sales | - Acquisition of inefficient management |
| - Managerial challenge | - Enhance managerial prestige |
| **Strategic Motives** | |
| - Pursuit of market power | - Acquisition of raw materials |
| - Acquisition of a competitor | - Creation of barriers to entry |

*Source:* (Brouthers et al., 1998, p. 348)

pharmaceutical firm participates in M&A activity. They conclude that for larger firms, "mergers are frequently the response to expected excess capacity that is triggered by patent expirations and gaps in the pipeline of follow-on products, which depresses expected future earnings growth" (Danzon et al., 2007, p. 32) and for small firms, "mergers appear to be primarily an exit strategy for firms that are in financial trouble" (Danzon et al., 2007, p. 33). Also noteworthy, is the fact that various researchers use different terms to denote the phenomenon of managerial intents, goals, or motivations. Table 3 shows the terms researchers use for the studies noted in Appendix C.

**Table 3.** Listing of Terms Used to Note Strategic Objectives and Publication

| Name (Date) | Term Used | Publication |
|---|---|---|
| Brouthers (1998) | Merger motives | Long Range Planning |
| Bowers (2001) | Strategic intent | Harvard Business Review |
| Shimizu et al. (2004) | Mode, process, strategy | Journal of International Management |
| Danzon et al. (2007) | Determinants | Managerial and Decision Economics |
| Graebner et al. (2010) | Motivations | Academy of Management Perspectives |
| Christensen et al. (2011) | Strategic purpose of the deal | Harvard Business Review |
| Ager (2011) | Efforts | Journal of Contemporary Ethnography |
| Nguyen et al. (2012) | Motivation | Journal of Business Finance & Accounting |
| Arslan and Dikova (2015) | Ownership strategy/Strategic goals | Journal of Transnational Management |
| Toppenberg et al. (2015) | Strategy | MIS Quarterly Executive |

*Source:* Author

Divestitures is a final strategic performance assessment that should be mentioned. Some studies suggest that divestitures or acquisition "survival" is an indication of success or failure (Nadolska & Barkema, 2014; Porter, 1987). However, recent research suggests that divestitures should not be considered an effective performance measure. For example, Schoenberg (2006) found "divestment in some instances signals successful restructure and profitable sale" (p. 367), and his study results "confirm that divestment is unlikely to be a valid performance indicator" (p. 368). Nadolska and Barkema (2014), who support the use of divestiture as a performance measure caution, "Using survival as a success measure does raise concerns as divestment does not always indicate poor performance" (p. 1490). Citing a specific instance that has relevance to this study, but is not an acquisition in the sample, in November 2009, Cisco announced the acquisition of the Set-Top Box Business of DVN Holdings for a reported $44.5 million (Cisco, 2009, November 2). On July 22, 2015, nearly six years later, Cisco completed a divestiture of that same business for $600 million (Vanian, 2015, July 22). With only this information to review a 1200+% increase in sales price over purchase price might not be considered a failure by the manager.

*Organizational Perspective*

There is a significant amount of scholarship published concerning cultural and integration issues and the relationship of these factors to acquisition performance (Aguilera & Dencker, 2004; Bruhn, 2001; Cartwright & Cooper, 1993; Denison & Ko, 2016; Gomes et al., 2013; Gurchiek, 2016, August 24; Koi-Akrofi, 2016; Schweiger & Goulet, 2005; Weber et al., 1996; Weber & Tarba, 2012). While some researchers

disagree and offer cultural disparity is actually helpful in the resulting combination (Teerikangas & Very, 2006), the preponderance of research suggests cultural and corporate integration are necessary to the success of the deal. Appendix D is a comparison of researcher thoughts on M&A-related cultural concerns. These researchers highlight the benefit of enabling M&A integration as a measure of success.

Linking motivations, success measures, and integration efforts, Bowers (2001) argues knowing the reason for the acquisition will influence the manager's integration efforts. Christensen et al. (2011) agree and write, "The success or failure of an acquisition lies in the nuts and bolts of integration" (p. 50), and that "the approach to integration should be determined almost entirely by the type of acquisition you've made" (p.56). Likewise, Renneboog and Vansteenkiste (2019) include CEO and organization learning, corporate culture, and cultural distance as characteristics that may affect deal performance. Tetenbaum (1999) finds that "success or failure three years after a deal could be explained by the presence or absence of an integration plan following the merger" (Deal Making v. Integration section). To the point of when subjective assessments should be considered, Schoenberg (2006) writes, "sufficient time must be allowed for post-acquisition integration" (p. 368). To summarize, understanding outcomes associated with the initial manager objectives for the deal, as well as overcoming integration and culture issues, are critical to the success of the deal.

Recognizing the importance of culture and integration to M&A success, the natural follow-on question is: "How does one measure successful integration or improvements reducing cultural disparities." Unfortunately, there is a paucity of research

in this area (Bouwman, 2013), and some of the failures stem from the lack of measurement of cultural differences (Weber & Tarba, 2012). Researchers do suggest a combination of qualitative and quantitative measures can be taken using observation, interviews, or surveys (Cartwright & Cooper, 1993), or establishing proxies or indices (Bouwman, 2013). Additionally, some PricewaterhouseCoopers management consultants suggest firms should focus on key performance indicators that review program rollouts, personal observations, periodic pulse surveys, and use of tools that support implementation of business objectives (Anderson & Smit, 2019). On a positive note, Gomes et al. (2013) offer, "M&A that show fit between recommended and actually applied post-merger integration approach outperform those that implemented a 'wrong' inappropriate post-merger integration approach" (p. 26). HR practices can influence motivation and commitment, which will also positively influence knowledge transfer and integration capabilities (Gomes et al., 2013).

An additional note about measuring culture should be elaborated as it relates to measuring M&A activity. For years, researchers have relied on cultural studies that define culture by country, by social or personal orientation, or by "creating a country-level formative index in which an overall construct's validity is measured primarily by its predictive ability" (Caprar et al., 2015, p. 1013). Hofstede's work (Hofstede et al., 1990) or the findings of the GLOBE study (Javidan et al., 2005) are classic examples. Caprar et al. (2015), in an introduction to a special research issue that looks at conceptualizing and measuring culture, note there are several limitations that stem from difficulties "of defining culture in the first place" (p. 1012). They add, "there is still a lack of consensus

as to the best ways to assess culture" (p. 1012). Interestingly – the researchers use the phrase, "Rather ironically," – Caprar et al. find that the commonly used ways of measuring culture, which are supposed to "account for individual level variation," or "be a group-level construct that influences an individual," end up aggregating the results that remove real-world heterogeneity (p. 1014). They add, culture is "traditionally measured by means that cannot capture the extent to which the individual interprets and internalizes that influence" (p. 1015). Caprar et al. offer two powerful conclusions about traditional ways of measuring culture. First, they "argue that an overreliance on a single approach…perpetuates a reductionist view of a complex phenomenon like culture" (p. 1016), and second, the major driver for mainstream approaches to measuring culture is convenience, "But convenience is often associated with limited capacity in capturing the true complexity of culture" (p.1016). As will be explained next, this is also true for acquisition assessment.

## Acquisition Assessment Concerns

In 1998, Brouthers et al. note the need to measure more than one acquisition objective. Shortly thereafter, Tetenbaum (1999) suggests that the acquisition pre-assessment process needs to include first financial and strategic considerations, followed by planning for integration of "both companies' policies, systems, structures, people, and culture" (Deal Making v. Integration section). In the intervening years, however, most M&A studies focus on one measure or focus on measures of only one business discipline. More recently, while studying the determinants of international acquisition success, Duncan and Mtar (2006) find that success is a "function of the acquiring firm's prior

acquisition experience, strategic fit combined with a focus on core business, cultural fit and the integration process" (p. 408). Further, Zollo and Meier (2008) find that "no single measure captures all of the important dimensions of acquisition performance" (cited in Graebner et al., 2010, p. 86). In other words, several determinants must be considered when measuring acquisition success.

Researchers note that acquisitions are complex business activities that can be hard to measure. Nadolska and Barkema (2014) write:

> Measuring the success of acquisitions is difficult because there is such a diversity of motives behind them, from realizing economies of scale, to increasing scope and learning, to entering markets quickly, to pre-empting competitors. Success measurement is further complicated by a lack of data and by the difficulty of isolating post-merger performance from what might be considered the normal functioning of a firm. (p. 1490)

Zollo and Meier (2008) suggest, "Despite the massive amount of research done, there is little or no agreement both across and within the disciplines on how to measure acquisition performance" (p. 55). They go on to share:

> Whereas there is clearly value in having different approaches to measuring acquisition performance, as different metrics shed light on different aspects of the complex acquisition process, the paucity of theoretical explanation, as well as of empirical validation, of the relationship among all these measures might present an important limiting factor for the development of scholarship in the field. (Zollo & Meier, 2008, p. 56)

Graebner et al. (2010), speaking to challenges encountered in technology acquisitions, write, "this question is complicated by the diversity of motives…which makes it difficult to define and measure success" (p. 81).

In contrast, Meglio and Risberg (2010) believe that "the question of finding a coherent answer to the question of M&A failure and success becomes irrelevant as each

M&A is different, with different motives and objectives" (p. 88). They recommend that M&As should be studied using a process-oriented, longitudinal, ethnographic approach and state, "Processual research requires and implies a close engagement with the research setting" (Meglio & Risberg, 2010, p. 90). Whether adopting a position that puts the researcher in proximity with the subjects being studied or relying on existing archival data, the research seems to clearly indicate that only measuring one aspect of an acquisition will produce unreliable or limited results.

## A New Approach

Research to date predominantly focuses on the extent a financial or accounting gain is realized or destroyed (Renneboog & Vansteenkiste, 2019), or whether a strategic motivation is achieved (Brouthers et al., 1998), or whether firm or cultural integration is realized (Cartwright & Cooper, 1993; Marks & Mirvis, 2011), as independent factors that are used to describe the success or failure of acquisitions. Perhaps, Marc Epstein said it best when he wrote:

> For decades, success and failure in M&A has been studied in terms of narrow and uninformative measures, such as short-term stock price, leading to the aforementioned claims that most mergers fail. Many have taken this finding at face value, moving on to the search for causes of failure, which include culture clash, lack of synergies, and flawed strategy. All things considered, the study of M&A desperately needs a new perspective and a new framework for analysis. (2005, p. 37)

Shortly thereafter, though not connected to Epstein's effort, two studies attempt to overcome this deficiency. In the first, Schoenberg (2006) considers what might be referred to as the four most commonly used measures of acquisition performance and focuses on potential correlations between the variables to evaluate the outcomes of 61

U.K.-based acquisitions from 1988 to 1990. Schoenberg finds that CAR as used in this context is an indicator of the effect of acquisition announcement on stock price, but not a valid predictor of acquisition success. He also finds that divestiture is not a valid performance indicator. In the second study, Papadakis and Thanos (2010) use Schoenberg's model to

evaluate the outcomes of 50 Greek domestic acquisitions the occurred between 1997 and 2003. Table 4 compares the performance measures considered in these two studies.

**Table 4.** Comparison of Influential Prior Study Research Measures

| Schoenberg (2006) | Papadakis & Thanos (2010) |
|---|---|
| CAR | ROA |
| Manager's subjective assessment | CAR |
| Expert informants' subjective assessment | Manager's subjective assessment |
| Divestiture | |

*Source:* Author

While Papadakis and Thanos (2010) base their effort on the method used by Schoenberg, they elect to add ROA as an accounting-based measure and exclude divestiture. Papadakis and Thanos, like Schoenberg, also find that CAR is not a valid predictor, but did find a statistically significant correlation between managers' subjective assessment and ROA. These studies are important additions to the literature and a multi-measure approach should be relied upon for future studies on acquisition performance. In like

manner, the present study proposes researchers should use a holistic approach to evaluate acquisition performance.

The importance of these two studies as the initial methodological framework for this study came to the forefront following a conversation with my dissertation mentor. At the time, I was focusing on trying to research manager motivations. Dr. Guillotin commented he would be more interested in a reliable measure of success. I went back to *Google Scholar* and searched for "acquisition reliable success measure." The first article in the search result was Schoenberg (2006). I had previously saved and skimmed this article, however, reading the paper with this new perspective brought new ideas to mind. At the time, October 30, 2020, I made the following entry in my analytical memo:

> I find myself wondering what adjustments I should or need to make. Perhaps, I could use this article to help with methodology, meaning I could recreate his effort with Cisco, or find some correlation between a method of my design and his. I need to decide what to do.

This article became the catalyst for the ongoing study development and is a foundation for the initial methodology I employ.

This literature review presents some useful definitions, considers the historical practices for measuring acquisition performance, offers what appear to be limitations in former measurement practices, and considers a multi-faceted approach for moving forward. What is clear is there is little consensus amongst researchers for everything from defining an acquisition to measuring success. Also clear is the need to consider multiple measures when measuring acquisition performance. While research points to the need to consider a multi-faceted approach, few studies have attempted to do so (Papadakis & Thanos, 2010; Schoenberg, 2006). This study attempts to fill that gap by using a mixed-

method approach to review the outcomes of multiple acquisition performance measures, from the buyer's or acquiring firm's perspective.

As mentioned, I use a random sampling of 50 completed Cisco acquisitions for the case study portion of this study. A reliance on Cisco acquisitions for research has been used by others (Appelbaum et al., 2013; Mayer & Kenney, 2004; Toppenberg et al., 2016; Toppenberg et al., 2015). Table 5 summarizes four recently published case studies involving Cisco and notes the purpose and sample of each. These studies are

**Table 5.** Comparison of Cisco-focused Case Study Research Purpose and Sample

| Author (Date) | Purpose | Sample |
|---|---|---|
| Mayer & Kenney (2004) | Understand what make's Cisco's acquisition strategy successful. | Two rounds of interviews (49 and 15, respectively) and internal document review. |
| Applebaum et al. (2013) | Learn how culture, communication, and leadership influence acquisition success. | Review ten case studies, one of which concerned Cisco's acquisitions of StrataCom and Cerent. |
| Toppenberg et al. (2015) | Demonstrate how Cisco's enterprise architecture facilitates acquisition success. | Primary researcher first-hand knowledge, 22 interviews, and review of one Cisco acquisition (NDS Group, Ltd.). |
| Toppenberg et al. (2016) | Understand how platform leaders manage platform core innovation through acquisitions. | Nomothetic analysis of Cisco acquisitions by conducting 26 interviews |

*Source:* Author

noteworthy as they support the case study methodology used in this instance. In further support, Meglio and Risberg (2010) posit that M&A studies should be completed using

qualitative methods and Duncan and Mtar (2006) write, "a firm-level focus is needed in order to uncover the mechanisms at play in the success of M & As" (p. 396).

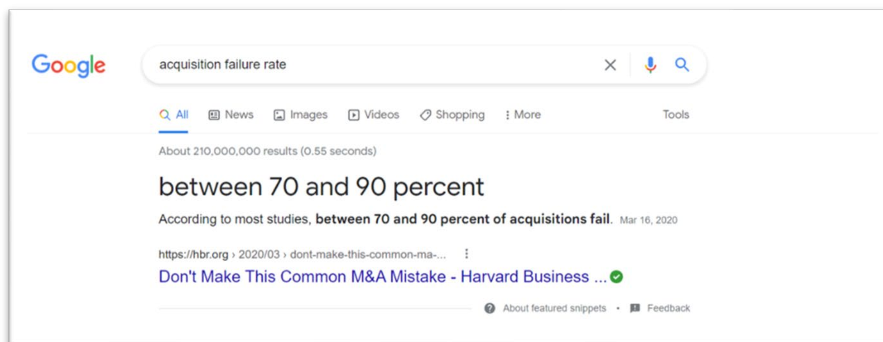
The mixed-method approach should allow for a more detailed review of Cisco's completed acquisition transactions than might be possible with the data gathering techniques normally used in studies only involving quantitative research. Additionally, qualitative research provides rich insights into concepts such as "black box" processes, "lived experiences," and "sensemaking" in an organization (Bartunek et al., 2006; Lincoln, 2005; Weick, 1995). This study uses a qualitative research methodology to better "understand people and what they say and do" (Myers, 2020, p. 5) in a post-acquisition environment, using Cisco acquisitions as a source of best practices. Much like NEC of the 80's and 90's, Cisco has identified and developed core competencies (Prahalad & Hamel, 1990) that have propelled the organization to success. This study evaluates how the use of multiple M&A measures helps to create a more reliable measure of acquisition success. This study also considers financial, strategic, and organizational perspectives, normally measured separately, as a multi-faceted approach where these factors will be considered simultaneously (Larsson & Finkelstein, 1999). The hoped-for outcome is a more reliable way to assess acquisition success.

# CHAPTER 3

## STUDY 1 – LIMITATIONS OF COMMONLY-USED ACADEMIC ACQUISITION ASSESSMENT MEASURES

In a March 2020 *Harvard Business Review* article, one author writes, "According to most studies, between 70 and 90 percent of acquisitions fail" (Kenny, 2020, p. 2). The author's cited "studies" specifically refers to another *Harvard Business Review* article written nine years earlier. In the 2011 article, different authors make the same claim when they write, "study after study puts the failure rate of mergers and acquisitions somewhere between 70% and 90%" (Christensen et al., 2011). This second group does not offer a source for their statistics. In October 2021, I conducted an internet search, using *Google.com*, for "acquisition failure rate." The very first response, in bold, at the top of the webpage reads, "between 70 and 90 percent." Figure 4 is a screenshot of the search result. The 2020 and 2011 *Harvard Business Review* articles are the first and second

**Figure 4**. First Internet Search Response for "acquisition failure rate"




*Source*: *Google.com* search: "acquisition failure rate," most recently run March 11, 2022

search results, respectively. Unfortunately, this statistic, and the math behind it, seem to control the conversation on perceived acquisition success.

Similarly, in April 2012, an author of a *CBS News* commentary writes, “Depending on whose research you choose to rely on, mergers have a failure rate of anywhere between 50 and 85 percent” (Heffernan, 2012). The commentator goes on to cite a 1999 KPMG study, where researchers found that 83% of acquisitions fail to create shareholder value (Kelly et al., 1999). In June 2019, Lakelet Capital, a private equity group that focuses on acquisitions, advertise the failure rates noted in both the Christensen et al. and the KPMG studies as reasons investors should choose Lakelet’s services (*Reasons why mergers and acquisitions fail and succeed*, 2019).

In the KPMG study just cited, TNS Harris, a for-hire market research firm, conducted confidential phone interviews with 107 companies that had completed a cross-border deal between 1996 and 1999. Interviewed directors report 82% percent of these deals are successful “in achieving the deal objectives” (Kelly et al., 1999, p. 2). During the survey TNS Harris also collected information related to what the directors said they had done to achieve success. The KPMG researchers compare the survey results to “external share price data supplied by Bloomberg” (Kelly et al., 1999, p. 5), which they use to calculate changes in shareholder value and find, as noted above, the prediction that 83% of the acquisitions failed to create or destroyed value. KPMG label the data related to success or failure as “subjective,” and discard the success statistic, but retain the data describing what enabled success. As with Lakelet Capital, KPMG published the high failure rate and in the same document go on to offer six keys to merger success, using the

same "subjective" survey data to create the keys firms could use to unlock shareholder value.

While these are just a few examples, a review of the literature clearly demonstrates finance measures, most often reported in terms of short-term event study statistics (see Appendix B), drives the conversation on acquisition failure rates. Chief Executives like John Chambers and Charlie Munger quote them (O'Mahony, 2019; Rifkin, 1997), academics use them to reinforce their arguments (Koi-Akrofi, 2016; Tetenbaum, 1999), and management consulting firms use them market their services (Kelly et al., 1999; *Reasons why mergers and acquisitions fail and succeed*, 2019). Interestingly, at the same time, there are others who offer alternative measures (Brouthers et al., 1998; Meglio & Risberg, 2010) and argue against the event study assessment altogether (Papadakis & Thanos, 2010; Porter, 1987; Schoenberg, 2006). Further, despite the reported failure rates, firms continue to engage in mergers and acquisitions at a staggering rate. On a global average, each year for the past ten years, firms have completed roughly 46,800 M&A deals, collectively valued at $3.45 trillion (IMAA, 2020). The obvious divide between the seemingly high rate of failure, as compared to an equally high level of acquisition activity leads researchers to wonder why managers continue to pursue acquisitions despite the reported failure rates (Brouthers et al., 1998; Harrison & Farrell, 2008). Perhaps, as some researchers suggest, there is something missing in the analysis (King et al., 2004; Meglio & Risberg, 2010) or the analysis needs a fresh perspective (Epstein, 2005). This first study considers the finance measures commonly used by academics to assess acquisition success and asks, "What are the

limitations of the commonly used finance measures of acquisition success," and, secondarily, if there are limitations, then what impact does that have on the ongoing conversation regarding acquisition outcomes and appropriate assessment measures.

## Research Method

This research uses a mixed-method approach to analyze acquisition transactions completed by Cisco in the hope of developing insights about how to better assess acquisition success. Cisco Systems, Inc. is purported to be the "ideal" company to analyze for acquisition process and success potential (Mayer & Kenney, 2004), is a role model for acquisition success (Chatman et al., 2005; Mayer & Kenney, 2004; Rifkin, 1997), and has completed over 200 acquisition transactions since 1993 (Cisco, 1990-2019). Relying on the literature that suggests more than one metric should be considered when measuring acquisition performance (Papadakis & Thanos, 2010; Schoenberg, 2006; Zollo & Meier, 2008), I calculate the results for two commonly used financial measures of acquisition success (e.g., CAR and ROA) and compare them to actual acquisition outcomes in terms of the managers' subjective assessment of completed Cisco acquisition transactions.

### *Cisco's Acquisition List*

This study initially focuses on a random sampling of 50 completed Cisco acquisitions with announcement dates from 1993 through 2017 (see Appendix A for the list of acquisitions in the sample). Determining the study sample is one of the first challenges I encountered, which I will now elaborate. Cisco's corporate strategy office maintains a series of webpages on Cisco's website. Users may view a list of acquisitions

sorted either by name in alphabetical order (191 acquisitions noted[2]) or by acquisition announcement date (171 acquisitions noted[2]). Surprisingly, these lists do not match. The list of acquisitions noted in the company's annual reports provide a third list (164 acquisitions noted[2]) that does not match either of the first two. An effort to combine the three lists, produces a fourth list of 211 acquisitions. Interestingly, in a 2007 press release regarding the acquisition of Latigent, LLC., Cisco indicates the Latigent acquisition is the 123rd deal (Cisco, 2007). The combined list I created for this study finds Latigent as acquisition number 117. Also, when Cisco announced the acquisition of AppDynamics in January of 2017, Cramer (2017) notes AppDynamics is the 23rd acquisition in the previous 24 months. The combined list I created for this study only notes 19 in that timeframe. Further, in 2017, when Cisco announced the India-based Cmpute.io acquisition, an accompanying news article read:

> The US-based company has been aggressively investing in the Indian market. It has also invested in over 25 startups in India, including Mobikwik and MobStac. In 2016, it had committed investments of USD 100 million to fund startups and train 2.5 lakh students in India by 2020. ("Cisco to acquire cmpute.Io to bolster cloud offerings," 2017)

Additionally, when Cisco acquired Israel's Sheer Networks (2005), Levi (2005) noted that this was Cisco's ninth acquisition in Israel. These articles suggest there are more deals transacted than reported and Cisco's deal making includes more than acquisitions.

Figure 5 displays, based on the combined list of transactions I developed, the number and value of Cisco acquisition transactions per fiscal year, along with who the CEO was at the time. Cisco has completed well over 200 acquisitions, with a purchase

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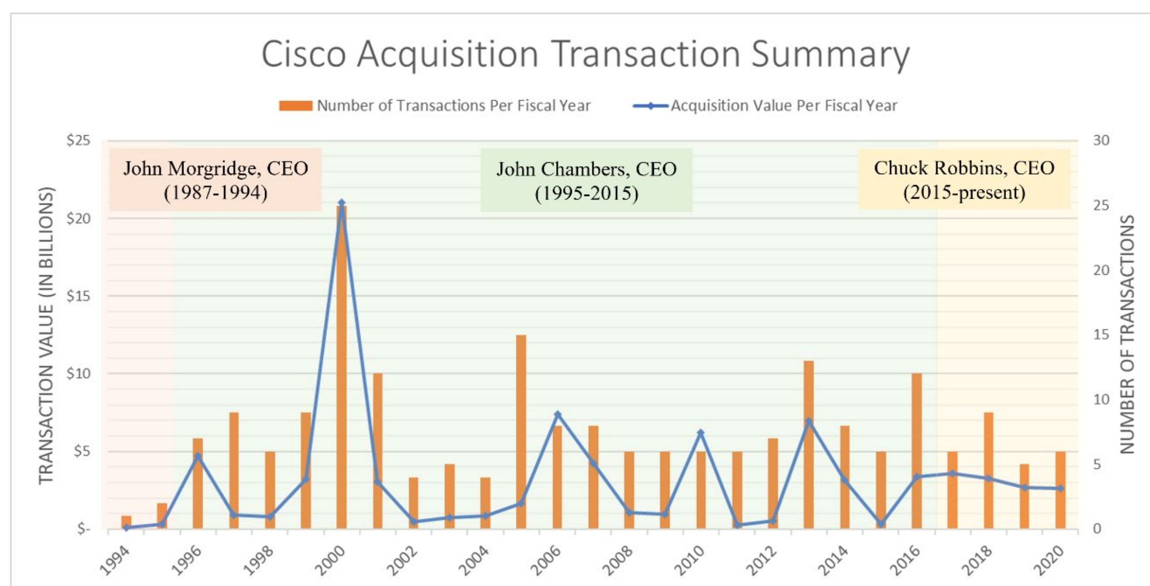
[2] The number of acquisitions noted represents acquisitions announced through 2019.

consideration valued collectively at over $85 billion, spanning three decades (Cisco, 1990-2019), and is viewed as a respected leader in acquisition success (Chatman et al., 2005; Mayer & Kenney, 2004; Rifkin, 1997; Toppenberg et al., 2015). Considering the organization's experience and perceived success, Cisco appears to be the "ideal" choice for this study (Mayer & Kenney, 2004).

**Figure 5.** Cisco Acquisition Transaction Summary by Year and CEO




*Note:* Data retrieved from Cisco annual reports and press releases for the period indicated.

*Source*: Author

While there seems to be a disparity between Cisco's published lists of acquisitions and the actual acquisitions that have been announced or completed, this observation should not be construed as evidence of any wrongdoing. Initially, Cisco was open about acquisition targets and transaction details including purchase consideration. Over time,

however, it is apparent they only announce or report what is required by law (Cisco, 1990-2019). This change in behavior does make difficult the task of determining an accurate acquisition list and makes it difficult to determine a success or failure percentage when the numerator and denominator are unknown. For purposes of this study, the combined list of 211 acquisitions is the basis for determining the random sample used. The random sample of 50 acquisitions, as suggested by a colleague, is determined by selecting the first and every fourth acquisition thereafter from the combined list. Refer to Appendix A for the list of acquisitions included in the study.

*Cumulative Abnormal Returns*

While this study is intended to be qualitative in nature, event study calculations are a quantitative research technique. Following the calculation parameters discussed in Schoenberg (2006), I initially attempted to complete the CAR calculations using Excel. The data necessary for these calculations includes the date, Cisco share closing price, and Nasdaq closing value for each day between March 31,1993, and December 21, 2017. This covers the period running from four months prior to the first acquisition in the sample to ten days following the last acquisition in the sample. I download these data from the *S&P Global NetAdvantage* database and export the data to an Excel workbook for the subsequent CAR calculations. I use the market model method for the calculations, which uses the formula: $A_{rit} = R_{it} – (a_i + b_i R_{mt})$, where $A_{rit}$ = the abnormal share price return of the acquiring firm $i$ on day $t$, $R_{it}$ = observed share price return of acquiring firm $i$ on day $t$, $a_i$ = market model constant for acquiring firm $i$, $b_i$ = beta of acquiring firm $i$, and $R_{mt}$ = return on the market portfolio on day $t$. The coefficients $a_i$ and $b_i$, again using the

parameters noted in Schoenberg (2006), are estimated over a 3-month period (-120 to -30 days from announcement). Abnormal returns are determined by subtracting actual returns from predicted returns, using a 21-day period spanning the announcement (-10, +10). CAR is the sum of the predicted returns for the 21-day period.

Subsequently, one reviewer shared there is a tool available through Wharton Research Data Services (WRDS) called Eventus. "Eventus performs state-of-the-art event study estimation and testing using the CRSP [Center for Research in Security Prices] stock database or other stock return data and provides fast event-oriented data retrieval from the CRSP stock database" (*Eventus home*, 2021). To use this tool, I created a text file containing the Committee on Uniform Securities Identification Procedures or CUSIP number for Cisco along with the announcement date of each of the 50 acquisitions in the sample. I uploaded the text file and selected the various test parameters. Following the details noted above, I ran a test for market model returns with an equally weighted index, using OLS as the estimation method, an estimation period of 90 days (-120, -30) and a 21-day event period (-10, +10). I also selected the options to display full details for each acquisition, the standard cross sectional Z test, and the p-values to be included with the output. Initially, I also chose alternate windows (for results display) of (-10, -2), (-1, 0), and (+1, +10). I also ran the output with the alternate window output set to (-10, +10).

While other researchers have used a variety of parameters, for example Golubov et al. (2015) uses an estimation period of 300 to 91 days prior to announcement, with a 5-day event window (-2, +2), and Haleblian and Finkelstein (1999) use a 240 estimation period and an 11-day event window, Schoenberg (2006) follows the pattern of yet other

researchers and offers the chosen estimation period and event window, “provides an event period sufficiently long to capture market reaction, yet short enough to avoid the influence of information unrelated to the announcement” (p. 365). Additionally, the market model method of calculating CAR is most appropriate in this instance because it “assumes a stable linear relation between the market return and the security return” (MacKinlay, 1997, p. 15). For purposes of this comparison, as used by previous researchers, a positive CAR predicts a successful acquisition and a negative or zero CAR predicts an unsuccessful acquisition.

*Return on Assets*

Papadakis and Thanos (2010), citing others, write, “ROA is the most appropriate ratio for measuring M&A performance. This articulation is my motivation for adding ROA to the present research. However, since they were looking at mergers their suggested method for analysis, comparing the pre-merger returns of the individual firms against the post-merger returns of the combined firms, is not appropriate for this study. More recently, Lakstutiene et al. (2015), conducted a study focused on acquisition performance and calculated ROA using the following formula: $ROA = NP/TA$, where, $NP$ = net profits and $TA$ = total assets. In the present study, initially I use Excel to calculate ROA with that formula and further follow the Lakstutiene et al. example by calculating the ROA values for the acquisition announcement quarter, as well as the four quarters preceding and four quarters following announcement. Additionally, I calculate percent changes in ROA from one quarter to the next. Although not measured in this study, Lakstutiene et al. suggest that return on equity, net profit margin, and economic value

added should also be calculated to determine the impact of acquisitions on financial results.

One reviewer suggests it would be better to use EBITDA (earnings before interest, taxed, depreciation & amortization) as the numerator and I notice others, for example Hargrave (2021), suggest the use of total average assets for the denominator. Recognizing the likelihood of a better tool or resource, I turned again to WRDS and found a link for the Financial Ratios Firm Level by WRDS (Beta) query. This query requires Cisco’s company ticker (CSCO), a date range, a query variable (ROA), and an output format. The *WRDS Industry Financial Ratio Manual* (2021) defines ROA as “Operating Income Before Depreciation as a fraction of average Total Assets based on most recent two periods” (p. 6). I use the WRDS output and this definition for all subsequent ROA calculations.

### *Managers’ Subjective Assessment*

Several published studies (Kelly et al., 1999; Papadakis & Thanos, 2010; Schoenberg, 2006) include managers’ subjective assessments in the determination of success or failure of an acquisition. While there may be some debate as to the value of this subjective assessment, I include it in the comparison. Interestingly, in the context of research, the word subjective connotes a result with less value or significance than objective. In Kelly et al., researchers discounted the subjective survey results for an objective shareholder value when describing success or failure, but then use those subjective results to develop KPMG’s six keys of unlocking M&A success. Kelly et al.’s use of the subjective data suggests these data have value. Schoenberg and Papadakis and

Thanos, along with Brouthers et al. (1998), believe the subjective assessment to be an important consideration in the success or failure determination. With these thoughts in mind, I adopt the position that the managers' subjective assessment is an appropriate benchmark for comparison.

At the inception of this study, I had hoped to conduct interviews of Cisco employees involved in the acquisition assessment process. My original desire was to determine the strategic objectives, whether Cisco achieved the strategic objectives, and whether Cisco managers perceive the acquisition to be a success. On February 3, 2021, I had the opportunity to speak with the manager of Cisco's acquisition assessment team. During our 30-minute interview, I shared the study format and the types of data I hoped to access. The acquisition team manager expressed interest in participating in the study and offered to obtain permission. I sent the employee an email outlining the specific questions I hoped to ask and data I hoped to review. I received an email response a few days later indicating Cisco legal and public relations representatives recommended against study participation. This was certainly frustrating. I was confident I would be able get access to the internal information I had hoped for. Following this setback, I turned my attention to publicly available data, in the continuing hope of determining the strategic objectives and subjective assessment.

Refocusing the data collection process on publicly available or archival data, the information I use to determine the subjective assessment comes from a variety of sources, including Cisco press releases, Cisco blog sites, Cisco annual reports, other media articles, published teaching case studies, and transcripts from financial analyst conference

calls and other Cisco Live events. In total, I review approximately 7,500 pages of text and several internet-posted video interviews. The point of the effort allows me to discover and note indications of either a positive or negative acquisition assessment.

Additionally, via e-mail, I contacted Alan R. Dennis, the John T. Chambers Chair of Internet Systems, Kelly School of Business, Indiana University to see if he had any contacts I may speak with at Cisco. He responded, indicating that he hadn't personally interacted with anyone at Cisco for over a dozen years and could only provide some humorous stories. Using LinkedIn, I sent messages to Mike Volpi, a former Cisco executive who had supervised 29 acquisitions and over 40 equity investments (Tetenbaum, 1999), to Karla Samdahl, Cisco's Vice President of Global Talent Acquisition, and to Hilton Romanski, former Cisco Senior Vice President and Chief Strategy Officer. Unfortunately, none of them responded. I also contacted Emelie Feldman, Associate Professor of Management, The Wharton School, University of Pennsylvania, who graciously shared a case study.

## Results

From the outset, I hoped, using personal interviews of Cisco employees and access to internal financial information, to discover revenues or income produced by a given acquisition against the purchase consideration, the managers' subjective assessment, and, if possible, the strategic objective, for each acquisition. I had hoped to compare the privately held information against the academia-commonly-used, publicly available data sources and see whether there is any difference in the results. With only access to publicly available data, I had to adjust the expectation and compare CAR and

ROA against the managers' subjective assessment for each of the 50 acquisitions in the sample. While good and compelling information is found and will be reported here, the results would have been benefitted by access to the internal data. This finding, which will be expounded below, is true for any acquisition study. Publicly available data can be helpful in answering study questions but will not necessarily produce the same clarity of results that harder-to-obtain internal data would. Data proxies are only so good. The observation by King et al. (2004) that data quality may sometimes be sacrificed for data availability became necessary for this study, but is not the original desire. Further, the idea that the best way to conduct acquisition studies is to use a longitudinal, ethnographic approach (Meglio & Risberg, 2010) may be considered extreme by some, but may not be far from the truth.

Those points made, this study does produce meaningful and usable findings that should be considered in future studies. The effort finds important results related to each of the study dimensions. The results will touch on CAR relevance to acquisition studies, problems with the use of CAR for serial acquirers, and CAR values for Cisco acquisitions. The results will also show the ROA values for the sample acquisitions, limitations with the use of ROA for serial acquirers, and a potential limitation with ROA as a success measure for acquisitions. Finally, I found a subjective assessment for 24 of the acquisitions and will report related observations.

### *Cumulative Abnormal Returns*

As I note above, the potential value of CAR, in the context of acquisitions, is to predict "changes in stockholder value" (Lubatkin, 1987, p. 42) when an announcement is

made. Haleblian and Finkelstein (1999) add that "event study methodology has predictive validity" (p. 42), suggesting that the predicted change in share value could be used as a proxy for determining acquisition success. Pragmatically, it is absurd to think an acquisition, which may take years to produce products and revenues or fully integrate, can be judged as a success or failure based on a predicted stock price change due to a firm's announcement of an intent to acquire. Epstein (2005) argues "Evaluating merger success based on short-term changes in stock price is ridiculous" (p. 46) and Zollo and Meier (2008) refer to CAR as a "collective bet" on acquisition performance when "virtually no information about what the acquiring company will actually do to manage the acquisition" is known (p. 65). And yet the message that acquisitions fail most of the time, based primarily on CAR findings, has perpetuated for decades. Michael Porter argued against it in 1987. John Chambers quoted it in 1997. In 2014, Tochukwu Akunna, an investment banking manager, wrote, "In fact, it has been proven that 50% of the world acquisitions fail" (Akunna, 2014, p. 1). The louder voice in the conversation needs to reset this exchange and inform researchers and practitioners that "the CAR measure should not be used as it does not measure realized performance" (Papadakis & Thanos, 2010, p. 869), rather it measures the predicted influence of the announcement on stock price.

Considering that reality, I complete the CAR calculations as a point of comparison. As mentioned previously, I initially use Excel to complete these calculations. This process took a considerable amount of time as I taught myself how to complete the calculations in Excel, complete them, realize I had calculated using dollar

change in stock price rather than a percent change in stock price, and then had to complete the calculations again. Feedback provided by a reviewer in July 2021, highlights the existence of the Eventus tool, which, when set up properly, quickly provides the abnormal return results. The Eventus results also provide greater visibility to trends, values, and significance. When I ran the first Eventus query using the Schoenberg parameters articulated above, I notice different results. This difference is attributed to Eventus using the CRSP index, rather than the Nasdaq index as I had done previously. Table 6 shows the CAR value for each of the 50 Cisco acquisitions in the sample, as well as the standard cross-sectional Z score and p-value.

The individual acquisition CAR values predict 20 out of the 50, or 40%, of the transactions would be successful. Or, from the negative perspective, CAR predicts a 60% failure rate. While this may seem consistent with other acquisition event study outcomes, it is interesting to note that only one of the 50 transactions (Selsius Systems, Inc.) has a CAR value that is statistically significant. Further, the mean cumulative abnormal return for all 50 transactions is -0.66%, with a p-value of 0.3079. This mean CAR result would predict that, on average, Cisco acquisitions destroy value, but this result is not statistically significant. This suggests, at least in the case of the Cisco acquisitions in the sample, we cannot rely on CAR as the predictor of success or failure of the Cisco transactions.

While the Cisco result is interesting and seems to provide support for the proposition that there are limitations with using CAR as an acquisition success predictor, I found myself asking, “Is this result specific to Cisco and the sample acquisitions or

**Table 6.** Cisco Sample Acquisition Cumulative Abnormal Returns

| Acquisition | CAR (-10, +10) | StdCsect Z | p-value |
|---|---|---|---|
| Crescendo Communications, Inc. | -6.48% | -0.489 | 0.3124 |
| Combinet, Inc. | 3.09% | 0.288 | 0.3867 |
| TGV Software, Inc. | 8.23% | 0.608 | 0.2718 |
| Granite Systems, Inc. | 0.78% | 0.073 | 0.4710 |
| SkyStone Systems Corp | -2.09% | -0.128 | 0.4490 |
| LightSpeed International, Inc. | -1.61% | -0.163 | 0.4354 |
| CLASS Data Systems | 12.25% | 1.131 | 0.1290 |
| Selsius Systems, Inc. | -22.68% | -2.122 | 0.0169* |
| GeoTel Communications Corp. | -9.92% | -0.720 | 0.2357 |
| Calista, Inc. | 14.48% | 1.106 | 0.1345 |
| Cocom A/S [i] | 7.94% | 0.632 | 0.2638 |
| V-Bits, Inc. | -5.70% | -0.567 | 0.2854 |
| Altiga Networks [ii] | -14.79% | -1.428 | 0.0767 |
| JetCell, Inc. | 15.94% | 1.283 | 0.0998 |
| ArrowPoint Communications, Inc. | -19.87 | -1.417 | 0.0782 |
| Netiverse, Ltd. [iii] | -5.08% | -0.257 | 0.3986 |
| PixStream, Inc. | -11.22% | -0.602 | 0.2735 |
| Active Voice Corporation | 10.47% | 0.700 | 0.2420 |
| Allegro Systems, Inc. | 20.81% | 0.876 | 0.1904 |
| Psionic Software, Inc. | -13.01% | -0.722 | 0.2352 |
| Andiamo Systems, Inc. [iv] | -6.49% | -0.382 | 0.3512 |
| Procket Network, Inc. | 6.97% | 0.819 | 0.2064 |
| NetSolve, Inc. | -6.05% | -0.906 | 0.1825 |
| BCN Systems, Inc. | -1.53% | -0.187 | 0.4260 |
| Sipura, Inc. | 6.58% | 0.889 | 0.1870 |
| Sheer Networks, Inc. | -3.30% | -0.600 | 0.2743 |
| Metreos Corporation | -0.10% | -0.015 | 0.4942 |
| Orative Corporation | -3.03% | -0.289 | 0.3862 |
| Reactivity, Inc. | -8.59% | -1.252 | 0.1052 |
| Latigent, LLC. | -10.10% | -1.433 | 0.0760 |
| DiviTech A/S | 4.93% | 0.635 | 0.2628 |
| Richards-Zeta Building Intelligence | -1.32% | -0.111 | 0.4557 |

**Table 6.** (continued)

| **Acquisition** | **CAR (-10, +10)** | **StdCsect Z** | **p-value** |
|---|---|---|---|
| Starent Networks, Corp. | 3.64% | 0.566 | 0.2856 |
| CoreOptics, Inc. | -4.97% | -1.037 | 0.1499 |
| Inlet Technologies | -7.13% | -0.741 | 0.2293 |
| Versly | 6.60% | 1.060 | 0.1445 |
| ClearAccess | 1.00% | 0.176 | 0.4301 |
| ThinkSmart Technologies | -0.46% | -0.055 | 0.4780 |
| Cariden Technologies, Inc. | 11.23% | 1.519 | 0.0643 |
| SolveDirect | -4.58% | -0.773 | 0.2199 |
| Sourcefire | -0.71% | -0.082 | 0.4674 |
| Tail-f Systems | -4.07% | -0.868 | 0.1927 |
| Memoir Systems | 1.47% | 0.286 | 0.3874 |
| Piston Cloud Computing | -1.83% | -0.263 | 0.3962 |
| Portcullis | 5.76% | 1.351 | 0.0884 |
| Acano Limited | -0.80% | -0.150 | 0.4403 |
| Synata | -2.42% | -0.377 | 0.3531 |
| AppDynamics, Inc. | 4.85% | 1.128 | 0.1296 |
| Observable Networks, Inc. | -1.70% | -0.322 | 0.3736 |
| Cmpute.io | 1.48% | 0.373 | 0.3547 |
| Cumulative Results | -0.66% (Mean) | -0.502 | 0.3079 |
| Acquisitions with CAR > 0% | 20 | | |
| % of Acquisitions with CAR > 0% | 40% (predicted success rate) | | |

*Notes:* * $p < 0.05$; Market Model Abnormal Returns, Equally Weighted Index

*Source:* Author

[i] Calista, Inc. and Cocom A/S closed during the same quarter.
[ii] V-Bits, Inc. and Altiga Networks closed during the same quarter.
[iii] ArrowPoint Communications, Inc. and Netiverse, Ltd. closed during the same quarter.
[iv] Psionic Software, Inc. and Andiamo Systems, Inc, closed during the same quarter.

would a similar result be found in other companies?" With this question in mind, in August 2021, I began thinking about what other companies I might compare for this analysis. I decided it would be helpful to focus on companies that were serial acquirers but are from a smattering of industries and run the data analysis for acquisitions announced in the past ten years. I decided to include some high-tech manufacturers (e.g., Apple, IBM, and Intel), software companies (e.g., Microsoft and Salesforce), pharmaceuticals (e.g., Novartis and Pfizer), a medical device manufacturer (e.g., Boston Scientific), and three companies that had a history of acquisitiveness, but were in different industries altogether (e.g., Amazon, CEMEX, and GE). I had also added Nortel Networks, a former Cisco competitor, to the list, but prior to what I had hoped to use as a sample period, Nortel ended business operations, due to bankruptcy and other criminal proceedings. Interestingly, portions of the business have been acquired by various firms including Apple and Microsoft ("Key dates in nortel networks' history," 2013).

With the sample firms in mind, I next need to determine the acquisition list for each and obtain the acquisition announcement dates so I could create the data files and run the Eventus queries. Initially, I attempted to use *Mergent Online*. Very quickly, however, I noticed some inconsistencies with the acquisition lists. In February 2021, Apple CEO, Tim Cook, told shareholders that Apple had completed 100 acquisitions in the past 6 years, at a rate of one every 3 to 4 weeks (Harper, 2021). *Cruchbase.com* notes only 123 since inception, *Wikipedia.com* 121, *acquiredby.co* notes only 114, and *Mergent Online*, with data only through 2018, shows just 76. A similar problem is evident with the

Cisco and Amazon acquisition numbers in the search results. Unable to overcome these inconsistencies, I abandoned *Mergent Online* as a viable source for this information.

Searching for a more reliable source for acquisition lists, I came across the *Thomson ONE* database. Conducting a search for acquisitions by firm, I found the *MarketLine* financial deal analyst reports for each company in the sample. These reports include the acquisition numbers and announcement dates I sought, but also contain other financial deal types, including capital raising, corporate venturing, divestments, partnerships, and private equity deals. While the present study is focused on acquisitions, some interesting patterns are evident in deal types in some industries. Additionally, considering all the financial deal types listed, it is apparent the Apple number of transactions noted above includes these additional deal types. One concern I observe in the literature, in news reporting, and other conversations is the tendency for those involved to lump together several types of transactions under the label M&A. This may contribute to some of the inconsistent results over time. Table 7 shows a comparison of the count of financial deals by type for the past ten years.

Counting Cisco, this larger sample includes 12 firms, consisting of 600 acquisition transactions[3]. I ran the Eventus queries, using the same parameters as before (90-day estimation period, 21-day event period). Table 8 is a summary of the results by firm. Interestingly, while most of the mean CARs are negative and predict failure rates that range from 39% to 65%, referring to the standard cross-sectional Z test, only one of the firms has a statistically significant result. As with Cisco, these results lead to the

[3] There are 635 transactions in the sample, but 35 transactions were announced on dates not included in the Eventus CRSP index and dropped from the calculation results.

**Table 7.** Count of Financial Deals by Firm, Type, and Acquisition % (2011-2021)

| Firm | Acquisitions (ACQ) | Capital Raising | Corporate Venturing | Divestments | Partnership | Private Equity | Totals by Firm | ACQ % of Total Deals |
|---|---|---|---|---|---|---|---|---|
| Amazon | **57** | 19 | 32 | 3 | 10 | 0 | 121 | 47.11% |
| Apple | **90** | 65 | 3 | 1 | 13 | 2 | 174 | 51.72% |
| Boston Sci | **34** | 18 | 21 | 7 | 13 | 0 | 93 | 36.56% |
| CEMEX | 7 | 18 | 1 | **23** | 2 | 0 | 51 | 13.73% |
| Cisco | **87** | 25 | 72 | 17 | 14 | 2 | 217 | 40.09% |
| GE | 108 | 15 | 52 | **142** | 118 | 0 | 435 | 24.83% |
| IBM | **91** | 40 | 15 | 31 | 39 | 0 | 216 | 42.13% |
| Intel | 54 | 29 | **276** | 82 | 14 | 0 | 455 | 11.87% |
| Microsoft | **106** | 35 | 37 | 11 | 72 | 1 | 262 | 40.46% |
| Novartis | 27 | 19 | 73 | 32 | **160** | 0 | 311 | 8.68% |
| Pfizer | 28 | 27 | 52 | 21 | **99** | 0 | 227 | 12.33% |
| Salesforce | **65** | 22 | 54 | 2 | 4 | 0 | 147 | 44.22% |

*Note*: There is some discrepancy in the MarketLine reports between the summary number of acquisitions provided in the report compared to a count of individual acquisition transactions listed in the report that is not explained. The ACQ numbers in this table also include acquisitions that were announced on dates the market was closed, which could not be included in the N that is used for the CAR statistical analysis.

*Source*: Author, using data from “MarketLine Financial Deals” Reports, 2011 to 2021.

**Table 8**. Comparison of CAR Returns for Twelve Sample Firms.

Market Model Abnormal Returns, Equally Weighted Index (-10, +10 days)

| Firm | N | Mean CAR | Predicted Failure Rate | StdCsect Z | p-value | Generalized Sign Z | p-value |
|---|---|---|---|---|---|---|---|
| Amazon | 40 | -1.00% | 58% | -0.598 | 0.2749 | -0.728 | 0.2334 |
| Apple | 70 | 0.30% | 50% | 0.262 | 0.3965 | 0.205 | 0.4190 |
| Boston Sci | 32 | -0.66% | 53% | -0.646 | 0.2592 | 0.083 | 0.4670 |
| CEMEX | 5 | -2.02% | 60% | -0.311 | 0.3780 | -0.249 | 0.4015 |
| Cisco | 50 | -0.66% | 60% | -0.502 | 0.3079 | -1.229 | 0.1095 |
| GE | 95 | 0.29% | 47% | 0.866 | 0.1933 | 1.043 | 0.1484 |
| IBM | 80 | -0.85% | 63% | -1.438 | 0.0753 | -2.318 | 0.0102* |
| Intel | 47 | -1.70% | 57% | -1.204 | 0.1143 | -1.167 | 0.1216 |
| Microsoft | 76 | -0.77% | 54% | -0.815 | 0.2075 | -0.352 | 0.3624 |
| Novartis | 25 | -0.20% | 48% | 0.041 | 0.4837 | 0.445 | 0.3282 |
| Pfizer | 23 | 0.93% | 39% | 0.851 | 0.1975 | 1.196 | 0.1158 |
| Salesforce | 57 | -3.09% | 65% | -2.717 | 0.0033* | -2.058 | 0.0198* |

*Source*: Author; * $p = < 0.05$

conclusion that CAR is not a useable predictor of the success or failure of the acquisitions for 11 of these 12 firms. Looking at the individual transactions, only 74 of the 600 acquisitions have a statistically significant result, 39 of which (52.7%) predict a positive outcome.

Another observation should be noted. For IBM, the Generalized Sign Z test shows a statistically significant result (0.0102), however, if the results are broken into separate event windows of (-10, -2), (-1, 0), and (+1, +10) as some might, then the p-values for the IBM acquisitions, in those periods, would be 0.2258, 0.2258, and 0.2983, respectively (see Appendix E for the full list of the multi-firm CAR results reported in the alternate event window format). That result seems counterintuitive and leads me to wonder whether prior studies that lump large numbers of acquisitions by industry, or region, or that are all listed on an exchange during a defined period, can experience a similar statistical result. More specifically, I wonder whether CAR p-values will appear more statistically significant when more transactions are included in the calculation than when the calculation is run at the firm or individual transaction level.

Mcwilliams et al. (1999) found there are issues in the use of the event study method. Some of these issues include: event studies only provide a single indicator of performance change; research that uses only event studies is not always appropriate and not consistently well executed; and they express concerns with study design, determining when the event occurred, sample size (they suggest the need for an $n \geq 30$), and a short event window, preferring a 3-day (-1, 1) window (to isolate effects of the announcement). They also describe how leakage of information can influence the outcomes and

specifically call out, in the case of acquisitions, the possibility that "investors may have already fully capitalized the information in the stock price" by the time the event occurs. These researchers conclude by offering if one is responsible to multiple stakeholders, then assessment measures used should measure the impact for each of the stakeholder groups.

Regarding study design, Mcwilliams et al. (1999) made two comments that I incorporate into this effort. First, they suggest anything longer than a 3-day event window will lead to "spurious" results. Second, as noted above, the sample needs to have a sufficiently sized *n*. During the dissertation proposal defense, one committee member, Lalitha Naveen, made a similar comment (personal communication, October 29, 2021) and wanted to see the results with a larger sample. So, with these thoughts in mind, I re-ran the Eventus queries for the Cisco sample and the combined sample of 600 transactions. While there is no specific guidance about the estimation period, I have also been worried that the 90-day period (used by Schoenberg, 2006), considering Cisco's highly acquisitive nature, may not be appropriate. To this point, I also ran the queries with a 300-day estimation period. Table 9 shows the comparison of the outcomes for the random sampling of Cisco transactions and Table 10 shows the outcomes for the larger sample of 600 acquisitions.

These results provide some interesting observations. The mean CAR results for the 300-day estimation period are slightly better than for the 90-day period. The Cisco CAR results, while small in value, and not statistically significant, are positive with the

**Table 9.** Cisco CAR with Adjusted Event and Estimation Periods.

**Cisco (*n* = 50) CAR Results**

| Criteria (event/estimation period) | Mean CAR | Positive: Negative | StdCsect Z | p-value |
|---|---|---|---|---|
| (-1, 1) / 90-day | 0.20% | 27:33 | 0.718 | 0.2365 |
| (-1, 1) / 300-day | 0.26% | 30:20 | 0.668 | 0.2521 |
| (-10, 10) / 90-day | -0.66% | 20:30 | -0.502 | 0.3079 |
| (-10, 10) / 300-day | 0.20% | 23:27 | 0.128 | 0.4490 |

*Source*: Author

shorter event windows and the longer estimation period. The Cisco 3-day event, 300-day estimation period results (*n*=50), if significant, would suggest a 60% acquisition success rate, which is closer to the John Chambers' suggested success rate (Bort, 2015). The longer estimation period, however, produces less statistically significant results. While some may simply conclude these results are not statistically different than zero, the

**Table 10.** Combined Sample CAR with Adjusted Event and Estimation Periods.

**Combined Sample (*n* = 600) CAR Results**

| Criteria (event/estimation period) | Mean CAR | Positive: Negative | StdCsect Z | p-value |
|---|---|---|---|---|
| (-1, 1) / 90-day | -0.17% | 284:316 | -1.332 | 0.0914 |
| (-1, 1) / 300-day | -0.12% | 288:312 | -1.246 | 0.1064 |
| (-10, 10) / 90-day | -0.70% | 271:329 | -1.506 | 0.0660 |
| (-10, 10) / 300-day | -0.40% | 270:330 | -1.129 | 0.1294 |

*Source*: Author

insignificant results still lead to the conclusion that CAR is not a useful measure of success or failure in the case of these transactions.

*Return on Assets*

With respect to ROA, using the WRDS financial ratios query, I downloaded Cisco's quarterly ROA for each fiscal quarter[4] from October 31, 1991, to July 31, 2020, and align the sample acquisitions with the quarter in which the acquisition is announced. I refer to this as the ROA announcement quarter. WRDS calculates ROA using EBITDA divided by total average assets (the average of the current quarter and prior quarter total assets). Using Excel, I created a table that captures the quarterly ROA for each acquisition for the announcement quarter and the even numbered quarters through 12 quarters (3 years) following the announcement quarter. I then calculate the percent change between the announcement quarter to year 1, to year 2, and to year 3 for each acquisition. Table 11 summarizes the comparison of ROA change for each of the 3 years following the announcement of each acquisition in the sample, and the average change over the 3-year period for all the acquisitions in the sample. The results after one year seem to indicate a decrease in ROA for 30 of the acquisitions and an overall decrease in ROA of -7.80%. The year two and year three results portray an outcome that seems even more grim in the ROA values, though the average ROA improves in year 3 (-14.44%) as compared to year 2 (-16.75%), and in terms of the number of transactions with a positive ROA. See Appendix F for a table listing the ROA values by quarter and Appendix G for a graphical representation of that data.

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[4] Cisco operates on a fiscal year running from July 1 to June 30, with quarters ending in January 31, April 30, July 31, and October 31.

**Table 11.** ROA Change – Comparison to Announcement Qtr. (Cisco Sample)

| **Acquisition** | **1 Year Change** | **2 Year Change** | **3 Year Change** | **Average by Acquisition** |
|---|---|---|---|---|
| Crescendo Communications, Inc. | 4.49% | -5.81% | -4.15% | -1.83% |
| Combinet, Inc. | 0.00% | 1.76% | -8.82% | -2.35% |
| TGV Software, Inc. | 1.42% | -19.34% | -33.81% | -17.24% |
| Granite Systems, Inc. | -10.40% | -27.04% | -41.94% | -26.46% |
| SkyStone Systems Corp | -16.52% | -26.78% | -50.43% | -31.25% |
| LightSpeed International, Inc. | -17.93% | -63.74% | -51.07% | -44.25% |
| CLASS Data Systems | -12.29% | -40.63% | -77.71% | -43.54% |
| Selsius Systems, Inc. | -20.43% | -45.37% | -84.32% | -50.04% |
| GeoTel Communications Corp. | -27.08% | -44.42% | -95.49% | -55.66% |
| Calista, Inc. | -31.34% | -80.30% | -59.70% | -57.11% |
| Cocom A/S* | -31.34% | -80.30% | -59.70% | -57.11% |
| V-Bits, Inc. | 34.95% | -80.65% | -16.67% | -20.79% |
| Altiga Networks* | 34.95% | -80.65% | -16.67% | -20.79% |
| JetCell, Inc. | -23.78% | -93.81% | -46.25% | -54.61% |
| ArrowPoint Communications, Inc. | -62.46% | -61.75% | -39.30% | -54.50% |
| Netiverse, Ltd. | -76.84% | -52.63% | -38.95% | -56.14% |
| PixStream, Inc.* | -71.30% | -41.30% | -24.35% | -45.65% |
| Active Voice Corporation | -85.66% | -38.25% | -27.89% | -50.60% |
| Allegro Systems, Inc. | 1.87% | 61.68% | 85.98% | 49.84% |
| Andiamo Systems, Inc. | 28.89% | 57.78% | 80.00% | 55.56% |
| Psionic Software, Inc.* | 28.89% | 57.78% | 80.00% | 55.56% |
| Procket Network, Inc. | 20.10% | 24.12% | 11.06% | 18.43% |
| NetSolve, Inc. | 14.08% | 1.88% | -1.88% | 4.69% |
| BCN Systems, Inc. | 9.42% | 4.48% | -1.79% | 4.04% |
| Sipura, Inc. | 6.96% | -1.74% | -6.52% | -0.43% |
| Sheer Networks, Inc. | 3.35% | -7.53% | -13.81% | -6.00% |
| Metreos Corporation | -10.53% | -16.60% | -30.77% | -19.30% |
| Orative Corporation | -3.69% | -7.83% | -33.64% | -15.05% |
| Reactivity, Inc. | -4.87% | -18.14% | -35.84% | -19.62% |
| Latigent, LLC. | -4.31% | -31.10% | -29.67% | -21.69% |
| DiviTech A/S | -16.99% | -27.67% | -33.01% | -25.89% |
| Richards-Zeta Building Intelligence | -29.65% | -23.62% | -32.66% | -28.64% |
| Starent Networks, Corp. | 2.08% | -11.81% | -4.86% | -4.86% |
| CoreOptics, Inc. | -7.38% | -2.68% | -1.34% | -3.80% |
| Inlet Technologies | 1.43% | 5.00% | -5.00% | 0.48% |

**Table 11.** (Continued)

| Acquisition | 1 Year Change | 2 Year Change | 3 Year Change | Average by Acquisition |
|---|---|---|---|---|
| Versly | 7.87% | 12.60% | -5.51% | 4.99% |
| ClearAccess | 3.52% | -6.34% | -7.75% | -3.52% |
| ThinkSmart Technologies | 4.38% | -12.41% | -8.03% | -5.35% |
| Cariden Technologies, Inc. | -0.68% | -16.89% | -10.81% | -9.46% |
| SolveDirect | -9.52% | -10.88% | -9.52% | -9.98% |
| Sourcefire | -12.24% | -10.20% | -10.88% | -11.11% |
| Tail-f Systems | 2.33% | 1.55% | -3.88% | 0.00% |
| Memoir Systems | 5.00% | 3.33% | -2.50% | 1.94% |
| Piston Cloud Computing | -0.76% | -6.06% | -12.88% | -6.57% |
| Portcullis | -1.59% | -7.14% | -1.59% | -3.44% |
| Acano Limited | -2.27% | -12.12% | -3.79% | -6.06% |
| Synata | -6.02% | -12.78% | 1.50% | -5.76% |
| AppDynamics, Inc. | -10.08% | -1.55% | 25.58% | 4.65% |
| Observable Networks, Inc. | -7.26% | 18.55% | 39.52% | 16.94% |
| Cmpute.io | 9.48% | 39.66% | 39.66% | 29.60% |
| Average ROA by Year | -7.80% | -16.75% | -14.44% | -13.00% |
| Count of ROA > 0 | 20 | 13 | 8 | 12 |
| Presumed Success % | 40% | 26% | 16% | 24% |

*Note*: *These acquisitions and the immediately preceding acquisition were both announced in the same quarter.

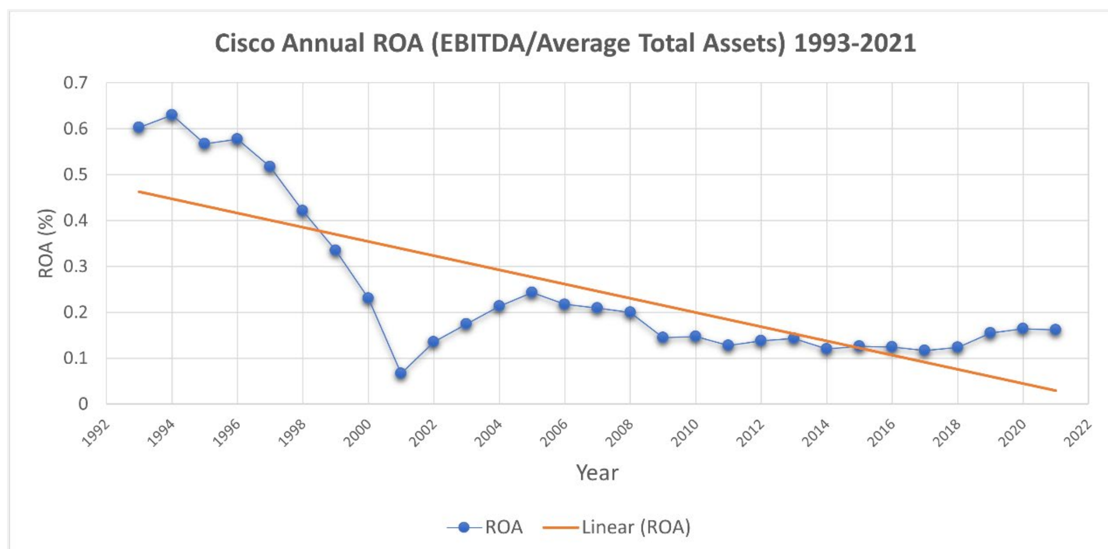
*Source*: Author

Considering Cisco's high rate of acquisitions and the obvious pattern of repeated values noted in Appendix F, it is hard to decipher any meaningful results from the ROA calculations. One might conclude ROA suggests that 84% of Cisco acquisitions fail to produce positive returns after three years. However, due to the size and value of Cisco, compared to size and value of the acquisition target, overlapping acquisition activities, and a host of other factors, the answer is not that clear. For example, there are 27 instances where acquisitions in the sample are announced in adjacent quarters. The result is evident in Appendix F, where the same quarterly ROA values are reported multiple times. Furthermore, there are at least 147 additional Cisco acquisitions, not part of the study sample, which are transacted over the sample period. The sheer volume of adjacent transactions limits the potential usefulness of ROA as an assessment measure in this case.

Further, in addition to developing quarterly ROA values, I calculate Cisco's fiscal ROAs for the period 1993 to 2021. Figure 6 shows the ROA for each fiscal year and the linear trend. During Cisco's early years, corporate ROA averages 60%, but then decreases to 6.6% in 2001, climbs to 24% in 2005, and averages 15.1% from 2006 through 2021. This observation is important as the overall annual ROA trend is evident in the quarterly acquisition ROA values. For instance, the acquisitions of Allegro Systems, Inc. was announced on July 27, 2001 (fiscal year 2002). Table 11 notes an announcement quarter ROA of 1.87% that increases sharply to 61.68% in year 1 and 85.98% in year 2, which follows the corporate ROA pattern. The sample acquisitions preceding Allegro show a sharp decline in ROA and the acquisitions following show a strong increase in

ROA. Cisco paid $164 million for Allegro. For that fiscal year, Cisco reported $1.9 billion in net income and had nearly $38 billion in assets. Allegro, which was purchased

**Figure 6.** Cisco Annual ROA Trend




*Source*: Author

to enhance Cisco's existing VPN business, is not substantial enough to be the catalyst for the ROA change. This is also the period when the "dot-com bubble" crashed (Tucci, 2014). The point is the ROA change for the sample acquisitions just discussed appears to be influenced more by firm ROA than the other way around.

One additional point should be made. There are some who would suggest that only acquisitions, the value of which was a certain percentage of some Cisco financial indicator should be included in the sample. That might be true if the study focus is to demonstrate various effects when attempting to control variables. The point of this study, however, is to find a reliable measure for all acquisition transactions, regardless of size,

not just transactions that fit certain criteria. For this reason and those articulated above, at least for Cisco, ROA does not appear to be an effective measure of determining acquisition success or failure.

*Managers' Subjective Assessment*

In addition to determining the CAR and ROA result for each Cisco acquisition in the sample, this study sought to find a specific indication of the managers' subjective assessment for the sample acquisitions. I find clear indication of a positive or negative outcome for 24 of the 50 acquisitions. Of those 24 with a noted subjective assessment, 22 or 92% are viewed to have produced favorable results and two did not. Table 12 highlights the results of the subjective assessment review and compares the subjective assessment to CAR and the one-year ROA change results. CAR agrees with the subjective assessment only 10 times (42%). ROA agrees with the subjective assessment only 9 times (38%). There are only 4 instances where all three measures suggest the same result (3 positive/1 negative). Recognizing the comparison shown is not intended to indicate statistical correlation, the comparison is interesting, nonetheless, as one contemplates, if there are limitations with the use of CAR to predict or ROA to measure the success or failure of acquisitions in Cisco's case, then what measure, or measures, should be used? The high subjective assessment outcome is higher than reported in other studies, which may lend support to the notion that Cisco is an acquisition expert.

Focusing more directly on the two subjective failures, Cisco acquired Richards-Zeta Building Intelligence in 2009. Less than two years later, Aston (2011) notes Cisco

**Table 12.** Comparison of Financial Measures to Subjective Assessment

| Acquisition | CAR | ROA (1 Year Change) | Subjective Assessment |
|---|---|---|---|
| Crescendo Communications, Inc. | -6.48% | 4.49% | Positive |
| Combinet, Inc. | 3.09% | 0.00% | N/A |
| TGV Software, Inc. | 8.23% | 1.42% | N/A |
| Granite Systems, Inc. | 0.78% | -10.40% | Positive |
| SkyStone Systems Corp | -2.09% | -16.52% | Positive |
| LightSpeed International, Inc. | -1.61% | -17.93% | Positive |
| CLASS Data Systems | 12.25% | -12.29% | Positive |
| Selsius Systems, Inc. | -22.68% | -20.43% | Positive |
| GeoTel Communications Corp. | -9.92% | -27.08% | Positive |
| Calista, Inc. | 14.48% | -31.34% | N/A |
| Cocom A/S | 7.94% | -31.34% | N/A |
| V-Bits, Inc. | -5.70% | 34.95% | N/A |
| Altiga Networks | -14.79% | 34.95% | Positive |
| JetCell, Inc. | 15.94% | -23.78% | N/A |
| ArrowPoint Communications, Inc. | -19.87 | -62.46% | Positive |
| Netiverse, Ltd. | -5.08% | -76.84% | Positive |
| PixStream, Inc. | -11.22% | -71.30% | Negative |
| Active Voice Corporation | 10.47% | -85.66% | Positive |
| Allegro Systems, Inc. | **20.81%** | **1.87%** | **Positive** |
| Psionic Software, Inc. | -13.01% | 28.89% | N/A |
| Andiamo Systems, Inc. | -6.49% | 28.89% | Positive |
| Procket Network, Inc. | 6.97% | 20.10% | N/A |
| NetSolve, Inc. | -6.05% | 14.08% | N/A |
| BCN Systems, Inc. | -1.53% | 9.42% | N/A |
| Sipura, Inc. | **6.58%** | **6.96%** | **Positive** |
| Sheer Networks, Inc. | -3.30% | 3.35% | N/A |
| Metreos Corporation | -0.10% | -10.53% | Positive |
| Orative Corporation | -3.03% | -3.69% | Positive |
| Reactivity, Inc. | -8.59% | -4.87% | N/A |
| Latigent, LLC. | -10.10% | -4.31% | N/A |
| DiviTech A/S | 4.93% | -16.99% | N/A |
| Richards-Zeta Building Intelligence | **-1.32%** | **-29.65%** | **Negative** |
| Starent Networks, Corp. | **3.64%** | **2.08%** | **Positive** |
| CoreOptics, Inc. | -4.97% | -7.38% | N/A |
| Inlet Technologies | -7.13% | 1.43% | N/A |

**Table 12.** (continued)

| Acquisition | CAR | ROA (1 Year Change) | Subjective Assessment |
|---|---|---|---|
| Versly | 6.60% | 7.87% | N/A |
| ClearAccess | 1.00% | 3.52% | N/A |
| ThinkSmart Technologies | -0.46% | 4.38% | N/A |
| Cariden Technologies, Inc. | 11.23% | -0.68% | Positive |
| SolveDirect | -4.58% | -9.52% | N/A |
| Sourcefire | -0.71% | -12.24% | Positive |
| Tail-f Systems | -4.07% | 2.33% | Positive |
| Memoir Systems | 1.47% | 5.00% | N/A |
| Piston Cloud Computing | -1.83% | -0.76% | N/A |
| Portcullis | 5.76% | -1.59% | N/A |
| Acano Limited | -0.80% | -2.27% | N/A |
| Synata | -2.42% | -6.02% | N/A |
| AppDynamics, Inc. | 4.85% | -10.08% | Positive |
| Observable Networks, Inc. | -1.70% | -7.26% | Positive |
| Cmpute.io | 1.48% | 9.48% | N/A |
| **Count of outcomes > 0 or positive** | **20/50** | **20/50** | **22/24** |
| **Percentage of positive outcomes** | **40%** | **40%** | **92%** |

*Source*: Author

quietly shut down the business and Kanellos (2011) indicates Cisco is exiting the building management business. With the second, Cisco acquired PixStream, Inc. in August of 2000, however about eight months later, Lou Santora, Vice President of Cisco's Video Networking Group, said, "We are transitioning out of this business over the next four months" (Chase, 2001), which he said is due to reduced customer demand. At the time of the PixStream acquisition announcement, PixStream employees cheered when they heard Cisco had tendered an offer, but eight months later 25% of these same employees faced layoffs.

Evident in both cases is the fact that Cisco quickly realized the negative outcome and took steps to shut down or divest the effort. In a second-hand email, an anonymous source, who is a current Cisco employee, notes Cisco spends three years analyzing how things are going with an acquisition, with unspecified measures the company reviews on a quarterly basis. "If things go very south," management steps in to review the process and may call in the acquisition assessment team "to answer some hard questions." In some cases, the review period will be extended to five years. "In extreme cases [Cisco] will shut things down" (personal communication, January 20, 2021). Richards-Zeta and PixStream are examples of extreme cases. Although not part of this study's sample, when gathering data for the 2010 CoreOptics, Inc. acquisition, I find indications that Cerent Corporation (1999), Monterey Networks (1999), and Pirelli Optical (1999) have also struggled. The products associated with Monterey and Pirelli were both discontinued and in 2010 Cisco was losing market share in the category where the Cerent products compete (Duffy, 2010).

In a 1997 interview, John Chambers, likely quoting CAR-based statistics, said, "the statistics indicate that 50 percent of large-scale mergers fail" (Rifkin, 1997, p. 7). By that time, only five of the sample acquisitions had been announced and Cisco was still young in its acquisition efforts. By 2015, however, when Cisco had announced its 182nd acquisition of Portcullis, John Chambers said, "I know 1/3 are going to fail" (Bort, 2015). Perhaps, in the case of Cisco, the answer is that simple, roughly 60% to 70% of Cisco acquisitions are a success. In the same setting, Chambers also provided some insight about his success measures when evaluating the outcomes of an acquisition, which include increase in market share, positive impact to shareholders, retain technology talent, and produce the next generation of products (Bort, 2015).

On the positive side, there is a significant amount of archival data indicating the success of Cisco acquisitions. For example, Crescendo Communications "paid for itself over time" (Harvey, 2002), and led to the creation of the Catalyst 5000 and 6000 network switches. Considering the success of Cisco's switching business, in addition to Crescendo, the LAN switching acquisitions of ArrowPoint, Netiverse, and six other acquisitions not in the sample could be considered successful. One author suggests the Selsius Systems, Inc. acquisition may have produced the biggest impact for Cisco by providing access to the voice-over-IP (VoIP) market (Kerravala, 2014a). Along with the Selsius acquisition that opened the door to Cisco's successful VoIP business, other VoIP acquisitions of GeoTel, Lightspeed, Metreos, and Sipura, along with seven other acquisitions not included in the sample, could all be considered successful. Standen (1998) notes that a year and a half after closing the deal, SkyStone Systems "continued to

flourish." In 2000, Cisco purchased Active Voice Corporation. Active Voice's Unity product line became the still-in-use Cisco Unity Connect System for business phones. The purchase of Altiga Networks (2000) and Allegro Systems (2001) became the still-in-use Cisco AnyConnect VPN. Of the 2004 purchase of Andiamo Systems, John Chambers said, "Andiamo is an excellent example of how Cisco creates value for customers and shareholders through innovation." He added, "We are proud of the success Andiamo's products have had in the market" ("Cisco systems completes acquisition of andiamo systems, inc.," 2004). Likewise, for some of the more recent acquisitions, Kerravala (2014b) considers the acquisition of Tail-f Systems "a big win" for Cisco. Former AppDynamics CEO and now Cisco Director, David Wadhwani notes that AppDynamics (2017) was "on the eve of becoming one of the fastest growing software company on the public market" ("Cisco systems inc., financial analyst conference - final," 2017), which was accelerated by Cisco. Observable Networks (2017), "which changed the face of [Cisco's] security business," has become the "fastest growing part of Cisco" (Kerravala, 2017). These and more similar statements are often associated with the outcomes of Cisco's acquisitions and provide useful insight on the subjective assessment of the acquisitions. See Appendix H for further excerpts related to manager subjective assessment of the Cisco sample acquisitions.

## Discussion

Event studies, primarily focused on determining abnormal returns, dominate the literature concerning acquisition success and predict acquisitions fail somewhere between 20% and 90% of the time. Concurrently, on an annual global basis, managers pursue tens

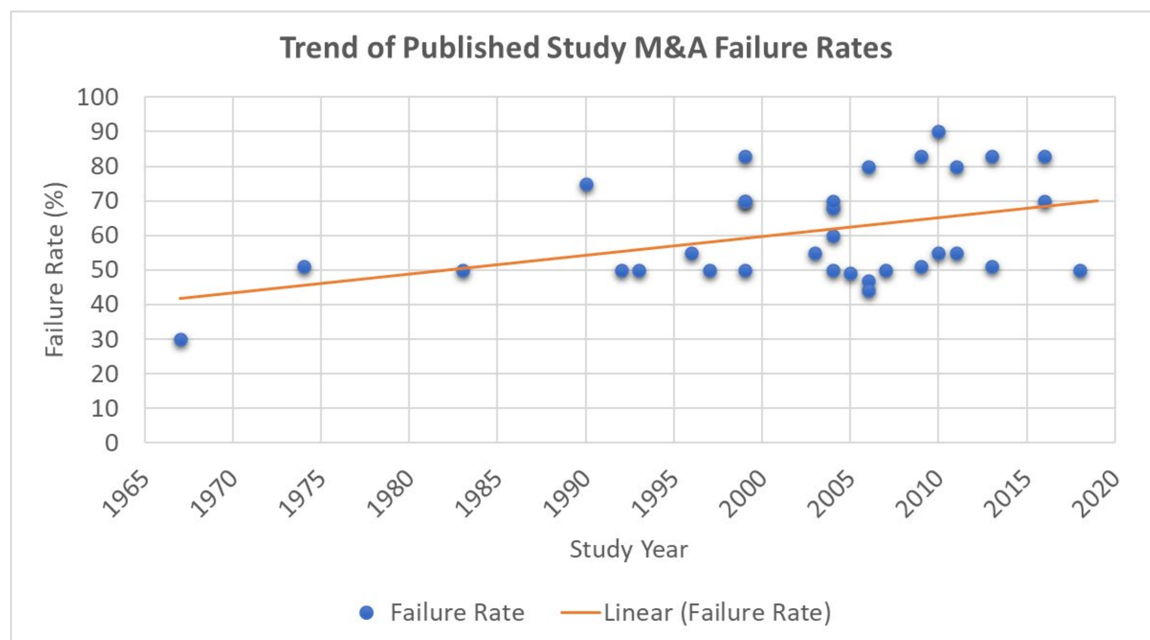
of thousands of acquisitions and spend trillions of dollars each year. The question why practitioners would continue to participate in a business activity that some academics predict will fail so frequently has been asked, but not fully answered. I find myself asking, “Why would a manager continue to engage these deals if they are doomed to fail?” Or “Does the manager know something that the academic doesn’t?” A review of the literature finds there are several researchers who believe, contrary to the accepted conversation, that the commonly used academic measures of acquisition success, especially short-term event studies lack the statistical ability, or are somehow lacking in design, to successfully predict acquisition outcomes. This first study asks, “What are the limitations of the commonly used finance measures of acquisition success,” and, secondarily, if there are limitations, then what impact do these limitations have on the continuing conversation regarding acquisition outcomes and appropriate assessment measures. The answer seems to be that a holistic approach is needed. Such an approach would compare multiple dimensions of acquisition results, highlight some discrepancies or limitations of past practice, provide a fuller picture to the actual outcomes, and help answer the question why managers continue to participate in acquisitions when research seems to indicate the effort often will end in failure (Brouthers et al., 1998; Harrison & Farrell, 2008).

Traditional acquisition failure studies, predominantly grounded in finance, have relied on short-term event studies to determine the success of acquisitions. Unfortunately, with all due respect to those who accept that the short-term event study result is an acceptable proxy of acquisition assessment, the event study is only intended to predict the

influence or the effect, in the M&A context, of an acquisition's announcement on stock price. One reviewer offers, "If no one can agree on how to measure M&A success, then why would an increase in stock price be an adequate measure of success" (M. Wray, personal communication, July 8, 2021)? This question is an important query, especially as some important limitations with the use of CAR are revealed in this study. First, in the case of serial acquirers, especially high frequency acquirers, the potential effects of one announcement would be hard to separate from the next. For a firm like Apple that announces acquisitions on average every three to four weeks, the short-term event study would be meaningless. As noted above, Graebner et al. (2010) write, CAR transactions are "particularly problematic for technology acquisitions" (p. 86), due to the fact that in technology acquisitions the buyer is often much larger than the seller, "so these transactions may have little or no immediate influence on buyers' stock prices…[and] financial markets may struggle to accurately gauge the value of a technology transaction" (p. 86).

Second, considering comments by other researchers, Lubatkin (1987) found that CARs "are generally positive and significant" (p. 45), but in the effort by Koi-Akrofi (2016) he concludes that 80% do not produce any value. In the ensuing years something in the analysis has changed and the predicted outcome seems to be worsening. Figure 7 is a crude representation of the increase in published failure rates based on the studies noted in Appendix B, for those studies that offered a numerical failure rate. Also apparent in Appendix B, is the fact that most of the published studies summarized are theoretical papers citing a smaller number of empirical studies.

**Figure 7.** Trend of Published Study M&A Failure Rates




*Source*: Author

Perhaps, analyst predictions and, therefore, market reactions, are different today than in the past. Perhaps, analyst predictions are inappropriately swayed by the increase in predicted failures. Perhaps, there is confusion between the study samples, with some focusing on mergers and some on acquisitions and a casualness about the label. Perhaps, different industries have different habits and outcomes, and researchers are too quick to apply a finding from one study to their own. It is clear in the case of Cisco, a firm that has successfully completed both vertical and horizontal acquisitions, the firm has a habit of seeking specific types of acquisitions, in terms of size, value, market share, and sometimes location, factors the firm controls, which can influence the outcomes.

Finally, and, most importantly, this study finds not only several instances where the CAR predicted outcome is negative and the actual outcome is very positive. With the

Cisco sample, the CAR values for 49 of the 50 transactions are not statistically significant. Some may argue that CAR is a model and there will always be examples where actual outcomes and the predictions do not match. While one may accept that as reality, the results in this effort suggest that mismatch might occur more frequently than some realize. For example, in Cisco's first ever acquisition of Crescendo Communications in 1993, John Chambers commented in a July 14, 2014, interview with Herman Miller that the stock price went down when the acquisition was announced. This study finds the 21-day CAR predicts a -6.48% return (p-value 0.3124). In the interview Chambers added:

> In 1993, we did our first acquisition, and our stock went down. Crescendo. And remember I paid $92 million for a company that had a couple million in revenue. Stock went down badly that day. That's $13 billion in revenues today with great gross margins. (Chambers, 2014)

That interview occurred 21 years following the Crescendo acquisition. Within three years, the acquisition was making more than $500 million in revenue (Khan, 2014) and by year 8, Cisco's switching business had outpaced the router business by nearly $2 billion in revenues a year (Harvey, 2002). Moreover, this single acquisition set the stage for Cisco's acquisition process and many future successes. From a talent perspective, Mario Mazzola, Prem Jain, Luca Cafiero, who later became known as "MarioPremLuca," and were labeled the "heart, soul, and brains" of the company (Bort, 2014) produced the extremely successful catalyst switching unit. They also engaged in several "spin-ins," where Cisco initiated a startup company, put these individuals in charge of it, and later acquired the company. Andiamo (2002) was the first of these. Although not part of the study sample, VMWare, Nuova Systems, and Insieme are examples of some other spin-

ins these individuals participated in and proved to be financial successes. CAR predicted Crescendo would fail. Further, there are 15 of the 24 acquisitions in the sample where CAR predicted failure, when the acquisition results – taking other dimensions into account – are quite positive.

ROA as an accounting measure can be useful, but in the case of high frequency acquirers also has limited value. The data in Appendix F demonstrates, in the case of Cisco, there is a significant amount of overlap in the measured periods, where it is easy to see the same data points repeated from one quarter to the next. In other settings, where acquisitions occur further apart, or in the case of a true merger, ROA might be more useful. Also, while Papadakis and Thanos (2010) use ROA in their study, Lakstutiene et al. (2015) suggest ROA should be considered in concert with other accounting measures (e.g., ROE, NPM, and EVA). Likewise, Ned Hooper, Cisco's SVP and Chief Strategy Officer at the time of the Starent Networks (2009) acquisition, suggests the use of multiple financial measures, including earnings, long-term returns, growth potential of a business, PE ratios, whether the acquisition will have a dilutive or accretive effect on stock, deferred revenues, and tax consequences ("Cisco announces agreement to acquire starent networks - final," 2009) are necessary. Practitioners are focused on a multi-faceted approach when conducting financial analysis of projected outcomes, which may be instructive for future research.

Moving to managers' subjective assessment, while it would have been nice to find a clear indication of a positive or negative outcome for each of the acquisitions in the sample, the 24 results reported highlight a story different than CAR and suggest a more

holistic approach of acquisition assessment is necessary. Even Cisco executives have shared more than one financial measure is necessary to assess performance. Table 13 captures a list of both financial and non-financial measures two Cisco executives suggest should be considered in the assessment of acquisitions. Future studies should consider

**Table 13.** Partial List of Potential Acquisition Success Measures

| **Partial List of Cisco Acquisition Assessment Measures** | |
|---|---|
| **John Chambers, CEO[1]:** | **Ned Hooper, SVP/Chief Strategy Officer[2]** |
| • Increase in market share | • Earnings |
| • Positive impact to shareholders | • Long-term returns |
| • Retain technology talent | • Growth potential of a business |
| • Produce the next generation of products | • PE ratios |
| | • Whether the acquisition will have a dilutive or accretive effect on stock |
| | • Deferred revenues |
| | • Tax consequences |

*Sources*: Bort (2015)[1]; "Cisco Announces Agreement to Acquire Starent Networks – Final" (2009)[2]

ways of incorporating these measures in conjunction with other strategic assessments. A key point is most of the acquisition success conversation is driven by statistics that focus on an *ex-ante* performance measure, but should instead focus on *ex-post* measures to develop a more reliable measure of assessment (Schoenberg, 2006). The *ex-post* focus is the focus of the practitioner, and, in this case, may also need to be the focus of the academic.

When considering managers' subjective assessment and comments that are made, it is necessary to clarify specifically what the manager is referring to. For example, when

John Chambers comments that he knows one-third of Cisco acquisitions will fail, the next question should be, “In reference to which indicators?” The researcher needs to ask a better question or a follow-on question to determine the basis for the comment. Was the comment referring to revenue targets, market share, missed opportunities, products produced, or talent retention? The one-third response is not meaningful without the context. Chambers did offer some insight during an interview when he shared:

> Ninety percent of acquisitions fail in our industry. If you measure, did you keep the engineers, did you gain profitable market share after that, did you expand your goals, etc. Our hit rate has been probably two-thirds of them. I hit or exceed what we told our board of directors we’d do during the first couple of years. (Chambers, 2014)

The answer can also be found elsewhere. For example, Cisco acquired Pure Technologies in 2009 for $590 million. Although this acquisition was not part of the sample, the acquisition is nevertheless instructive as the objective of the acquisition was to obtain the Flip Video maker. About the same time, Steve Jobs of Apple announced plans to make a phone that included a camera for free. In 2011, Cisco announced they were going to discontinue making the popular camcorder. While some analysts were surprised by this move, John Chambers explained during an interview that Cisco has missed the window of opportunity with that investment (Chambers, 2014). The failure in this case is not the product or the potential revenues. By all accounts, the acquisition was a success and NPD Group industry advisor Stephen Baker said, “there is no compelling evidence that Flip was failing. It remains far and away the leading consumer video camera company” (Reardon, 2011). Rather in the mind of a Cisco executive the company would not be able to be first or second in the market with a market share of at least 40%, as was the hope

for every business Chambers invested in (Chambers, 2014). Subjectively – or perhaps objectively in the mind of Cisco – most of the acquisitions were a success and understanding what is behind that assessment is a necessary ingredient when assessing acquisition success.

In summary, there are several key findings discovered thus far, including: support for other studies' claims that CAR is not an effective predictor of acquisition success; the predictive value of CAR may be limited in highly acquisitive firms; and in the case of Cisco, CAR values do not match well with *ex-post* outcomes; and are statistically insignificant. Additionally, ROA is not an effective performance indicator in highly acquisitive firms, especially in instances where a larger firm is acquiring a smaller firm. In the case of the Cisco acquisitions sampled CAR (if statistically significant) and ROA would suggest a 60% failure rate, with the ROA results getting worse over time, and manager subjective assessment is remarkably high at 92%. The same comparison in the KPMG study cited earlier notes an 83% predicted failure rate compared to an 82% subjective success rate. Historically, researchers have focused primarily on single methods of assessment, which may be an example of the McNamara Fallacy where a determination is made based solely upon a quantitative metric while ignoring all other observations (Vitaud, 2020). This study suggests a multi-faceted measure might produce a more reliable assessment and that practitioners' financial assessment for acquisitions never seem to include CAR. A key takeaway from these observations is the narrative surrounding acquisition assessment and failure rates needs to be updated.

There are some limitations in this study. First, all three measures considered (CAR, ROA, and Managers' Subjective Assessment) were reviewed with a focus on one firm in one industry. The CAR result is a powerful finding but considered only 12 firms and 600 acquisitions. It may be beneficial to increase the sample of firms to see if CAR calculations, conducted in a similar way, would find comparable results for a larger sample of firms. Moreover, this study hints at a firm's ability to achieve acquisition strategic objectives as a factor in assessing performance. A second study focused on how practitioners assess success, both pre and post implementation should be contemplated. This additional review may add to the findings of this effort as most of the oft-cited acquisition assessment results seem to rely on *ex-ante* performance measures to predict *ex-post* outcomes. To my knowledge, no study has contemplated the use of an acquisition pre-assessment checklist as the tool, not only used to choose whether to engage in an acquisition or not, but as the post-assessment criteria. A study focused on strategic indicators should include such a checklist. To that point, Epstein (2005) concludes:

> Thus, our evaluation of merger success must be much broader than a simple change in stock price, which often tells us little about the merger and more about external factors. We must instead ask what the strategies were for the merger, and whether the goals were achieved. (p.45)

Like Porter in 1987, Epstein is forceful in his critique suggesting "Evaluating merger success based on short-term changes in stock price is ridiculous" (2005, p. 46). While there are many who may disagree, it is clear the conversation, nevertheless, needs to be adjusted.

## Conclusion

This study has considered limitations to the commonly used finance measures of acquisition success. CAR, and *ex-ante* measure of acquisition performance, is shown to have limitations in effectively predicting the success or failure of a random sampling of Cisco acquisitions. Additional CAR calculations show this same result for other highly acquisitive firms. Only 1 of 12 firms reviewed had a statistically significant result. This leads to the conclusion that the success rate is unknown, and another measure is needed. In the case of the Cisco acquisitions reviewed, the statistically insignificant CAR results do not match the managers' assessment. ROA is also shown to be problematic in the Cisco setting, likely attributed to the highly acquisitive nature of Cisco's strategy, the overall level of corporate success, and the size of the acquisition compared to Cisco. Managers' subjective assessments show a positive outcome and should be regarded, at least in the case of Cisco, as more than just a subjective finding.

This information is useful for academics constructing future studies. The use of CAR as an *ex-ante* predictor of acquisition performance has little value for practitioners and, at least as the study sample results demonstrate, does not provide an answer. ROA is also problematic and has limitations in highly acquisitive companies. Rather than relying on a "choice perspective" (Jemison & Sitkin, 1986) and choosing a single measure, researchers should instead focus on using a multi-faceted approach for assessing acquisition outcomes. This information is also valuable for practitioners who may be leery of engaging in M&A activity due to the purported failure rate. As Christensen et al. (2011) note, managers sometimes walk away from the potentially transformative deals,

which might occur less frequently if the message concerning success potential was different. A better-than-predicted success rate is likely to be one of the drivers behind the high frequency of global M&A activity, despite the failure predictions, and the failure rate conversation needs to change.

# CHAPTER 4

# STUDY 2 – THE VALUE OF STRATEGIC AND ORGANIZATION SUCCESS MEASURES

The first study compares CAR, ROA, and managers' subjective assessment. The first study also notes CAR results drive the conversation regarding acquisition success but have limitations. One limitation is found in CAR's predictive power considering statistically insignificant results for 11 of the 12 companies (600 acquisitions) considered. Other limitations, include the inability to separate announcement effects in highly acquisitive firms and finding real differences between predicted results and actual outcomes. Additionally, there are instances of published research noting other types of limitations with the use of CAR for acquisition assessment (Epstein, 2005; Papadakis & Thanos, 2010; Schoenberg, 2006). ROA is found to have limitations and, in the case of Cisco has little value in providing an assessment of acquisition outcomes. While not surprising, neither CAR nor ROA matched the managers' subjective assessment. These findings leave this researcher still wondering that if these commonly used assessments have limitations, then what are the reliable means to assess these transactions? Thinking about an answer, the first study suggests the need to include strategic and organizational considerations when assessing acquisition outcomes. The foundation of this dissertation is the search for a more reliable measure of acquisition performance and proposes that a multi-faceted or holistic assessment will produce that measure.

Considering the limitations articulated in the first study, this second study attempts to pick up where the first ended and contemplates how a combination of financial, strategic, and organizational dimensions identified prior to acquisition implementation may assist in measuring the success of the post-assessment implementation. In other words, should the pre-assessment criteria for the deal be used as the post-implementation measures? This second study is qualitative and uses a case study method to review these additional assessment dimensions of completed Cisco acquisitions but adds a review of pre-assessment or due diligence checklists and seeks to obtain interview data from M&A practitioners. This study strives to ask and answer four questions, “What are the criteria practitioners use to decide whether to pursue an acquisition,” “How do practitioners determine acquisition success criteria,” “When is the deal success criteria determined,” and “How do practitioners evaluate the success of a deal.” Several researchers contend that strategic objectives or managerial motives should be considered when evaluating the success of acquisitions (see Appendix C for details). In fact, many classify acquisition types based on strategic purpose (Christensen et al., 2011; Goedhart et al., 2017; Sureka, 2020). It makes sense, therefore, that acquisition assessment should, as proposed by Brouthers et al. in 1998, consider the original objectives of the deal and whether those objectives are achieved.

The starting place for this study is the outcome of the first, wherein limitations to commonly used academic measures of acquisition success are identified. The first study uses a random sample of 50 Cisco acquisitions (see Appendix A for details), with the original intent to produce a table containing 6 dimensions (e.g., CAR, ROI, achieved

strategic objectives, managers' subjective assessment, talent retention percentage, and degree of cultural fit) for each of the acquisitions. I did not gain access to internal Cisco data and adjusted the study, including a change from measuring ROI to ROA and collecting publicly available data to obtain a response for each dimension. Findings related to CAR, ROA, and managers' subjective assessment became the focus of the first study, while the remaining dimensions (e.g., strategic objective, talent retention, and cultural fit) became the focus of the second study that suggests a need to look earlier in the acquisition process for the "hows" and "whys" (Eisenhardt, 1989b; Yin, 2018) of reliable assessment. This focus reaffirms the need to go to the practitioner to find these answers. Additionally, following the suggestion from the first study, in this second study, I obtain several practitioner-created acquisition pre-assessment checklists and conduct practitioner interviews, with individuals who are experts in assessing or managing M&A transactions. Comparing these sources has uncovered meaningful results regarding assessing the performance of acquisitions and produces new findings about a more reliable M&A assessment.

## Research Method

This study uses a case study methodology. The case study approach is used to analyze acquisition transactions completed by Cisco in the hope of developing insights about how to better assess acquisition success. Cisco Systems, Inc. is purported to be the "ideal" company to analyze for acquisition process and success potential (Mayer & Kenney, 2004), is a role model for acquisition success (Chatman et al., 2005; Mayer & Kenney, 2004; Rifkin, 1997), and has completed over 200 acquisition transactions since

1993 (Cisco, 1990-2019). “The purpose of case study research in business and management is to use empirical evidence from real people in real organizations to make an original contribution to knowledge” (Myers, 2020, p. 80). Using this approach for data collection, analysis, and forming conclusions, I obtain acquisition pre-assessment checklists and conduct interviews with M&A practitioners to discover insights regarding reliable assessment methods. Relying on the literature that suggests more than one metric should be considered when measuring acquisition performance (Papadakis & Thanos, 2010; Schoenberg, 2006; Zollo & Meier, 2008), I have sought to find data regarding: 1) the strategic objectives of the Cisco sample acquisitions and some indication of whether those objectives were achieved; 2) an indication of whether Cisco is successful in retaining talent for acquisitions; 3) whether Cisco is able to overcome cultural concerns during the integration phase; 4) pre-assessment due diligence; and 5) gain insights from M&A practitioners related to acquisition assessment.

At its heart, this study seeks a more reliable measure of acquisition performance and proposes that a multi-faceted or holistic assessment will produce a more reliable measure. The data analysis is critical to the study findings, which I develop based on the data set, like other previously published research (Appelbaum et al., 2013; Eisenhardt, 1989b; Eisenhardt & Graebner, 2007; Mayer & Kenney, 2004; Toppenberg et al., 2015). The data is condensed (Miles et al., 2020) into useful information for analysis. I use NVivo software to assist with the analysis of both the collected data and the related prior published research (Jackson & Bazeley, 2019). I collect the data from a variety of sources and analyze these data using a variety of techniques. The variety of collection and

analyzation techniques helps increase confidence in the data, and provides greater ability to uncover unique findings, clearer understandings, more data to interpret, and a more comprehensive view (Thurmond, 2001). This effort uses triangulation in both the data gathering and data analysis aspects of the project (Hussein, 2009) as well as a cross-case analysis technique (Gray, 2004; Yin, 2018).

### *Cisco Strategic and Organizational Dimensions*

In the first study, I develop a list of 50 randomly selected Cisco acquisitions to consider as a sample. In this second study, I use that same sample of transactions to review three dimensions connected to acquisition success, namely the strategic objectives of the deal, talent retention, and cultural fit. Considering access to internal Cisco information is not available, I rely on publicly available or archival sources, including Cisco internet posts, other internet news sources, analyst reports, and interview transcripts to obtain information related to the three dimensions. I use NVivo to help with the coding and analysis of these data.

### *Pre-Assessment Checklists*

While engaged in the first study, it occurred to me, especially considering the existence of Cisco's acquisition assessment team and acquisition due diligence completed prior to the deal, there must be a pre-assessment checklist. These checklists may be a valuable source of information about how practitioners assess acquisitions and may also provide insight regarding a reliable post-implementation assessment method. As part of this study, I obtain 16 of these checklists, compare them, and determine what types of

information are important to individuals who assess acquisition potential and performance.

### *Practitioner Interviews*

The checklists noted above provide valuable insights but speaking to those who use or create them is even more advantageous. As such, I conduct 15 semi-structured interviews with practitioners who engage in the due diligence, deal-making, or implementation aspects of acquisitions. To develop a list of informants, I reached out to relevant individuals with whom I was acquainted, sent 51 personal invitation messages to M&A practitioners, as identified by their profile title in *LinkedIn*, and using both *LinkedIn* and the Thunderbird School of Global Management "*T-bird Connect*" sites posted a generic invitation regarding the desire to interview M&A practitioners. Only 10 of the 51 individuals to whom I sent a personal invitation responded. Most of those declined participation citing workplace policies preventing participation. This was also true of some individuals referred to me by others. The final interview informant list includes 5 individuals I knew prior to the interview, 4 referrals from acquaintances, and 6 individuals who responded to invitations via LinkedIn and agreed to participate. I interviewed individuals from public and private companies, with executive or director level finance, consulting, and management roles, including an investment banker and a securities analyst. I developed an interview guide (see Appendix I for details) to assist with the interview process and an interview log (see Appendix J for details) to track certain details of the completed interviews. I made an audio recording during each interview and transcribe the interviews using services provided by *temi.com*. I import the

transcripts to and use NVivo to analyze and code the interview transcriptions, correcting transcription errors along the way.

Human and ethical considerations are crucial factors in the research process. Procedures to offer confidentiality, anonymity, ensure informed consent, and voluntary participation (Gray, 2004) are utilized. This study does constitute research (45 CFR § 46.102) and does involve the study of human subjects; however, the human interactions are limited to interviews, which are not expected to increase the subjects' risk of criminal or civil liability, financial standing, or employability [45 CFR § 46.104(d)(2)]. Interviewees acting as informants, share information about acquisitions rather than sharing personal information about themselves. I sent a research determination request to Temple University's IRB and received a response on September 14, 2020. The response indicates the proposed research does not constitute human subject research and is, therefore, not subject to IRB. On October 6, 2021, I also spoke with David Comelli, Assistant Director of Temple University's IRB to clarify the necessity of using an informed consent and obtaining informant signatures signifying consent. Because the research is not subject to IRB, an informed consent document is not required and a signature, in this case, is also not required. He said the practice of using an informed consent when not required is considered "exemplary." I have created an informed consent memo (see Appendix K for a copy of the memo) that I sent to all but one of the informants to review prior to the interview.

# Results

As I noted in the first study, I had hoped to conduct a series of interviews with Cisco employees to obtain the information regarding the strategic and organizational data collection goals of this study. Unfortunately, Cisco legal and public relation representatives recommended Cisco not participate in the study and I was unable to access the valuable internal information. While the internal information would have been the best data source for answers related to the acquisitions in the sample, there is a wealth of publicly available data, nevertheless, that helps provide insights to the aims of this study. Perhaps, there is some finding in Cisco's unwillingness to participate. It is possible that Cisco is afraid the study results would reveal details suggesting that Cisco's acquisition efforts were not as successful as commonly believed. Though, probably more likely, as shared by a wishing-to-be-anonymous director level Cisco employee, is the fact that Cisco views its acquisition process as a competitive advantage and does not want details shared that would enhance competitors' efforts. The outcome that prevented access to internal Cisco information is not unique to this effort. In fact, one of the main disadvantages of case study research is the difficulty "to gain access to the particular company or group of companies that you want to study" (Myers, 2020, p. 99). That said, the research effort has yielded informative results that will be a benefit to both practitioners and academics alike.

## *Strategic Objectives*

One of aims of this study is to review data that would shed light on positive or negative outcomes for the two strategic (e.g., managers' subjective assessment, achieves

strategic objectives) and the two organizational (e.g., talent acquisition, cultural fit) dimensions of the study. The data collection effort included searches on the Cisco website, searches on the internet, and searches using *Nexis Uni*. Through these search efforts, I discover archival documents or postings that contain information about the success or failure of Cisco's efforts related to these four dimensions. Additionally, the search effort reveals information regarding Cisco's acquisition strategies and processes. The Cisco website contains press releases, blog postings, and other Cisco newsroom or department specific announcements available to the public. I also conduct general internet searches using a search string like, "cisco acquisition [acquisition name]," and then narrowed the search to follow up on items of interest. One video interview and transcript with John Chambers in 2014 is meaningful and is included in the results. The search functions contained in the *Nexis Uni* tool are helpful in finding additional media articles and reveal a series of transcripts from annual, quarterly, or event specific conference calls between Cisco executives and financial or market analysts. Further, I used *LinkedIn* to identify work history and timelines for current Cisco leaders who were hired through an acquisition. Between the first and second studies, I reviewed nearly 500 individual documents, which, consisted of about 7,500 pages of text. I use NVivo software to complete coding of the data.

I develop a coding scheme that is a mixture of a priori codes based on how Cisco segments its acquisitions (Cisco, n.d.), codes related to strategic and organizational dimensions of the two studies, and some themes that appear during the coding process. The a priori codes include "Market Acceleration," "Market Expansion," and "New

Market Entry." These a priori or Cisco segment codes represent why, according to Cisco, the firm engages in acquisitions. The strategic and organizational dimension codes include "Subjective Assessment," "Talent Acquisition," and "Cultural Fit." I began the coding process during the completion of the first study, and I report the subjective assessment results as part of the first study. Finally, during the coding process, I also use codes titled "Strategic Objectives," "Defend Market Position," "Time to Market," "Financial," and "Acquisition Process." The strategic objectives code includes statements Cisco made concerning why the firm engages in acquisitions. Defending market position is not one of Cisco's publicly stated reasons for engaging in M&A activity but appears to be a factor in several of the deals. The financial and acquisition process items caught my attention during the coding process, are interesting and should be considered further, but are beyond the scope of this study. Table 14 highlights the coding scheme I use for this study, along with examples of words or phrases that prompted the assignment of specific text to code.

One aim of this study is to determine the primary motivation or strategic objective for each of the acquisitions in the sample. Published research offers lists of deal motivations for describing this phenomenon (see Appendix C for details). I have found two other studies (Lessard & Reavis, 2016, November 16; Toppenberg et al., 2015) that hint there are "primary" motivations, which suggest to me there are also secondary motivations. For each of the 50 acquisitions in the sample, I determine a primary objective. I also determine a secondary objective for 20 of the acquisitions in the sample. Appendix L lists the objectives for each of the sample acquisitions.

**Table 14.** Study Coding Scheme, Key Terms, and Code Purpose

| Code | Examples Prompting Code Use/Code Purpose |
|---|---|
| Market Acceleration | drive, accelerate, or advances |
| Market Expansion | strengthen, enhance, supports existing, augments, extends, or bolster |
| New Market Entry | new, new market, emerging market, entrance, or jump in |
| Defend Market Position | remain competitive, stay in the game, or boost position |
| Time to Market | time to market, buying is faster, or speed time to market |
| Strategic Objectives | Comments regarding strategic intentions of the deal |
| Talent Acquisition | Comments regarding outcomes of target firm employees |
| Cultural Fit | Information regarding culture or potential cultural concerns |

*Source*: Author

After completing the coding process, I ran an NVivo matrix coding query to see the number of instances of each code for each acquisition and export the query result to Excel. Using Excel, I apply color-coded conditional formatting to more easily see if there are any patterns in the data. In all, there are 798 instances of text coded across the 11 themes described above. That number represents instances of archival data connected to both a sample acquisition and a specific theme. For example, with Cisco's first acquisition of Crescendo Communications, there are 53 coding instances, including 8 for subjective assessment, 12 for strategic objectives, 1 for market expansion, 8 for new market entry, 10 for talent acquisition, 10 for financial, 4 for acquisition process, and zero for the other 4 codes. Considering the a priori strategic objective codes, new market entry appeared more times (8) than either market acceleration (0) or market expansion (1). In

this case, I assigned new market entry as the primary objective with no secondary objective. This determination is also supported by Cisco annual reports, which indicates the purpose of the Crescendo deal was to help transition Cisco from a company that primarily produces routers to one that produces network switching devices (Cisco, 1990-2019). I applied a similar rationale to the rest of the sample acquisitions.

There is, of course, some subjectivity in assigning primary and secondary objectives. As an example, the 41st acquisition in the sample was Sourcefire. Market acceleration and market expansion both had 3 instances of coded passages, but my feeling reading those passages was that market acceleration was the primary purpose of the deal. My rationale is that each of the passages coded to market acceleration note the point of the deal was to accelerate a Cisco effort. Likewise, one of the passages coded to market expansion also notes the intent to accelerate. Later, when I was reviewing the corporate annual reports, looking to answer a different question, I found support for my coding choice in the following statement from the 2013 annual report, "With the Sourcefire acquisition, we aim to accelerate our security strategy of defending, discovering, and remediating advanced threats to provide continuous security solutions to our customers in more places across the network" (Cisco, 1990-2019, p. 8). If there had been other coders involved in the research process, it is likely the coding results would not have been an exact match, however, this annual report remark supports my subjective conclusion and process for determining, in so far as data is publicly available, the objective of the deals in the sample.

Table 15 provides a numerical summary of coding outcomes for the codes related to strategic objectives. This table captures the number of times each objective is coded to a primary or secondary focus of the deal, the number of acquisitions to which a strategic objective code was applied, and the total number of coding instances for a particular objective.

**Table 15.** Coding Results - Strategic Objectives

| Objective | Primary Objective | Secondary Objective | Deals With at Least One Objective Coding Instance | Total Coding Instances |
|---|---|---|---|---|
| Market Acceleration | 7 | 4 | 20 | 42 |
| Market Expansion | 28 | 8 | 44 | 126 |
| New Market Entry | 12 | 1 | 18 | 52 |
| Defend Market Position | 3 | 6 | 15 | 26 |
| Time to Market | N/A | N/A | 6 | 8 |
| Talent Acquisition | N/A | 1 | 44 | 118 |

*Source*: Author

Interestingly, most Cisco deals, using Cisco's publicly stated acquisition segments, are focused on market expansion first (28), followed by new market entry (12) and then market acceleration (7). Talent retention will be discussed hereafter, but it is also interesting to note the considerable number of coding instances related to talent acquired through these transactions (118). Forty-four out of 50 acquisitions in the sample had at least one comment concerning talent acquisition connected to the deal. Further, talent acquisition is a secondary objective for the DiviTech A/S (2008) acquisition. In this case,

Dean Rockwell, Vice President, and general manager of Cisco's Digital Media business unit, said, "DiviTech provides Cisco with a core team of some of the most talented engineers in the DSM market," and that Cisco would have continued market leadership in that segment because of the talent acquisition. Time to market is not coded as a primary or secondary objective but did appear for 6 transactions and defend market position, while not a publicly stated Cisco objective, is a primary objective for 3 acquisitions, is a secondary factor in 6 transactions and appeared in a total of 15 transactions.

While it is understood that qualitative research is more focused on text than on numbers and seeks to "understand the *context* within which decisions and actions take place" (Myers, 2020, p. 5), the numerical reporting of the coding instances may be valuable to practitioners and becomes important as the practitioner interviews, conducted as part of this study and reported hereafter, reveal the importance of the strategic objectives of the deal to M&A assessment. I should also note two realizations I had about the coding results after completing the interviews. Frist, Cisco uses a segment called market acceleration. This segment may refer to specific actions that Cisco is taking to push the market forward or drive the market in a certain direction. At the same time, this segment must also refer to Cisco's efforts to reduce the time it takes to produce a sales-ready product, which would be captured by the code time to market. In hindsight, I would consider time to market to be a sub-code of market acceleration. Second, Cisco's three stated market segments are really examples of strategic deal objectives. These codes should be viewed as subcodes to the overall idea or code of strategic objectives. In hindsight, had I conducted the practitioner interviews before the completing the archival

data review, I would have approached the coding process, in terms of theme selection or creation, differently. As will become apparent, in the interview results section below, there are additional themes that practitioners use as deal objectives. Based on those interviews, it also becomes clear that these objectives are critical to the assessment of the transaction.

Having described the coding process and codes used, the following are examples, by code type, of citations that prompted the coding of text to the identified themes:

*Market Acceleration*

Market acceleration, in this context, is pushing the market forward or minimizing the time it takes for a company to produce a sales-ready product. Companies can engage in organic (e.g., developed from within) or inorganic growth (e.g., M&A activities) efforts. In Cisco's 2001 annual report, one can read, "The Company expects to make future acquisitions where it believes that it can acquire new technologies and products" (Cisco, 1990-2019, p. 8). This same statement appears in multiple annual reports and appears to be a core element of the overall focus of the organization. Regarding specific acquisitions in the sample, the archival data review reveals 20 of the acquisitions had instances that use language similar to the following: "In an attempt to accelerate the delivery of telecommunicating products" (Pappalardo & Roberts, 1995); "The Sipura acquisition accelerates Linksys' leadership in the emerging high growth VoIP consumer and SOHO markets, provides continued competitive differentiation for its VoIP product offerings, and allows Linksys to better serve it [*sic*] customers" ("Cisco systems fait l'acquisition de sipura technology - la première acquisition de linksys division consiste en

l'apport d'une equipe expérimentée en technologie voip," 2005); "The acquisition of Sourcefire will accelerate our execution on all three pillars of our security strategy" ("Cisco systems to acquire sourcefire conference call - final," 2013). The word "accelerate," as used in these citations, suggests that Cisco's strategic objective for these deals was to change the pace of the market or minimize the time it takes to get a product out the door.

*Market Expansion*

The theme market expansion is an indication of Cisco's efforts to build a market, develop a market, or to increase the company's share of the market. Some examples of items coded to this theme include: "The acquisition extends Cisco's software product line to include network applications and services that are used to build corporate intranets, support the growing global Internet and scale the World Wide Web" ("Cisco systems completes acquisition of tgv software, inc.," 1996); "Cisco noted that both of the companies offer drag and drop, application creation/integration environments, which will strengthen the company's Service Oriented Network Architecture" ("Cisco finalizes acquisition of metreos and audiums," 2006); and "Piston Cloud Computing will help Cisco expand the capabilities and delivery of its Intercloud services" (Burt, 2015). As noted previously, comments related to market expansion appear more frequently than any of the other themes encountered.

*New Market Entry*

New market entry has reference to Cisco's interest in expanding into a market in which the firm had not previously participated. For example, with Cisco's first ever

acquisition of Crescendo Communications in 1993, the company transitioned its primary focus from offering routing devices to switching devices. One business writer observes, “Crescendo’s business evolved into Cisco’s Catalyst switching business, and the deal, though expensive, paid for itself over time” (Harvey, 2002). Additional examples of acquisitions that can be attributed to the theme new market entry include: “LightSpeed’s voice signaling technology will enable Cisco to participate in these emerging markets” ("Cisco systems to acquire lightspeed international, inc.; cisco steps up voice protocol expertise," 1997); “Cisco’s acquisition strategy [referring to the announcement of the Allegro acquisition] has never changed…We take every opportunity we can to move forward, to keep our eye on the ball and continue to grow in new markets” (Cohen, 2001); and “The Starent acquisition is one of several Cisco is making as it looks to expand beyond its traditional networking business” (Burt, 2009). Twelve of the acquisitions in the sample had new market entry as a primary objective.

*Defend Market Position*

While not a publicly stated segment of Cisco’s acquisition efforts, there are instances of comments made, which would suggest that defending market position is the primary objective of the deal. This theme became apparent during the coding process for the sample acquisitions. The idea of defending market position is suggested by other researchers (Brouthers et al., 1998) and study informants share it as a possible strategic objective of the deal. The following are some examples of why this code represents the primary objective for at least three of the sample deals: “Cisco Systems Inc [*sic*] is hoping that its purchase of Selsius Systems will allow it to take market share from voice-

switch firms Lucent Technologies, Siemens and Nortel Networks" (Hersch, 1999); "People familiar with the matter said Nortel, a Cisco rival, had been pursuing ArrowPoint as well, which may have encouraged Cisco to act quickly and decisively" (Thurm, 2000); and "The [PixStream] deal won't make an immediate revenue splash for Cisco, but it will strengthen its position against video-networking rivals like Lucent Digital Video and VideoTele.com" (Crowley, 2000). Interestingly, the archival data evidence suggests Cisco's intent to establish or defend market position is articulated more often in the early acquisition years, as these and similar comments appear more in articles from the 1990s and early 2000s than in the more recent past. That is not to say using acquisitions for defensive purposes is not a current objective. Instead, the company is more careful when making public comments.

*Strategic Objectives*

As noted, "strategic objectives" is the category that captures the motivations, intentions, or purposes of a deal. In this study, the strategic objectives code captures instances of noteworthy text that suggest why Cisco as an organization engages in acquisitions. These comments are made at the time a specific deal is announced but are more generic to the organization than to the deal. Some examples of such passages include: "I think they basically want to sew up all the backbone networking technologies so you'll have to go with Cisco…3Com Corp. and Bay Networks Inc. should consider their own merger options if they want to remain competitive" (Presti, 1996); "Cisco has used its acquisitions to augment existing product lines when necessary" (Green, 2000); "Cisco CEO John Chambers and other officials have said the company will continue its

aggressive acquisitions as it branches out into other markets" (Burt, 2009); "Cisco has always used market transitions to gain leadership in the market, and this transition is no different" ("Cisco systems to acquire sourcefire conference call - final," 2013); and "Cisco is acquiring India-based cloud solutions provider Cmpute.io for an undisclosed amount with an aim of boosting its cloud offerings" (Buckley, 2017). I coded 308 passages of text to this theme. Cisco has completed over 200 acquisitions. Annual reports, other archival news sources, and the current company website point to the fact that participation in acquisitions is a core competency and a business activity that is an integral facet of the firm's strategy.

During this review process, I did not find specific information that affirmed whether Cisco achieved the objectives or not. Anecdotally, as noted previously, there are several successful Cisco products that are the result of one or more acquisition transactions. The line of catalyst switches, unity connect phone system, and AnyConnect VPN are just a few examples. That said, having access to internal information would have been especially useful here, both for determining the objective and answering whether it was accomplished. Referring to first study, and the 92% success rate for managers' subjective assessment, along with the anecdotal evidence of product development and revenues, one might infer success. While it may be reasonable to conclude that in a majority of cases Cisco is successful in achieving its strategic objectives, I am unable to report a success rate or whether Cisco achieved the strategic objectives discussed above.

*Organizational Measures*

As an organization, Cisco strives to retain key talent from acquisitions (Cisco, 1990-2019). In the original study design, I hoped to determine the percentage of acquired-firm employees who were still working for Cisco at certain intervals post acquisition. While that information is not available publicly, a wealth of information about Cisco's talent acquisition practices is. In 1993, Cisco acquired Crescendo Communications. The CEO of Crescendo was a man named Mario Mazzola. During that acquisition, what became known as the Mario Rule was implemented. With this rule, which is still in use, "Before any employee of a newly acquired company is terminated, both CEOs must give their consent" (Reese, 2007). Since then, employee retention has been part of Cisco's acquisition process. Additionally, as noted with the acquisition of DiviTech, as well as one of John Chambers hallmarks of a successful transaction is talent acquisition and retention (see Table 13 above).

Not all of Cisco's employees or acquired talent are fully satisfied to be sure, as one Cisco executive, musing about acquired employees, said, "I guess a lot of the startup executives that came to Cisco later just took their money and left" (Harvey, 2002). While that may be the case, there is evidence that many stayed, were moved into leadership roles, or are senior executives today. Six executives from the Crescendo acquisition were hired into senior vice president roles. Charlie Giancarlo came from Kalpana. Andy Bechtolsheim, former Granite Systems CEO, became a unit vice president. Mr. Pacquin, executive from SkyStone, was put in charge of a business unit and later left. He is the only SkyStone employee to leave two years after the deal closed. In the SkyStone deal,

Cisco paid $2 million for each of the 40 acquired employee in retention monies. Selsius Systems (1998) CEO became part of the Cisco Enterprise Line working for Mario Mazzola. All 51 employees also came aboard. With GeoTel (1999), Cisco brought on 310 employees. At the time of the GeoTel acquisition, Cisco said, “Employees of the acquired companies are retained, demonstrating the company's belief that employees are the main assets of any company” (Donnelly, 1999, abstract). Then Cisco controller, Dennis Powell said:

> If we’re going to lose the people who are important to the success of the target company, we’re probably not going to have an interest…We’re not interested in just bringing in a product by itself. If we don’t continue development of that product, we will not leverage the success of the acquisition as much as we could. (Donnelly, 1999, para. 9)

The 66 employees and senior leaders of Cocom A/S (1999) were folded into the cable products and solutions group. V-Bits, Altiga, JetCell, ArrowPoint, Netiverse, and so on, all these target firm employees were hired by Cisco and incented to stay. By 2004, Peter Sagawa, an analyst with Sanford Bernstein shared that most Cisco acquisitions “were focused on adding engineering talent or incremental improvements to existing products” (Hochmuth, 2004). Jumping forward several years, when Cisco acquired Cariden Technologies (2012), the company noted the acquisition aligned with strategic goals including, “attracting and cultivating top talent.” Likewise, with Sourcefire (2013), Cisco said of Sourcefire, “its Maryland headquarters is well located to attract and retain top talent” ("Cisco systems to acquire sourcefire conference call - final," 2013).

In the last decade of the sample acquisitions, Cisco became more overt in announcing that part of the acquisition purchase price included “retention-based

incentives" for acquired employees. An anonymous source disclosed there are retention efforts that include investments options of cash and or stock. Key individuals are selected for investment and significant effort is made for these retention efforts to be beneficial both to Cisco and the acquired employee. In 1998, John Chambers said:

> Most people forget that in a high-tech acquisition, you really are acquiring only people. That's why so many of them fail. At what we pay at $500,000 to $2 million an employee, we are not acquiring current market share. We are acquiring futures. (Byrne, 1998)

It appears obvious that Cisco is heavily focused on talent acquisition and retention. Also, at least for the period of the retention bonuses that a majority of acquired employees stay with the company.

One last point regarding talent retention should be made. The Cisco newsroom lists the current executive and senior leadership teams. Four members of the executive leadership team and two members of the senior leadership team came from acquisitions (StrataCom, 1996; IPMobile, 2000; ArrowPoint, 2000; Procket, 2004; Meraki, 2012; and Leaba, 2016). As a strategic objective, tied to the company's acquisition process, talent acquisition and retention efforts should be reported as being successful.

The next dimension I contemplated is cultural fit. Again, there was a desire to obtain internal acquisition-specific information that I did not realize. Like talent retention, however, there is publicly available information that addresses Cisco's thoughts and efforts related to this topic. In an early acquisition (SkyStone, 1998) a Cisco employee had the job to "help the former SkyStone employees learn to do things the Cisco way" (Standen, 1998). With GeoTel (1999), Cisco notes the company made a decision to avoid larger-sized firm acquisitions because, "Large companies are more

difficult to integrate and find it hard to assimilate the acquirer's values" (Donnelly, 1999). Ammar Hanafi, Cisco's M&A Director, during that timeframe said, "Large acquisitions are very hard to make work. There are lots of issues to focus on in terms of integration and capturing value. We like to think of ourselves as the biggest start-up on the planet" (Donnelly, 1999). With the acquisition of PixStream (2000), Cisco notes, "Cisco has been working on integration ever since the acquisition was announced," and Mike Goodman, a Senior Analyst with The Yankee Group, writes, "the acquisition [is] a 'nice marriage' of two companies with complementary technologies" ("Giant cisco snaps up waterloo's pixstream," 2000). With the Sourcefire (2013) acquisition, Marty Roesch, who was the founder and CTO of Sourcefire became the VP and Chief Architect of Cisco's Security Group. In addition to managing Cisco's security efforts, Roesch also had the responsibility to "guide the successful integration and operation of the Sourcefire business" ("Cisco systems to acquire sourcefire conference call - final," 2013). Further, Hilton Romanski, who was Cisco's VP of Corporate Development, noted that Cisco uses a "Build-Buy-Partner" innovation strategy, that Cisco uses a disciplined approach to acquisitions, and there are several reasons why the Sourcefire acquisition is a good fit, including growth, talent, innovation, complementary portfolios, and culture. He added that there is a "clear alignment between our companies and our cultures is something that we believe will greatly accelerate and smooth the integration process" ("Cisco systems to acquire sourcefire conference call - final," 2013).

While Cisco's habit is to buy smaller, in terms of company size and employee numbers, acquisitions that have complementary products, and are geographically situated

near Cisco’s headquarters, 14 (28%) of the sample acquisitions are based in foreign countries. The countries include Austria, Canada, Denmark, England, Germany, India, Ireland, Israel, and Sweden. With the acquisition of CoreOptics (2010), Cisco announced, “The acquisition of CoreOptics expands Cisco's optical presence in Europe, builds on its existing European operations in Monza, Italy” ("Cisco completes acquisition of coreoptics," 2010). In each of these cases, the acquired employees continue to live and work in the country of origin but are aligned with another existing Cisco office location. For example, with the acquisition of the Israeli Sheer Networks (2005), the acquired employees moved “from their offices in Petah Tikva to Cisco Israel's offices in the Netanya industrial zone” (Levi, 2005). This practice allows for corporate culture integration without having to worry as much about national culture integration.

Cultural fit is an important element in Cisco’s acquisition efforts. In the acquisition valuation and integration efforts, Cisco has three dedicated business development teams to help with the process. Pre-announcement, there is a business development team focused on assessment. Once the acquisition is announced, two additional teams – the integration team and the human resource team – begin working to support those aspects of the acquisition process. It is clear that Cisco is conscious of integration and culture concerns and has practices in place to help overcome cultural challenges that could otherwise derail the acquisition effort (Aguilera & Dencker, 2004).

Two additional items should be added to this result section. While the data collected, analyzed, and presented has focused on Cisco, a brief review of other firms has been conducted and should be noted. Donnelly (1999), at the time of the GeoTel

acquisition notes that Lucent Technologies' and Cisco's acquisition strategies were strangely similar. The same could be said for Apple and Cisco. In February 2021, during the annual shareholder's meeting, Tim Cook offered insight to Apple's acquisition practices. At that time, he said Apple had made acquisitions to:

> accelerate our products and services road map and bring some very talented people into Apple… about one acquisition every three to four weeks. Over the past six years we've acquired nearly 100 companies. We're not afraid to look at acquisitions of any size, but our priority is on valuation and strategic fit, and our focus is generally going to be on small, innovative companies exploring technologies that compliment [*sic*] our products and help push them forward. (Elmer-Dewitt, 2021)

Neither Apple nor Cisco use investment banks. Both go after small companies and absorb the acquired employees. Both target firms in markets that enhance their offering or allow entry into a market where the chief executive wants to steer the firm. Both acquire at a high rate. Moreover, Salesforce has also been employing a watch-worthy acquisition strategy. It should come as no surprise since Marc Benioff, Salesforce CEO, was personally recruited to Cisco's Board of Directors by John Chambers (Earnhardt, 2014), and saw the benefits of Cisco's acquisition strategy first hand. In 2016, Salesforce made 12 acquisitions. In 2012, the company purchased Buddy Media for $649 million and over the years began engaging in increasingly expensive acquisitions of software companies and purchased Slack in December 2020 for $27.7 billion. Benioff clearly sees value in Slack different than analysts might predict. There appear to be strategic and personal connections between the acquisition practices of Salesforce and Cisco. The similarity of these acquisition practices in the tech sector may suggest the need for industry-tailored assessment practices. Cisco is constantly seeking acquisitions and other investment

opportunities. When the company pursues a deal, the company sees the potential for success in achieving strategic and organizational objectives, which do not appear to be hampered by what the short-term announcement effect on stock returns might be.

*Pre-Assessment Checklists*

In the next portion of this study, I consider practitioner-developed acquisition pre-assessment checklists or what are commonly referred to as due diligence checklists. During the initial interview with the Cisco assessment team manager, she indicates Cisco uses such a list and I note in the first study the possibility of determining post-implementation acquisition assessment criteria based on the pre-assessment criteria contained in these lists. A quick search yields 16 checklists. The checklists are from study informants, law firms, consulting firms, and firms that produce checklist software. These checklists range from several pages to over 50 pages in length. The lists are broken into several categories (e.g., financial, tax, operations, etc.) and each category contains a list of data elements or sub-criteria. The purpose of the checklist is a data gathering tool, without any indication of what practitioners do to analyze the collected data or how these data are used to make decisions. Informants note the actual analysis process is often proprietary and not shared outside the firm. Appendix M compares the principal categories of the checklists I found. Beyond manually scanning and comparing the various checklists, which notes a lot of similarity, I created a word cloud, using NVivo, to find the 50 most frequently occurring words in the 16 checklists. Figure 8 is the due diligence checklist word cloud. I ran this query several times with adjusted criteria.

**Figure 8.** Due Diligence Checklist Word Cloud

*Source:* Author

One problem with finding a usable word cloud stemmed from the fact that some of the checklists include words (e.g., category or item explanations) beyond simply listing the checklist items. For example, the Midaxo playbook is a 56-page document. To overcome this dilemma, I created a document using the text found in Appendix M and uploaded that document to NVivo as the source of words for the query. The hope was to create a word cloud of the most commonly occurring checklist items, rather than every word in a checklist document.

Referring to the word cloud above, the eleven most frequently occurring words, in order are property, financial, contracts, litigation, management, tax, information, insurance, intellectual, legal, and matters. Each of these items represents data an acquiring firm should try to collect from or about the target firm, in order to determine an

appropriate purchase price, the level of risk associated with the purchase, items that may have to be managed during the integration process, and whether there are any issues (e.g., lawsuits, liens, litigation, contracts, intellectual property issues, or tax concerns) that may need to be resolved before, or interfere with, the closing of the deal. It is apparent, at least in terms of categories, that there is a lot of similarity across these checklists. Also noteworthy, one of the checklists (IRIS FMP) is a human resource management specific list. Another checklist (Price, 2019) is an exact copy of Harroch & Lipkin (2014) without any attribution. With these 16 checklists, I have achieved saturation on what might be included in a non-proprietary list.

As just noted, the point of obtaining the checklists was the hope they might be a source for acquisition assessment criteria. However, during the practitioner interviews, I learned the due diligence process, meaning when the checklist might be used, occurs after the deal assessment criteria are determined. Thus, these checklists can be a valuable data gathering tool, can be helpful in the due diligence phase of deal making, may provide some information an acquiring firm needs to track going forward, but does not provide assessment criteria. A greater explanation regarding the timing and use of the due diligence effort will be shared in the next section.

### *Practitioner Interviews*

In the final element of this second study, I conduct practitioner interviews. The purpose of the interviews is to gain insights from M&A practitioners regarding assessments practices. The interviews provide several significant answers to M&A assessment, including: (1) assessment criteria; (2) when assessment criteria are

determined; (3) when an acquiring firm should assess the success or failure of an acquisition; (4) information regarding success or failure of a deal; (5) deal objectives; and (6) other pertinent information related to M&A activities. These interviews are highly informative and provide valuable information regarding the aims of this study.

As noted above, I created an interview guide, an informed consent memo, and conducted 15 semi-structured interviews. I recorded each of the interviews, used a transcription service to transcribe the audio recording, and then coded the text of the transcripts using NVivo. The total elapsed recorded time of all the interviews is 447 minutes. The average interview duration is 32 minutes. I capture some of the interview details in an interview log (see Appendix J for further details). Prior to the interview, I sent a confirmation email that included the informed consent memo. While not necessary for this study, I felt using the informed consent provided transparency regarding the purpose of the interview and how the data would be used and protected. Except for the first interview, which I conducted eight months in advance of the others, I broke the interviews into three phases. First, I confirm that the participant received and reviewed the informed consent, answered any questions they had related to the consent document and interview process, and then asked if they wanted to continue. During this first phase, I also had a conversation about the informant's business role and experience with M&A. After the introduction and confirmation of the informant's willingness to proceed, I informed the individual I would start the audio recording. The second phase of the interview is focused on the questions I was seeking answers to and the resulting conversation. During the third phase of the interview, I stop the recording, share some

additional details about the study and, in some cases, because of the informants' expertise, share information about cumulative abnormal returns as an academic measure of assessment and ask for their thoughts. I receive some intriguing responses, which I will elaborate later.

I am very careful during the interviews to avoid providing details about the study that might bias or influence responses and made attempts to keep the conversation focused on three central questions, which included, "What are the assessment criteria you use to determine success or failure of a transaction," "When do you determine the assessment criteria," and "When do you assess the success or failure of the deal." On February 1, 2022, as I was reflecting on how I conducted the interviews, I wrote the following in my analytical memo:

> I have made some observations about my process when conducting the interviews. First, I felt the initial interviews were too long, perhaps too wide ranging and covered interesting information that was not really relevant to this study. Second, I found that as I spoke to people about the interviews and then facilitated the interview, I organized the conversation around three themes (e.g., what are assessment criteria used, how and when is the criteria determined, and when should the transaction be assessed). This was a slight adjustment from the interview guide I created, but consistent with the informed consent document I used. As I conducted more interviews, I got better about keeping the conversation focused, which meant it took less time to obtain responses to those ideas.

During these semi-structured interviews, there are, of course, instances where an informant would say something that would prompt me to ask a follow-up question. These responses also provide valuable information or clarify a point the informant was trying to make.

While coding the interview transcripts, several themes emerged. I captured these themes as “Assessment Criteria,” “When Criteria Determined,” “When Assess Deal,” “Comments About Success of Failure,” “Deal Objectives,” and “Misc. Interesting Comments.” Table 16 provides a summary of the number of informants who shared information regarding a specific theme and the total number of instances of coding for each of the six themes. Because of the perceived value of the interview data, I created six

**Table 16.** Practitioner Interview Coding Summary

| Code | # Informants Addressing the Theme | Coding Instances |
|---|---|---|
| Assessment Criteria | 15 | 47 |
| When Criteria Determined | 10 | 16 |
| When Assess Deal | 12 | 26 |
| Comments About Success or Failure | 13 | 34 |
| Deal Objectives | 8 | 14 |
| Misc. Interesting Comments | 12 | 29 |

*Source*: Author

appendices to capture each of the coded passages by theme. I report all the coded excerpts in Appendices N through S. The appendix excerpts are direct quotes from the interviews, including some exchanges I share with the informant. The interview log (see Appendix J) provides the job title, date, and duration of each of these interviews.

While the coded interview information is important and I hope the reader will take the time to review this information, I recognize it is important to condense that data

further. As a result, I have created summary tables, in which I try to capture the key words or phrases the informants expressed during the interview. The following subsections contain a narrative description of the condensed information and a corresponding summary table:

*Assessment Criteria*

By far, informants made more comments about assessment criteria than for any other theme. I coded items to this theme if an informant indicates the criteria should be used to measure the deal outcome. Informants point out that there are many criteria that should be considered when assessing the success of the deal. Table 17 provides a list of criteria articulated by the informants. There is not a single informant that provides a single criterion to use, and no informant suggests that CAR should be used as a measure. Some of the informants provide specific criteria (e.g., discounted cash flow, operations metrics) and some suggest there are lists (e.g., 10 to 15 value drivers, 10 different criteria) of criteria without elaborating. Regardless of how specific the informant was about the criteria, what is clear is the communication that the criteria need to be tied to the corporate strategy or business case for the deal, and that the criteria vary from deal to deal. Not surprising, finance-focused informants tend to tie measures to financial metrics and operation-focused informants tie measures to strategy. Though, this is not always the case as several operation-focused informants (e.g., I3, I5, I8, I9, and I11) comment about the importance of the revenue effects of the deal. A chief operating officer (I3) was adamant that net present value should not be used, and a VP of finance (I15) focuses

**Table 17.** Summary of Informant Comments on Assessment Criteria

| Informant | Title | Interview Response |
|---|---|---|
| **I2** | Lawyer (M&A Deals) | legal, financial, accounting, regulatory, objective measures, EBITDA, higher valuations, profitability numbers, tax changes |
| **I3** | Public Company COO | Cashflow, help achieve objectives, financial, strategic, people, legal, cultural considerations, risk factors, not net present value |
| **I4** | Private Company CFO | Price, culture, post-integration plan, accretive net earnings per share |
| **I5** | Partner (Consultancy) | Ability to integrate, execute purpose of the deal, support overall corporate strategy, deal dependent/vary by deal, internal operational and financial metrics |
| **I6** | Public Company CFO | Mapped to reason for/type of acquisition, discounted cash flows, how net present value of cash stream compares to business case and price, earnings per share |
| **I8** | Senior M&A Manager | 10 to 15 key value drivers (e.g., revenue), will vary dependent on deal rationale |
| **I9** | Global M&A Lead | Most controversial aspect of deal, revenue synergies, operational metrics (e.g., retention, pipeline velocity), milestone metrics |
| **I11** | M&A Head | One size doesn't fit all, integration, risk, synergy goals, customize every deal, revenue, operational synergies, cost synergies |
| **I12** | Investment Banker | Margin profile, earn out, different circumstances for every deal |
| **I13** | International Tax Partner (Consultancy) | Companies with a deal team often have lists of criteria, 10 different criteria |
| **I14** | Partner (Consultancy) | Why acquired the business in the first place (e.g., if speeding up roadmap, then how quickly get product to market, or if trying to |

**Table 17.** (continued)

| Informant | Title | Interview Response |
|---|---|---|
| **I14** | | increase revenue, then what is the new revenue), market cap creation, ton of different reasons, there's no one evaluation for success, depends on what you're looking at and what lens you are using, depends on corporate culture (e.g., sales versus engineering company) |
| **I15** | VP of Finance | Dependent on deal objective or corporate strategy, various different ways. |

*Source:* Interviews conducted by the author

more on strategic than financial measures. Appendix N provides all the passages coded to the theme assessment criteria.

*When Criteria Determined*

The next theme in the data focuses on when the deal assessment criteria are determined. Ten of the informants provide a similar response to this inquiry. While it is true that not all the informants provide responses that are coded to all the themes, because the responses for this theme are all the same, I went back to look at why only ten of the informants responded and note a response missing from informants I1, I2, I7, I10, and I13. I1 was the original individual I spoke to about access to Cisco information before the interview guide was developed. I2 is a due diligence attorney and engages in the M&A process after the criteria are determined. I7 is a securities analyst and doesn't participate in criteria development. I10 is an M&A director for a private company and has less deal experience than any of the other informants I spoke to. Finally, I13 could have provided a response, but I interviewed informants I12 and I13 at the same time and I12 was often quicker to respond to questions during the interview. Table 18 captures the coded responses for this theme. As mentioned, all the informants provide a similar answer and offer M&A assessment criteria is either tied to corporate strategy or is determined when the rationale for the deal is being discussed. This is a major finding. The assessment criteria are determined before the pre-assessment or due diligence process is completed, and importantly, the criteria are determined before an acquisition announcement is made. These early-developed criteria are then used for the ensuing assessment process. Appendix O presents all the passages coded to this theme.

**Table 18.** Informant Comments on When Assessment Criteria are Determined

| Informant | Title | Interview Response |
|---|---|---|
| **I3** | Public Company COO | We set the assessment criteria up front, each deal has its own criteria |
| **I4** | Private Company CFO | Strategy is done up front, before you buy |
| **I5** | Partner (Consultancy) | Before there's a transaction on the table, during the strategy conversation, before due diligence |
| **I6** | Public Company CFO | Business case development include success criteria |
| **I8** | Senior M&A Manager | Starts when identifying the reason to buy a company |
| **I9** | Global M&A Lead | Begins with corporate strategy, before due diligence |
| **I11** | M&A Head | Before acquiring a company need to determine strategic rationale; determine strategic rationale, then decide what can be done to achieve that |
| **I12** | Investment Banker | It happens pretty early, |
| **I14** | Partner (Consultancy) | During strategy conversation |
| **I15** | VP of Finance | Pretty early on |

*Source:* Interviews conducted by the author

*When Assess Deal*

With a list of criteria and knowing when those criteria are developed, the next natural question is when those criteria should be used or when is it time to assess the deal. The answers vary somewhat here, but all indicate there must be some passage of time before the deal can be assessed. Table 19 is a summary of informant comments capturing when the deal should be assessed (see Appendix P for all the passages coded to this theme). Six of the informants comment the assessment timing varies for each deal. Eight indicate several years, or from one year to a decade, are required. Five suggest the need for an ongoing quarterly review. Some interesting specific comments are worthy of mentioning. I3 said, “I think that for any particular deal you would set specific success criteria with timeframes, depending upon the deal itself, smaller deals, may be shorter term, or longer term based upon why you're doing it” (I3, personal communication, October 8, 2021). One manager has a person on the team fully dedicated to measurement and comments that individual is a “very, very busy person” (I9, personal communication, January 17, 2022). Finally, in one interview, I had the following exchange:

> Interviewer: So, what are your thoughts about that? Can we tell pretty quickly this is a win or do we have to let things happen and manage it for a while before we can tell whether it’s a win?
>
> Informant: It's the latter. I mean, you can’t tell day one what’s going to happen. Some deals you have got to see what happens a year or two down the road, because you’re buying for the future. Right? So, you can probably figure out quickly if it’s a disaster, if you find fraud or a bunch of people quit day one, then you know, that’s one thing. But to determine if something is successful takes time. (I12, personal communication, February 10, 2022)

**Table 19.** Informant Comments on When to Assess the Deal

| Informant | Title | Interview Response |
|---|---|---|
| **I2** | Lawyer (M&A Deals) | Successful clients involve everyone early |
| **I3** | Public Company COO | A year afterwards, it takes at least three years to know for sure, could start as early as three months into it, maybe shorter or longer based on why doing the deal |
| **I4** | Private Company CFO | Depends on the deal, within a year or so, depends on the business/time horizon |
| **I5** | Partner (Consultancy) | Do it right away, we use a 100-day plan, periodic check-ins after that |
| **I6** | Public Company CFO | Ultimately, it's obviously the long term that really delivers the value. So, [you'll have] checkpoints probably at year 1, 3, 5. Probably after year five, you're either on a trajectory or you're not. |
| **I9** | Global M&A Lead | Around two years into it, think about this upfront, difficult to measure, usually have one person dedicated to nothing but measurement |
| **I10** | M&A Director | Sometimes years down the road, depends on what you start off asking about, sometimes could be immediate, sometimes a decade, you have to pick a time everyone agrees on |
| **I11** | M&A Head | Have to report one year after commit to close and then quarterly after that |
| **I12** | Investment Banker | Probably a year or two afterwards, you can't tell day one what going to happen, you are buying for the future, to determine if something is successful takes time |
| **I13** | International Tax Partner (Consultancy) | Depends on a variety of factors (e.g., location, type, pre-revenue/startup/customer success, where in the funding rounds/process) |

**Table 19.** (continued)

| Informant | Title | Interview Response |
|---|---|---|
| **I14** | Partner (Consultancy) | Underlying rationale drives evaluation and timing, very nuanced/different for every deal, can be quarter, two quarters, or month after, always a quarterly lookback, yearly lookback, and two-year lookback |
| **I15** | VP of Finance | Six months or many years, pretty early on determine timeline, varies by size of the deal, transition agreements are pre-negotiated and usually tend to be 12 months or 18 months, could be extended, if the plan was two years, then you look at it quarterly or monthly |

*Source:* Interviews conducted by the author

These comments highlight another important finding that it takes time to determine the outcome of an acquisition and that there are a variety of factors that can influence the assessment timing decision.

*Comments About Success or Failure*

During the coding process, I note comments regarding determinants of success or failure for deals. Table 20 highlights the summary of these comments (see Appendix Q for all the coded passages). Existing literature notes a failure to manage the integration of the involved entities can lead to failure (Christensen et al., 2011; Larsson & Finkelstein, 1999). Several informants also note failure to integrate could influence the deal outcome. For example, I3 suggests a deal that didn't go well is one where integration didn't happen (personal communication, October 8, 2021), and I15 suggests failure to prioritize the integration can lead to negative outcomes (personal communication, February 18, 2022). Other informants (e.g., I5, I6, I14, and I15) indicate achieving strategic objectives is key to success or failure, which confirms prior published literature, as well as points made previously in this study.

Two comments in this section are especially instructive. First, one senior M&A manager notes, "I think [our deals are] generally successful because we keep doing them. And because I can see that the company has expanded its line of products that it offers and is growing as a result of these offerings" (I8, personal communication, January 14, 2022). Second, a global M&A leader asks, "The next question is why on earth are people still [engaging in M&A deals] if it's such a high failure rate?" He answers his own query

**Table 20.** Informant Comments on Determining Success or Failure

| Informant | Title | Interview Response |
|---|---|---|
| **I2** | Lawyer (M&A Deals) | Success or failure of earnings may be indicative of…the success or failure of the acquisition, most are ultimately successful, effective due diligence contributes to success |
| **I3** | Public Company COO | When acquisition didn't go well…did not do the integration, the more a deal happens just on money the more likely it is going to fail |
| **I4** | Private Company CFO | Everything and anything can go wrong, most leaders want to see accretive deals |
| **I5** | Partner (Consultancy) | The deal falls down in the actual post acquisition execution of strategy, fail means to not achieve the objectives that were laid out to begin with, selling an acquisition later at a loss is an obvious failure |
| **I6** | Public Company CFO | Success is always about bringing through the business case to support why you're going to make that acquisition |
| **I7** | Securities Analyst | What you should see in a good acquisition [is]…suddenly you're getting a huge amount of operational leverage that you haven't seen before |
| **I8** | Senior M&A Manager | I think they're generally successful because we keep doing them. And because I can see that the company has expanded its line of products that it offers and is growing as a result of these offerings |
| **I9** | Global M&A Lead | The next question is why on earth are people still [engaging in M&A deals] if it's such a high failure rate. I think it's vastly overblown, the way that many consulting firms are positioning this. You don't want to lose customers, sales momentum, or employees |

**Table 20.** (continued)

| Informant | Title | Interview Response |
|---|---|---|
| **I10** | M&A Director | The best kind of acquisitions is if they're accretive, in other words, it's not just that they sell what you sell, but they bring something to the table that you don't. |
| **I11** | M&A Head | It has to be quantifiable and there has to be accountability |
| **I13** | International Tax Partner (Consultancy) | I think on the financial side…the numbers speak for themselves at the end of the day…numbers have a good understanding of whether it's successful or not |
| **I14** | Partner (Consultancy) | Different people define success differently, there are tangential benefits, whether that is to have the [acquired] product out of the market. And so now it's not competitive or taking away from your core offering. And so again, that is why it's very nuanced around what is success or what is not. |
| **I15** | VP of Finance | There's a variety of different metrics and it goes back to what was the original objective, I think there's a higher chance for success if it's a smaller deal and it's a smaller company where you can pay attention to it. With a large company, oftentimes these things just get bought and then they just don't prioritize the integration |

*Source:* Interviews conducted by the author

by stating, “I think it’s vastly overblown” (I9, personal communication, January 17, 2022). Both individuals work for highly acquisitive firms.

*Deal Objectives*

Another theme I observe in the interview transcripts is informant statements that have to do with what I label “Deal Objectives.” This code includes the reasons informants seek to engage in deals. Whereas assessment criteria discussed earlier focuses on items that could be used to measure success or failure, I used deal objectives to answer the question, why a firm pursues a target. Interestingly, and importantly, if an assessment criterion is tied to strategic objectives, then a deal objective and an assessment criterion could be the same. The two codes, however, represent two separate ideas.

Table 21 summarizes passages I code to this theme. Eight of the informants provide comments related to deal objectives. Like with other themes, informants were consistent in their responses. Six of the eight informants (e.g., I7, I8, I10, I13, I14, and I15) all comment that talent acquisition or “acquihire” is an objective. This confirms both an earlier focus of this study on Cisco’s talent retention efforts, as well as why integration is so central to a deal. Informants I5, I6, I14, and I15 all mention defending against or eliminating competition as an objective. This too supports an earlier theme I assigned to some of the Cisco acquisitions, even though this idea is not one of Cisco’s publicly stated objectives. It also seems to support the prior published research of Brouthers et al. (1998), who suggest similar economic and strategic motives. Combining the criteria, timing, and success or failure insights gained during these interviews, confirms there is the potential for multiple deal objectives, and there is also a need for

**Table 21.** Informant Comments on Deal Objectives

| Informant | Title | Interview Response |
|---|---|---|
| **I5** | Partner (Consultancy) | Could be a number of motivations, take out competitor, reduce time to market, fill a hole in the market, grow revenue or market share |
| **I6** | Public Company CFO | Accelerate growth, enter a new market, be a better owner, synergy, defend against competitors, pure distraction of doing the deal, deliver growth/margin/synergies/new capability |
| **I7** | Securities Analyst | Acquiring a research team |
| **I8** | Senior M&A Manager | Revenue, technology, speed to market, new product lines, new markets, acquihires, |
| **I10** | M&A Director | Strategic acquisition to enter a new market, obtain a product, get personnel |
| **I13** | International Tax Partner (Consultancy) | Build versus buy, talent acquisition |
| **I14** | Partner (Consultancy) | Increase revenue, expand into adjoining markets, defend again competitor, speed up engineering roadmap, acquire talent, nuanced for every deal |
| **I15** | VP of Finance | It could be many things, acquire new customer segment, accelerate product development, intellectual property acquisition, acquihiring, enter a new market, international acquisition can accelerate entry, eliminate the competition |

*Source:* Interviews conducted by the author

multiple measures. This corroborates what was theorized by Brouthers et al. so many years ago. Appendix R presents all the passages coded to this theme.

*Misc. Interesting Comments*

While reviewing the transcripts, I notice comments informants made that did not fit into one of the themes above but are still interesting and relevant to the study. Table 22 reports these comments (see Appendix S for all passages coded to this theme). For example, a few of the informants suggest there is a difference between financial deals and strategy deals. I2 goes on to suggest that a strategy buyer may be willing to pay more for a deal than a financial buyer (personal communication, October 6, 2021). I3 notes, "I didn't do any deals at all, or pitch any deals at all, that were pure number deals. All my deals are strategy deals." He went on to add, "the long-term ramifications of the deal are far, far more significant, than the announcement date" (I3, personal communication, October 8, 2021). In like manner, in several of the Cisco annual reports, one can read the following statement, "The Company also expects to continue to make strategic acquisitions and equity investments where appropriate" (2000 Annual Report, p. 10). Not only do these statements corroborate each other, but this is an interesting finding that again suggests the need for diverse types of measures for different types of deals.

There are several additional comments that I find interesting. I4, a chief financial officer, suggests that ROA would only be valuable in a heavy asset company but should never be used for something like a software company (I4, personal communication, October 11, 2021). This is an interesting comment considering ROA is one of the commonly used academic measures of acquisition assessment. I find ROA has

**Table 22.** Informant Additional Comments of Interest

| Informant | Title | Interview Response |
|---|---|---|
| **I1** | M&A Assessment Manager | The corporate development integration team…they are the post-acquisition, integration, measurement, everything…they are the ones tracking the numbers. |
| **I2** | Lawyer (M&A Deals) | You have financial buyers and strategic buyers, a strategic buyer may be willing to pay more than a financial buyer, there may be a period between the announcement and the closing of the deal |
| **I3** | Public Company COO | I didn't do any deals at all, or pitch any deals at all, that were pure number deals. All my deals are strategy deals, the long-term ramifications of the deal are far, far more significant, than the announcement date. |
| **I4** | Private Company CFO | ROA would only be valuable in an asset heavy company |
| **I5** | Partner (Consultancy) | Because you don't know which ones are going to be good or bad ones you take a portfolio approach |
| **I6** | Public Company CFO | The shelf life of management is finite, the success or failure of the M&A may outlive the CEO or management team that's advocating for it |
| **I7** | Securities Analyst | There are a huge number of agency issues, principle-agent issues that are wrapped up in acquisition strategy |
| **I9** | Global M&A Lead | We are thinking about measuring the integration and with that comes accountability |
| **I10** | M&A Director | The most important thing in a small merger is…trust…if you have that then you have a deal…the things that probably the math part doesn't deal with. |

**Table 22.** (continued)

| Informant | Title | Interview Response |
|---|---|---|
| **I11** | M&A Head | You could announce or sign a deal, but it doesn't guarantee that a deal gets closed, scale of the deal doesn't determine the effort or complexity, strategic rationale is foundation, but must be able to turn objectives into something measurable |
| **I14** | Partner (Consultancy) | Strategic intention is the thing that guides how you're doing diligence on these companies…the strategic intention is what drives the type of diligence that you do, there is initial diligence and standard diligence, separated by signing a letter of intent or a term sheet. |

*Source:* Interviews conducted by the author

limited benefit in a highly acquisitive firm like Cisco. This financial officer suggests it has limitations in any company that is asset light. Next, two other informants (e.g., I2 and I11) address the idea about the time between announcement dates and closing dates of the deal. They also offer just because a deal is announced does not mean it will close. These are important considerations as CAR calculations are based on the announcement date of the deal. Further, informants reveal that sometimes a firm will announce intent to acquire and sometimes announce that a deal has been finalized. Not only do these two types of announcements have different practical meanings, but this could also influence the reliability of a critical factor in the calculation of CAR. I7 brings up a concern with agency theory and the principal-agent dilemma (Eisenhardt, 1989a). At one point, the informant said:

> The most important thing, if you're thinking about acquisition policy and acquisition efficacy…is agent-principal problems [are] the most important. I really see you've got ignoramuses who are investing that don't under understand what growth means, and that encourages corporate ignoramuses to make ignorant purchases of things. (I7, personal communication, October 17, 2021)

During the interview, this informant made several statements to suggest the gap between the number of M&A transactions, in which companies participate, and the failure rate is tied to agency concerns. Another informant said, "I have no personal experience with this one, you know, senior management sometimes does acquisitions for the pure distraction of doing an acquisition" (I6, personal communication, October 16, 2021). I6 also makes note of the fact the deal duration may exceed CEO tenure. The agency concern or hubris as a deal objective are noted as motivations in a prior study (Nguyen et al., 2012), but are not mentioned by any of the other informants of this one. Finally, the interviews provide

clarity about where the due diligence process fits in the deal-making process and one informant offers there are separate diligence gathering periods, which he describes as an initial diligence that occurs prior to the signing of a letter of intent and the standard diligence that occurs after (I15, personal communication, February 18, 2022).

*Informant Comments on CAR*

As it relates to interview results, there is one additional set of comments that should be addressed. During the interview process I was careful not to prejudice the informants with my feelings about CAR as a reliable measure. I did not include any mention of CAR while attempting to schedule the interview, in the informed consent, or during the initial phase of the actual interview. None of the informants ever suggest that CAR is an appropriate measure. None of the informants suggest watching for a change in stock price, following deal announcement, is a criterion they monitor. That's instructive. At the conclusion of the interview, after I had already recorded informant responses, there were 7 informants where I felt prompted to share details about the process for conducting CAR calculations and how academics apply CAR to predict the success or failure of M&A transactions. Table 23 highlights the responses from these 7 informants. As is apparent in the comments, none of the informants would ever use CAR as a predictor or as a measurement criterion. In fact, none of these informants were aware of CAR or how it is calculated. The fact that none of the informants, who are M&A experts, use or refer to CAR is an important finding. Two of the informants (e.g., I2, I15) make a comment concerning a failure statistic they read about but are not aware of how the statistic is produced. When I asked I15 about what he describe as an 80% failure rate,

**Table 23.** Informant Comment on the Efficacy of CAR as a Measure

| Informant | Title | Interview Response |
|---|---|---|
| **I1** | M&A Assessment Manager | When asked if the acquisition pre-assessment process involves the calculation of cumulative abnormal returns: "Not that I know of." |
| **I2** | Lawyer (M&A Deals) | There really isn't a good standard way to measure the success or failure of an acquisition. |
| **I3** | Public Company COO | There are tons and tons of people who write about acquisitions, but don't know anything about it. |
| **I5** | Partner (Consultancy) | There has to be a multi-faceted approach. I think that's right. You need to develop business and financial metrics. HR, customer adoption, financial, speed of integration, these are areas you need to focus on. |
| **I7** | Securities Analyst | You're right. This is not something you can apply a statistical analysis. |
| **I11** | M&A Head | To me that's nonsense. |
| **I14** | Partner (Consultancy) | It takes too long to create value for CAR to be an effective measure. |

*Source:* Interviews conducted by the author

he said, “In my personal experience, with both inbound and outbound deals…I have seen less of a failure percentage” (I15, personal communication, February 18, 2022). He added, referring to prior work experience in a consultancy, the 80% statistic applies primarily to large companies that acquire a lot of businesses and then fail to integrate (I15, personal communication, February 18, 2022).

Two facets of this dissertation effort have been especially informative. The first is the findings related to CAR, and the second is the information gathered from informants in these personal interviews. The interviews provide substantial and informative data that answer study questions and provide needed clarity to this ongoing acquisition assessment conversation.

## Discussion

In 1998, Brouthers et al. argues knowing merger motives is essential to determine the M&A outcomes and offered a list of 17 motivations split into economic, personal, and strategic motives. They set the groundwork for a multi-faceted approach to acquisition assessment. The later studies of Schoenberg (2006), Papadakis and Thanos (2010), along with the ethnographic approach suggested by Meglio and Risberg (2010) provide additional credence to the idea that multiple facets should be considered. Brouthers et al. also write, “Measuring merger performance has been the most onerous problem confronting researchers” (1998, p. 349). In support of Brouthers et al., one of the study informants said, “developing the measurement approach for the integration is actually one of the most controversial things that I find between the management teams” (I9,

personal communication, January 17, 2022). This problem is still before us today and this dissertation wrestles with an attempt to provide a more reliable measure.

A large body of published research in this area offers CAR, as a single financial measure, is the answer. That answer, however, leaves much unanswered and much to be desired. In the first study, I find serious limitations with the reliability of CAR and ROA as a measure and compares these two commonly used academic measures of acquisition assessment to managers' subjective assessment. In this second study, I consider strategic objectives, organizational measures, pre-assessment checklists, and obtain primary research data through practitioner interviews. This second study provides a compelling alternative: learn and adopt the practices of those who manage M&A deals for a living.

Reviewing archival data, I find information concerning subjective objectives, both related to Cisco's acquisitions and acquisitions generally. Adding information gained during practitioner interviews, knowing deal objectives is an essential element of determining assessment criteria. Further, while Cisco publicly segments its acquisitions into three categories, and it seems clear that most of Cisco's acquisitions fall into one of those three buckets, I suggest there are also objectives not openly shared with the public. Whether public or private, the strategic objectives of an acquisition should be weighed heavily when considering whether the outcome is successful or not. The current review of Cisco acquisitions furthers this idea. A unidimensional assessment criterion is not sufficient to assess the outcome. As has been demonstrated in the first study, some of the indicators (e.g., CAR, ROA) predict failure, when there is a recognizable successful business outcome. A review of one idea does not provide a complete picture and

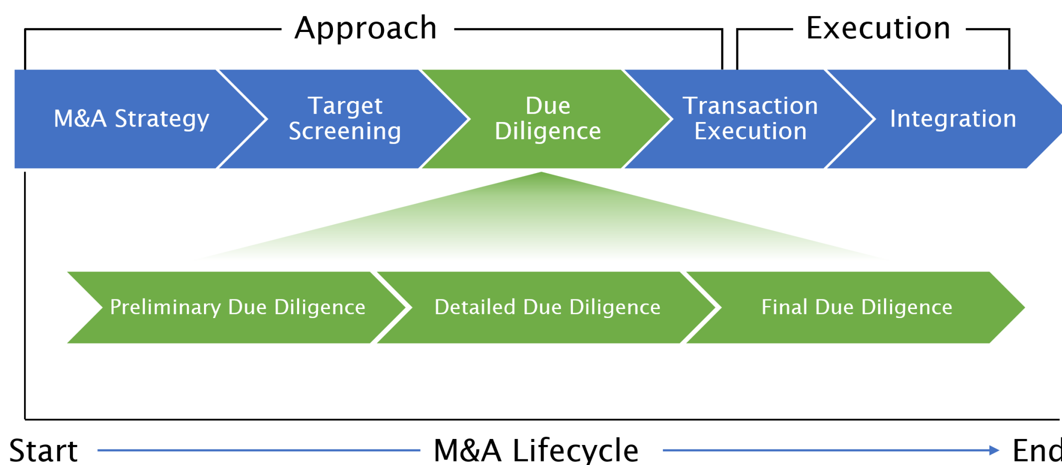
simultaneous consideration of multiple dimensions provides a better view and would, therefore, provide a more reliable assessment. While academics historically have relied on an *ex-ante* performance measure, practitioners focus on *ex-post* results. Further research in this area should adopt the practitioner view when developing study parameters.

Pertaining to the organizational dimensions of this review, sufficient discussion has been provided in the results sections for talent acquisition and cultural fit. Cisco is clearly focused on these areas and has instituted policies and practices to help insure successful integration of the acquired firms. Further, there is evidence that talent acquisition through acquisition transactions is critical to the success of continued product development for acquired technologies and should be considered when assessing acquisition success. This study demonstrates support for prior research efforts suggesting integration efforts are critical to the success of the deal (Christensen et al., 2011). Cisco is successful in this effort and practitioners I interviewed echo the important of integration to deal success.

One proposition of this second study centers on the due diligence or pre-assessment checklist criteria might be the reliable assessment criteria I was seeking. While the due diligence checklists I obtain are important in revealing the breadth and depth of information that is reviewed when an acquiring firm is evaluating a target, these checklists are not the assessment criteria. Rather, these checklists are a tool to help aid managers in considering the myriad items that should be reviewed to ensure the price paid for the deal is reasonable, the risk is tolerable, and there are no latent issues that

could interfere with the deal. According to practitioners, the due diligence checklist effort is initiated after the deal rationale is decided, after the assessment criteria have already been determined. Figure 9 depicts, with a focus on the due diligence process, a typical M&A lifecycle. Interestingly, informants suggest the assessment criteria are developed during the "M&A Strategy" portion of that lifecycle. Thus, while due diligence is a crucial element of this overall process, what happens during the strategy phase is, perhaps, most critical to determining the assessment criteria of the deal.

**Figure 9.** M&A Lifecycle




*Source:* Adapted from Deloitte (2017) M&A Due Diligence Workshop

Speaking more directly of the results of the practitioner interviews and the insights gained, the informants offer clear guidance on deal assessment. First, there are diverse types of deals and there are various assessment criteria. This dissertation attempts to find a response for six assessment dimensions (e.g., CAR, ROA, managers' subjective

assessment, achieved strategic objectives, talent retention, cultural fit) for each of the 50 Cisco acquisitions. Informants provide a lengthy list of criteria (see Table 17), and indicate criteria development and use is tied to the strategic objectives of the deal. Second, the assessment criteria are determined during an overall corporate strategy conversation or at the time the business case or deal rationale is developed. This is an important finding that supports claims by prior researchers that assessment should be tied to deal motives (Brouthers et al., 1998). Third, deal assessment is an ongoing review of actual results that requires time. This review could begin early, may be completed at regular intervals, will likely last for at least a few years, and may be specified in the deal agreement. The criteria development, both in terms of items and timing, and when the deal should be assessed is vastly different from practices normally used in academic research. This difference in practice and timing, may provide part of the answer for why practitioners continue engaging in deals when most deals are predicted to fail. Finally, the practitioners do not pay attention to changes in stock price as a success criterion and do not calculate CARs in their deal assessment. The CAR calculation is a researcher created tool but has little practical value for managers.

## Conclusion

At its heart, this dissertation is focused on attempting to determine a reliable assessment for acquisitions. The first study reviews and finds limitations with commonly used academic measures for acquisition assessment. This second study uses a case study method to determine outcomes for strategic and organizational dimensions of a random sampling of Cisco acquisitions. The results provide a primary objective for each the

sample acquisitions and secondary objective for 20 of the 50 acquisitions in the sample. An indication of whether Cisco achieved the objective is seen in the product production of several acquisitions, but, due to data access limitations, is not found. Research shows Cisco is effective both the dimensions of talent retention and cultural fit. Achieving success regarding these two dimensions is built into Cisco's strategy. Additionally, I collect 16 due diligence checklists. The hope behind obtaining the checklists is to determine if the checklist criteria can also be used as assessment criteria. Completed research shows these checklists, if used, are a helpful way of developing information concerning a target company but are employed after assessment criteria are developed. Finally, practitioner interviews provide extremely valuable information concerning assessment criteria, when the criteria are developed, and the timing of acquisition assessment. Importantly, informants indicate deals are varied, criteria are varied, multiple criteria are used, and deals are evaluated based on *ex-post* results. Informants do not rely on CAR or ROA for acquisition assessment. The difference between academic and practitioner assessment practices provides insights to answer the question why managers continue to pursue deals despite the prediction most acquisitions will fail.

While additional research is warranted, there are several ways in which the results of this study could contribute to managerial practice. For example, there are several studies that predict the high failure potential of acquisitions. Researchers, consultancies, market analysts, and others use the fear associated with the failure potential to encourage followers to listen to their message or hire their services. If decision makers are influenced by this rhetoric, which would cause them to shy away from a potentially

transformative investment deal or a market analyst reacts with skepticism toward a deal because of the failure conversation, then pointing out the unreliability of the numbers, or the limitations of the method that has produced the failure statistic, and providing an alternative assessment technique, could adjust the conversation in a meaningful way. Hopefully, at a minimum, the conversation regarding predicted failure rates will be revisited and adjusted to reflect the need to focus on using an assessment that assists multiple stakeholders rather than over reliance on a single measure that only addresses the needs of a single stakeholder group (Caprar et al., 2015; Mcwilliams et al., 1999). Additionally, this study highlights some practices used by Cisco (e.g., the use of specialized assessment, integration, and HR teams; general target selection criteria; general assessment criteria) and other M&A experts (e.g., making the business case for the deal; when success criteria is determined and what is should be; what the due diligence process teaches about success determination) that could be helpful to managers contemplating whether to pursue a deal and how.

# CHAPTER 5

# CONCLUSION

Globally, on average for the past ten years, firms engage in nearly 46,800 M&A transactions, which are valued at approximately $3.45 trillion, each year (IMAA, 2020). At the same time, there is a large body of research, predominantly grounded in the finance literature, and most often relying on the use of short-term event studies, which predicts a high percentage of these transactions will fail. Most recently, that failure prediction is 70% to 90% (Christensen et al., 2011; Kenny, 2020). The formation of this study begins with trying to make sense of these two competing ideas. It doesn't make sense that managers would continue to engage in something that is predicted to fail so frequently. In fact, researchers have asked why managers continue to pursue these deals despite the grim prediction (Brouthers et al., 1998; Harrison & Farrell, 2008). While some might suggest agency theory or manager ego is the cause, the question remains largely unanswered (King et al., 2004). Other researchers continue to note there is an ongoing struggle to effectively measure the success of acquisitions (Bruhn, 2001; Cartwright & Cooper, 1994; Christensen et al., 2011; Koi-Akrofi, 2016). Still others argue for the use of a multi-faceted approach (Brouthers et al., 1998; Papadakis & Thanos, 2010; Schoenberg, 2006). This dissertation builds on these efforts and uses a mixed-method approach, including an inductive case study method with both quantitative and qualitative components, to consider how a multi-faceted or holistic approach influences reliable assessment of acquisition transactions. This chapter provides

information regarding the findings and conclusions of the study, contributions to the literature, limitations of this study, and future research recommendations.

## Findings and Conclusions

This effort is organized into two studies. The first study considers limitations of commonly used academic measures of acquisition assessment. Prior research suggests that short-term event studies, looking to determine cumulative abnormal returns (CAR), return on assets (ROA), and managers' subjective assessment are some of the most commonly used measures (Papadakis & Thanos, 2010; Schoenberg, 2006). CAR, which produces the oft-quoted failure statistics, is an *ex-ante* measure that evaluates the effect or influence, in this context, of an acquisition announcement on stock price, rather than the actual success of failure of an acquisition transaction. CAR results for this study are determined for a random sampling of 50 Cisco acquisitions and are not statistically significant. CAR calculations are also calculated for a larger sample of 600 acquisitions, completed by 12 highly acquisitive firms from multiple industries, and are also not statistically significant. While CAR calculations may be useful in studies where researchers are interested in determining the effect of information on stock prices, the CAR results here are not statistically different than zero and do not provide a reliable means of assessing the collective or individual acquisition outcomes for the transactions in the samples. Additionally, even with appropriate estimation periods and small event windows, it is hard to separate what transaction or announcement is influencing the stock price in highly acquisitive firms. Together, these points suggest there are limitations with the use of CAR as a reliable acquisition assessment technique. I calculate Return on

Assets (ROA) for each of the Cisco acquisitions. The individual acquisition ROA results follow the corporate ROA results, but do not drive or enhance it. This is due to the significant overlap in acquisition transactions and because Cisco as an acquiring firm is so much larger than the target firms it acquires. In the case of Cisco, ROA does not provide a meaningful assessment. This study compares CAR and ROA results to managers' subjective assessment for the Cisco acquisitions. The managers' subjective assessment provides a dramatically different response for success of the deal. Where CAR, if statistically significant, predicts a 40% success rate, and ROA, if reliable, also suggests a 40% success rate, the finding for managers' subjective assessment suggests a 92% success rate. The fact these measures indicate different success rate findings is consistent with published research. A key outcome of the first study is we need another measure to effectively assess M&A transactions.

The second study picks up where the first one ended, with a focus on trying to find another measure. There are three major components to the second effort. First, the Cisco sample is used again, but this time to determine the outcome for strategic and organizational dimensions. Archival data is used to determine acquisition objectives, talent retention, and cultural fit for the sample acquisitions. The study finds primary objectives for all 50 sample acquisitions and secondary objectives for 20 of the transactions. While there is anecdotal evidence that suggests most Cisco acquisitions are a success, the archival data does not specifically provide information to suggest whether Cisco achieved the strategic objectives for the deals. Access to internal information is necessary to find that answer. The study also finds that Cisco has specific processes in

place and is successful in managing talent retention and cultural fit. The results support other published research that indicates managing these organizational dimensions is critical to the success of the deal. Second, the study obtains and reviews due diligence checklists. Initially, I hoped these checklists might provide the assessment criteria for the deal. Instead, the study finds these checklists are data gathering tools used to help determine deal price, risk, and outstanding issues that need to be addressed or that might interfere with deal success. While the due diligence process is an important pre-assessment practice, I find the assessment criteria are determined prior to initiating the due diligence process. Third, this study develops new data through interviews with M&A practitioners. These interviews provide valuable information regarding types of assessment criteria, when these criteria are determined, and when the acquisition assessment occurs. Some key findings include assessment criteria are determined during corporate strategy discussions or when the business case for the deal is determined; different types of deals (e.g., strategy deal versus financial deal, large deal versus small deal, etc.) use different assessment criteria; none of the study informants use CAR to assess acquisitions; deals assessment can begin following deal close but is monitored at regular intervals and over extended periods of time; and since it takes time for the deal to produce value an *ex-ante* measure does not provide a reliable assessment.

## Contributions to the Literature

The results of this study provide valuable insights for both academics and practitioners. The study findings contribute to the literature in several ways. First, this study provides a response to the question why managers continue to pursue acquisitions

despite the fact they are predicted to fail so often. Acquisition failure predictions are based on short-term event study results. Manager determination for acquisition participation does not include short term changes in stock price. Most managers are focused on the strategic outcomes of the deal, which they know require time to develop. Second, prior studies have concluded that CAR measures something other than acquisition performance or is not an effective measure. This study finds support for both of those ideas and offers that CAR, in this context, is intended to measure the effect or influence of some announcement on stock price but is not an effective measure when trying to test the success or failure of an individual transaction. Third, some researchers have offered that ROA can be an effective success measure. This study suggests that may be valid for a true merger or for firms that are asset heavy. In contrast, for acquisitions, especially in highly acquisitive firms, or firms in which the buyer is much larger than the seller, how the individual deal might affect ROA is hard to determine or, with sufficient overlapping deals may be meaningless in the assessment. Fourth, many researchers combine various deal types under the umbrella of M&A. This study points out there are at least six different financial deal types (e.g., merger, acquisition, joint venture, etc.) and subtypes within those categories (e.g., vertical, horizontal, strategy, financial, etc.). Different deal types require different measures. Past research that combines various deal types under one name may have contributed to some of mixed results in the literature. Fifth, this study produces new findings regarding types of acquisition criteria, when the deal criteria are determined, when and how practitioners assess acquisitions. These findings are significant with the potential to inform both academics and practitioners

alike. These findings all give credence to the idea that a holistic or multi-faceted approach to acquisition assessment is necessary. These findings also reinforce prior research that contends a longitudinal, ethnographic approach may be needed. An acquisition is a unique transaction. Researchers need to consider industry, deal type, and strategic objectives when trying to measure the outcome. Big data queries will not provide an effective answer for an individual transaction.

## Study Limitations

There are limitations with this research that should be acknowledged. First, some would argue that a larger sample is necessary (at least $n \geq 30$) when completing CAR studies. I calculate individual CAR values for each of the 600 acquisitions ($n = 1$), for the Cisco acquisition sample ($n = 50$), and for the larger multi-firm sample ($n = 600$). While a larger sample may provide a more compelling quantitative result, this study is focused on developing a reliable assessment for an individual transaction, rather than testing, or controlling, for some effect. Next, while published research supports the use of Cisco as a sample source, there is some subjectivity to that choice and use of the other 11 firms that I identified for the larger sample CAR calculations. There are many more firms and many more industries than those selected. Research should consider more transactions, firms, or industries in the analysis. Third, acquisition data internal to the acquiring firm will provide a better answer than archival data. The archival data used to find a response for managers' subjective assessment, and the strategic and organizational objectives for the Cisco acquisitions is informative but having access to people involved in the transactions of interest, as well as the internal data, will likely produce a more informed response.

Finally, the findings related to assessment criteria came from a limited number of informants. The fact that each of the informants provide similar responses in compelling, but, again, for those concerned with sample size, asking the same questions to a larger number of informants may be helpful to see whether the responses are replicated.

## Future Research Recommendations

While this research produces significant findings, those findings, as well as insights gained along the way, lead to additional questions. First, one observation I note is the fact that the acquisition failure statistic seems to be getting worse. This research does not offer any insight as to why, but it may be interesting to determine what is influencing that change, especially considering there is a large volume of research that suggests how to overcome problems in the acquisition process. Some might ask how come the suggested process improvements are not reducing the predicted failure rate. Second, as noted in the previous section, this study considers 12 firms and 600 transactions for the final CAR calculations. After obtaining the statistically insignificant Cisco CAR results, I added the additional firms to see if the results would be similar. I think it would be interesting to see the results as more firms are added and understand why the results for the sample firms are not statistically significant, when there are acquisition studies that find statistically significant CAR results. Third, another CAR-related item that caught my attention, is how the change in parameters influences the outcomes. Of course, it is not surprising that a parameter change influences the outcome, but how does the change affect the results (e.g., can the results be manipulated by using certain parameters), why if the data is reported one way (e.g., [-10, 2], [-1, 0], [1, 10])

there is a statistically insignificant result, but reported another way (e.g., [-10, 10]) the result is significant, and why, when the sample size is increased, do the results appear more statistically significant? More specifically, are there effects in the math that lead to spurious results? Fourth, this study reveals some financial measures Cisco executives say should be considered when measuring acquisition performance. It would be interesting to see acquisition performance results using those measures. Finally, a desire of this study is to produce a holistic assessment tool for acquisition assessment. The foundation is laid to query whether such a tool or method is possible but would likely require a longitudinal effort that begins with the initial criteria conversation and follows the deal through final assessment years later. The results of such a study would be a meaningful addition to the literature.

## Final Thoughts

The heart of this study is to find a more reliable means of assessing acquisition transactions. An underlying intent of this study is to provide a holistic assessment tool. This study finds the commonly used M&A assessment methods have limitations and are unreliable. The study also finds support for a multi-faceted assessment approach, using assessment criteria that are determined during a strategy discussion, and that vary for each deal. No single measure can capture the complexity that exist in these transactions and we need to move away from an overreliance on a single measure (Caprar et al., 2015; Mcwilliams et al., 1999; Zollo & Meier, 2008), especially one that doesn't actually measure success or failure of an acquisition (Zollo & Meier, 2008).

This study has produced a meaningful response to some important questions but has produced new questions still in need of an answer. A holistic approach to acquisition assessment is necessary to produce a reliable measure of success and to reliably measure acquisition outcomes. Further, Brouthers et al. lament, “Measuring merger performance has been the most onerous problem confronting researchers” (1998, p. 349), and one study informant offers, “developing the measurement approach for the integration is actually one of the most controversial things that I find between the management teams” (I9, personal communication, January 17, 2022). This study is relevant and provides information that is helpful for both academics and practitioners. As we continue research in this area, we need to think more like the practitioner and adopt research practices that are connected with a “real-world outcome [that] constitutes an appropriate test of usefulness” (Ball & Brown, 1968, p. 160). It’s time to reset the acquisition failure conversation and this study provides a meaningful next step.

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# APPENDIX A

## RANDOMLY SELECTED SAMPLE OF 50 CISCO ACQUISITIONS

| Fiscal Year | Acquisition Name | Announcement Date |
|---|---|---|
| 1994 | Crescendo Communications, Inc. | Sep 21, 1993 |
| 1996 | Combinet, Inc. | Aug 10, 1995 |
| 1996 | TGV Software, Inc. | Jan 23, 1996 |
| 1997 | Granite Systems, Inc. | Sep 3, 1996 |
| 1997 | SkyStone Systems Corp | Jun 9, 1997 |
| 1998 | LightSpeed International, Inc. | Dec 22, 1997 |
| 1998 | CLASS Data Systems | May 4, 1998 |
| 1999 | Selsius Systems, Inc. | Oct 14, 1998 |
| 1999 | GeoTel Communications Corp. | Apr 13, 1999 |
| 2000 | Calista, Inc. | Aug 16, 1999 |
| 2000 | Cocom A/S | Sep 15, 1999 |
| 2000 | V-Bits, Inc. | Nov 11, 1999 |
| 2000 | Altiga Networks | Jan 19, 2000 |
| 2000 | JetCell, Inc. | Mar 17, 2000 |
| 2000 | ArrowPoint Communications, Inc. | May 5, 2000 |
| 2001 | Netiverse, Ltd. | Jul 7, 2000 |
| 2001 | PixStream, Inc. | Aug 31, 2000 |
| 2001 | Active Voice Corporation | Nov 10, 2000 |
| 2001 | Allegro Systems, Inc. | Jul 27, 2001 |
| 2003 | Psionic Software, Inc. | Oct 22, 2002 |
| 2004 | Andiamo Systems, Inc. | Aug 20, 2002 |
| 2004 | Procket Network, Inc. | Jun 17, 2004 |
| 2005 | NetSolve, Inc. | Sep 9, 2004 |
| 2005 | BCN Systems, Inc. | Dec 9, 2004 |
| 2005 | Sipura, Inc. | Apr 26, 2005 |
| 2006 | Sheer Networks, Inc. | Jul 26, 2005 |

**Appendix A.** (continued)

| Fiscal Year | Acquisition Name | Announcement Date |
|---|---|---|
| 2006 | Metreos Corporation | Jun 8, 2006 |
| 2007 | Orative Corporation | Oct 25, 2006 |
| 2007 | Reactivity, Inc. | Feb 21, 2007 |
| 2008 | Latigent, LLC. | Sep 27, 2007 |
| 2008 | DiviTech A/S | Jun 10, 2008 |
| 2009 | Richards-Zeta Building Intelligence, Inc. | Jan 27, 2009 |
| 2010 | Starent Networks, Corp. | Oct 13, 2009 |
| 2010 | CoreOptics, Inc. | May 20, 2010 |
| 2011 | Inlet Technologies | Feb 4, 2011 |
| 2012 | Versly | Aug 29, 2011 |
| 2012 | ClearAccess | Mar 28, 2012 |
| 2013 | ThinkSmart Technologies | Sep 26, 2012 |
| 2013 | Cariden Technologies, Inc. | Nov 29, 2012 |
| 2013 | SolveDirect | Mar 25, 2013 |
| 2014 | Sourcefire | Jul 23, 2013 |
| 2014 | Tail-f Systems | Jun 17, 2014 |
| 2015 | Memoir Systems | Sep 18, 2014 |
| 2015 | Piston Cloud Computing | Jun 3, 2015 |
| 2016 | Portcullis | Sep 30, 2015 |
| 2016 | Acano Limited | Nov 20, 2015 |
| 2016 | Synata | Mar 8, 2016 |
| 2017 | AppDynamics, Inc. | Jan 24, 2017 |
| 2017 | Observable Networks, Inc. | Jul 13, 2017 |
| 2017 | Cmpute.io | Dec 7, 2017 |

*Source*: Author

## APPENDIX B

## COMPARISON OF STUDIES WITH PREDICTED FAILURE RATES

| Author (Date) | Failure Rate | Cites Others or New Study | Failure Reasons |
|---|---|---|---|
| Ager (2011) | Most | Cites Others | Non-financial |
| Aguilera & Dencker (2004) | 50% domestic; 70% Cross-border | Cites Others | Financial |
| Applebaum et al. (2013) | 83% | Cites Others | Financial |
| Barkema & Schijven (2008) | Most | Cites Others | Financial (synergy realizations); Non-financial (learning mechanisms, target selection, and integration) |
| Bertrand & Betschinger (2012) | Most | ***New Study*** | Financial/Economic (return on assets, solvency, liquidity ratio, market share) |
| Blumer (2011) | 30% to 80% | Cites Others | Financial (shareholder value); Non-financial (knowledge transfer) |
| Boateng et al (2019) | Generally | Cites Others | Financial (destroy value) |
| Brannen & Petersen (2009) | 50 to 83% | Cites Others | Non-financial (culture) |
| Cartwright & Cooper (1993) | 50% | Cites Others | Financial (expectations); Non-Financial (integration) |
| Cartwright & Schoenberg (2006) | 44% | Cites Others | Financial |
| Chatterjee (2009) | >50% | Cites Others | Financial |
| | | ***New Study*** | Non-Financial (sound acquisition program) |
| Chaudhuri & Tabrizi (1999) | 62 to79% | ***New Study*** | Financial (return on investment) |
| Child et al (2003) | 45 to 65% | Cites Others | Financial (value) |
| Christensen et al. (2011) | 79 to 90% | No Citation | N/A |
| Christofferson et al. (2004) | 70% | Cites Others | Financial (revenue synergies) |

**Appendix B.** (continued)

| **Author (Date)** | **Failure Rate** | **Cites Others or New Study** | **Failure Reasons** |
|---|---|---|---|
| Datta et al. (1992) | On average | ***New Study*** | Financial (shareholder wealth gains) |
| Denison & Ko (2016) | 20 to 70% | Cites Others | Financial; Non-Financial |
| Dikova & Rao Sahib (2013) | Majority | Cites Others | Financial |
| Graebner et al (2010) | Many; 90% | Cites Others | Financial (value creation) |
| Haleblian & Finkelstein (1999) | Often | ***New Study*** | Financial (abnormal stock price returns) |
| Homburg & Bucerius (2006) | 60 to 80% | Cites Others | Financial |
| Hyder & Osarenkhoe (2018) | 50% | Cites Others | Financial (expectations) |
| Jensen & Ruback (1983) | 50% | ***New Study*** | Financial (abnormal stock price returns) |
| Kelly et al. (1999) | 83% | ***New Study*** | Financial (value creation) |
| King et al (2004) | On average zero or no benefit | ***New Study*** | Financial (abnormal returns, return on assets, return on equity, return on sales, and stock market-based measures) |
| Kitching (1967) | 30% | ***New Study*** | Non-Financial (change management, skill, relationship management, planning, effective criteria, and analysis of future needs) |
| Koi-Akrofi (2016) | 45 to 83% | Cites Others | Financial (shareholder value); Non-Financial (cultural integration, due diligence, and human factors) |
| Mandal et al. (2005) | Many | Cites Others | Non-financial (“people problems”) |
| Mandelker (1974) | Most | ***New Study*** | Financial (abnormal returns) |
| Nolop (2007) | Majority | No Citation | N/A |

**Appendix B.** (continued)

| **Author (Date)** | **Failure Rate** | **Cites Others or New Study** | **Failure Reasons** |
|---|---|---|---|
| Renneboog & Vansteenkiste (2019) | Many | ***New Study*** | Financial (shareholder returns); Non-Financial (poor governance, poor integration) |
| Rifkin (1997) | 50% | Cites Others | Financial (benefit to the shareholders, customers, employees, and business partners) |
| Seo & Hill (2005) | Nearly half | Cites Others | Financial; Non-financial |
| Shimizu et al. (2004) | 53 to 83% | Cites Others | Financial (value creation) |
| Schoenberg (2006) | 44 to 50% | ***New Study*** | Financial (cumulative abnormal returns), managers' assessments, divestment data and expert informants' assessments |
| Tetenbaum (1999) | 60 to 80% | Cites Others | Financial |
| Toppenberg et al. (2016) | High | Cites Others | Financial (value, performance) |
| Trautwein (1990) | >50 to 75% | Cites Others | Financial (performance data, divestiture data) |
| UNCTAD (2000) | Large number | Cites Others | Financial (shareholder value) |
| Weber et al. (1996) | 50 to 60% | Cites Others | Financial (expectations) |
| Zakaria et al. (2017) | Majority | Cites Others | Financial (value creation) |
| Zollo & Singh (2004) | Overall | No Citation | Financial/Accounting terms |

*Source*: Author

# APPENDIX C

## LIST OF ACQUISITION MOTIVATIONS AND STUDY SAMPLE

| Author (Date) | Motivation | Study Sample |
|---|---|---|
| Brouthers et al. (1998) | Economic motives<br>Personal motives<br>Strategic motives | Survey of 33 mergers completed in 1994 by publicly traded Dutch companies |
| Bowers (2001) | Deal with overcapacity<br>Roll-up competitors<br>Extend into new products or markets<br>Substitute for R&D<br>Exploit eroding industry boundaries | 1,036 U.S. M&A Deals valued over $500 million from 1997 to 1999, based on data analysis using SDC data |
| Shimizu et al. (2004) | Enter foreign markets<br>Learn from foreign cultures<br>Value creating strategy | Literature review summarizing existing empirical research (1991 to 2002) |
| Danzon et al. (2007) | Utilize excess capacity<br>Exit strategy (for smaller firms) where financial trouble exists | Review of SDC data for 383 bio/pharma firms, 1988 to 2001 |
| Graebner et al. (2010) | Add valuable resources<br>Enhance market power<br>Achieve strategic renewal | Qualitative review on existing technology acquisition research. |
| Christensen et al. (2011) | Boost company performance<br>Reinvent business model | Theoretical paper |
| Ager (2011) | Help increase market share<br>Enhance geographic reach<br>Cut R&D time<br>Maximize revenues | Ethnographic study focused on the acquisition of two small firms by one parent company (2000-2001) |
| Nguyen et al. (2012) | Market timing<br>Agency/hubris<br>Synergy<br>Response to economic/industry shocks | Quantitative review of 3,520 U.S. transactions >$10 million in value for period 1984 to 2004. |
| Arslan and Dikova (2015) | Speedy entry into a new Geographic market or an industry<br>Consolidation of market power in concentrated global industries<br>Firm transformation<br>Taking advantage of a new opportunity<br>Avoiding a possible future threat | Analysis of 184 Finish manufacturing sector acquisitions (1990-2008) made in emerging economies, based primarily on data from the Finish FDI database |
| Toppenberg et al. (2015) | Gain access to complimentary products<br>Gain access to innovative technologies | Case study of one Cisco acquisition (2012), based on primary researcher knowledge and 22 interviews |

*Source*: Author

# APPENDIX D

## COMPARISON OF M&A RELATED CULTURAL CONCERNS

Comparison of Researcher Thoughts on M&A Related Cultural Concerns

Aguilera & Dencker (2004)
- M&A type will influence HR during the integration phase.
- Many researchers fail to account for personnel issues.
- HRM strategies should be tied to M&A strategy.
- "M&A integration is especially difficult in cross-border M&As" (p. 1356).
- Managerial practices and environmental demands need to be aligned.
- National culture differences exist and need to be accounted for in cross-border M&As.

Bruhn (2001)
- "Many merger failures could be prevented if there were pre-merger audits or cultural assessments" (p. 30).
- "Cultures harbor beliefs, values, and customs that comprise separate identities and give purpose and meaning to our lives. Therefore, it is not surprising the unresolved cultural conflicts help to produce merger failure" (p. 31).
- "Cultures rarely are erased and forgotten; they change only with great difficulty" (p. 31).

Cartwright & Cooper (1993)
- Chief executives rank integration as one of the most important factors for acquisition success.
- Proven corporate cultures are not easily transferred or accepted.
- Culture is as important to an organization as personality is to an individual.
- A culture audit is a valuable source of information that will influence partner selection and provide insight regarding long-term management.

Dennison & Ko (2016)
- Incompatibility of organization cultures is one of the most common themes to explain M&A failure rates.
- Pre-merger cultural due diligence is necessary to uncover: (1) information necessary to help the deal team during negotiations and (2) to highlight culture gaps and potential integration concerns.

Gurchiek (2016)
- "[The] cultural fit between an acquirer and the target of a merger or acquisition is one of the most neglected areas of analysis prior to the closing of a deal" (quoting Thomas Bouchez, HR M&A leader for Mercer).

Koi-Akrofi (2016)
- "Post-merger/acquisition integration…is key for the success of the deal" (p. 152).
- "[The] overwhelming majority of senior personnel highlighted culture and communication to be the two areas that prove to be the most challenging" (p. 152).
- CEOs that can manage both the finances and the people will create lasting value.

Schweiger & Goulet (2005)
- "Organizational culture is a key element of an acquisition environment that influences the nature of organizational interaction between combining firms" (p. 1477).
- "Cultural differences have been related to polarization, negative evaluations of counterparts, anxiety, and ethnocentrism between members of acquirer and target top management teams" (p. 1478).
- Fundamental to acquisition success is the development of a shared culture.
- Communication about change is necessary but is not sufficient.
- Deep-level cultural learnings that encompass "…perceptions of cultural understanding, cultural differences, communication, and cultural acceptance, and employee attitudes of trust, commitment, and cooperation during integration" (p. 1479) are necessary.

*Source*: Author

# APPENDIX E

# MULTI-FIRM CAR RESULTS (2011 – 2021)

Market Model Abnormal Returns, Equally Weighted Index (90-day estimation)

| | Days | N | Mean Cumulative Abnormal Return | Precision Weighted CAAR | StdCsect Z | p-value | Generalized Sign Z | p-value |
|---|---|---|---|---|---|---|---|---|
| Amazon | (-10, -2) | 40 | -1.25% | -1.29% | -1.724 | 0.0423* | -1.993 | 0.0231* |
| | (-1, 0) | 40 | -0.19% | -0.06% | -0.141 | 0.4440 | 0.854 | 0.1965 |
| | (+1, +10) | 40 | 0.44% | 0.38% | 0.413 | 0.3399 | -0.411 | 0.3404 |
| Apple | (-10, -2) | 70 | 0.49% | 0.34% | 0.610 | 0.2711 | 1.400 | 0.0807 |
| | (-1, 0) | 70 | -0.04% | -0.06% | -0.216 | 0.4145 | -0.035 | 0.4862 |
| | (+1, +10) | 70 | -0.15% | -0.02% | -0.028 | 0.4888 | -0.035 | 0.4862 |
| Boston Sci | (-10, -2) | 32 | -0.13% | -0.18% | -0.211 | 0.4166 | 0.083 | 0.4670 |
| | (-1, 0) | 32 | 0.26% | 0.29% | 0.989 | 0.1613 | 1.856 | 0.0317* |
| | (+1, +10) | 32 | -0.79% | -0.91% | -1.322 | 0.0930 | -0.626 | 0.2655 |
| CEMEX | (-10, -2) | 5 | 1.13% | 1.58% | 0.632 | 0.2638 | 0.649 | 0.2583 |
| | (-1, 0) | 5 | -1.13% | -1.14% | -3.371 | 0.0004* | -2.045 | 0.0204* |
| | (+1, +10) | 5 | -2.02% | -1.54% | -0.815 | 0.2076 | -0.249 | 0.4015 |
| Cisco | (-10, -2) | 50 | -0.80% | -0.87% | -1.356 | 0.0876 | -0.946 | 0.1720 |
| | (-1, 0) | 50 | 0.62% | 0.48% | 1.779 | 0.0376* | 1.317 | 0.0939 |
| | (+1, +10) | 50 | -0.48% | -0.09% | -0.123 | 0.4512 | 1.034 | 0.1505 |
| GE | (-10, -2) | 95 | 0.17% | 0.25% | 0.789 | 0.2150 | -0.601 | 0.2741 |
| | (-1, 0) | 95 | -0.18% | -0.20% | -1.342 | 0.0898 | -1.217 | 0.1118 |
| | (+1, +10) | 95 | 0.30% | 0.44% | 1.151 | 0.1250 | 0.016 | 0.4936 |
| IBM | (-10, -2) | 80 | -0.28% | -0.21% | -0.665 | 0.2530 | -0.753 | 0.2258 |
| | (-1, 0) | 80 | -0.17% | -0.11% | -0.452 | 0.3255 | -0.753 | 0.2258 |
| | (+1, +10) | 80 | -0.40% | -0.30% | -0.883 | 0.1885 | -0.529 | 0.2983 |
| Intel | (-10, -2) | 47 | -1.13% | -0.88%- | -1.383 | 0.0833 | -1.459 | 0.0723 |
| | (-1, 0) | 47 | 0.01% | 0.01% | -0.039 | 0.4846 | -0.292 | 0.3852 |
| | (+1, +10) | 47 | -0.57% | -0.35% | -0.583 | 0.2799 | -0.875 | 0.1907 |
| Microsoft | (-10, -2) | 76 | -0.44% | -0.43% | -0.933 | 0.1754 | -0.122 | 0.4513 |
| | (-1, 0) | 76 | -0.24% | -0.21% | -1.227 | 0.1099 | 0.796 | 0.2130 |
| | (+1, +10) | 76 | -0.09% | 0.07% | 0.153 | 0.4391 | 0.796 | 0.2130 |
| Novartis | (-10, -2) | 25 | -0.12% | 0.03% | 0.049 | 0.4804 | 0.044 | 0.4823 |
| | (-1, 0) | 25 | 0.26% | 0.28% | 0.735 | 0.2310 | 1.246 | 0.1064 |
| | (+1, +10) | 25 | -0.35% | -0.27% | -0.333 | 0.3695 | 0.445 | 0.3282 |
| Pfizer | (-10, -2) | 23 | 0.41% | 0.31% | 0.485 | 0.3140 | 0.362 | 0.3588 |
| | (-1, 0) | 23 | 0.42% | 0.38% | 1.476 | 0.0699 | 0.779 | 0.2180 |
| | (+1, +10) | 23 | 0.10% | 0.22% | 0.302 | 0.3812 | 0.362 | 0.3588 |
| Salesforce | (-10, -2) | 57 | -1.26% | -1.33% | -1.677 | 0.0467* | -2.323 | 0.0101* |
| | (-1, 0) | 57 | -0.37% | -0.46% | -1.112 | 0.1331 | 0.327 | 0.3719 |
| | (+1, +10) | 57 | -1.46% | -1.16% | -1.700 | 0.0446 | -0.998 | 0.1591 |

*$p < 0.05$.

# APPENDIX F

## CISCO ACQUISITION ROA (%) BY QUARTER

| Acquisition/Period (Quarters) | Announcement Quarter | 2 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|
| Crescendo Communications, Inc. | 0.602 | 0.701 | 0.629 | 0.632 | 0.567 | 0.646 | 0.577 |
| Combinet, Inc. | 0.567 | 0.632 | 0.567 | 0.646 | 0.577 | 0.612 | 0.517 |
| TGV Software, Inc. | 0.636 | 0.660 | 0.645 | 0.575 | 0.513 | 0.480 | 0.421 |
| Granite Systems, Inc. | 0.577 | 0.612 | 0.517 | 0.495 | 0.421 | 0.421 | 0.335 |
| SkyStone Systems Corp | 0.575 | 0.513 | 0.480 | 0.421 | 0.421 | 0.186 | 0.285 |
| LightSpeed International, Inc. | 0.513 | 0.480 | 0.421 | 0.421 | 0.186 | 0.285 | 0.251 |
| CLASS Data Systems | 0.480 | 0.421 | 0.421 | 0.186 | 0.285 | 0.251 | 0.107 |
| Selsius Systems, Inc. | 0.421 | 0.421 | 0.335 | 0.307 | 0.230 | 0.234 | 0.066 |
| GeoTel Communications Corp. | 0.421 | 0.335 | 0.307 | 0.230 | 0.234 | 0.066 | 0.019 |
| Calista, Inc. | 0.335 | 0.307 | 0.230 | 0.234 | 0.066 | 0.019 | 0.135 |
| Cocom A/S* | 0.335 | 0.307 | 0.230 | 0.234 | 0.066 | 0.019 | 0.135 |
| V-Bits, Inc. | 0.186 | 0.285 | 0.251 | 0.107 | 0.036 | 0.109 | 0.155 |
| Altiga Networks* | 0.186 | 0.285 | 0.251 | 0.107 | 0.036 | 0.109 | 0.155 |
| JetCell, Inc. | 0.307 | 0.230 | 0.234 | 0.066 | 0.019 | 0.135 | 0.165 |
| ArrowPoint Communications | 0.285 | 0.251 | 0.107 | 0.036 | 0.109 | 0.155 | 0.173 |
| Netiverse, Ltd. | 0.285 | 0.234 | 0.066 | 0.019 | 0.135 | 0.165 | 0.174 |
| PixStream, Inc.* | 0.230 | 0.234 | 0.066 | 0.019 | 0.135 | 0.165 | 0.174 |
| Active Voice Corporation | 0.251 | 0.107 | 0.036 | 0.109 | 0.155 | 0.173 | 0.181 |
| Allegro Systems, Inc. | 0.107 | 0.036 | 0.109 | 0.155 | 0.173 | 0.181 | 0.199 |
| Andiamo Systems, Inc. | 0.135 | 0.165 | 0.174 | 0.191 | 0.213 | 0.230 | 0.243 |
| Psionic Software, Inc.* | 0.135 | 0.165 | 0.174 | 0.191 | 0.213 | 0.230 | 0.243 |
| Procket Network, Inc. | 0.199 | 0.223 | 0.239 | 0.244 | 0.247 | 0.233 | 0.221 |
| NetSolve, Inc. | 0.213 | 0.230 | 0.243 | 0.246 | 0.217 | 0.226 | 0.209 |
| BCN Systems, Inc. | 0.223 | 0.239 | 0.244 | 0.247 | 0.233 | 0.221 | 0.219 |
| Sipura, Inc. | 0.230 | 0.243 | 0.246 | 0.217 | 0.226 | 0.209 | 0.215 |
| Sheer Networks, Inc. | 0.239 | 0.244 | 0.247 | 0.233 | 0.221 | 0.219 | 0.206 |
| Metreos Corporation | 0.247 | 0.233 | 0.221 | 0.219 | 0.206 | 0.199 | 0.171 |
| Orative Corporation | 0.217 | 0.226 | 0.209 | 0.215 | 0.200 | 0.185 | 0.144 |
| Reactivity, Inc. | 0.226 | 0.209 | 0.215 | 0.200 | 0.185 | 0.144 | 0.145 |
| Latigent, LLC. | 0.209 | 0.215 | 0.200 | 0.185 | 0.144 | 0.145 | 0.147 |
| DiviTech A/S | 0.206 | 0.199 | 0.171 | 0.140 | 0.149 | 0.152 | 0.138 |
| Richards-Zeta Building Intelligence | 0.199 | 0.171 | 0.140 | 0.149 | 0.152 | 0.138 | 0.134 |
| Starent Networks, Corp. | 0.144 | 0.145 | 0.147 | 0.140 | 0.127 | 0.142 | 0.137 |

**Appendix F.** (continued)

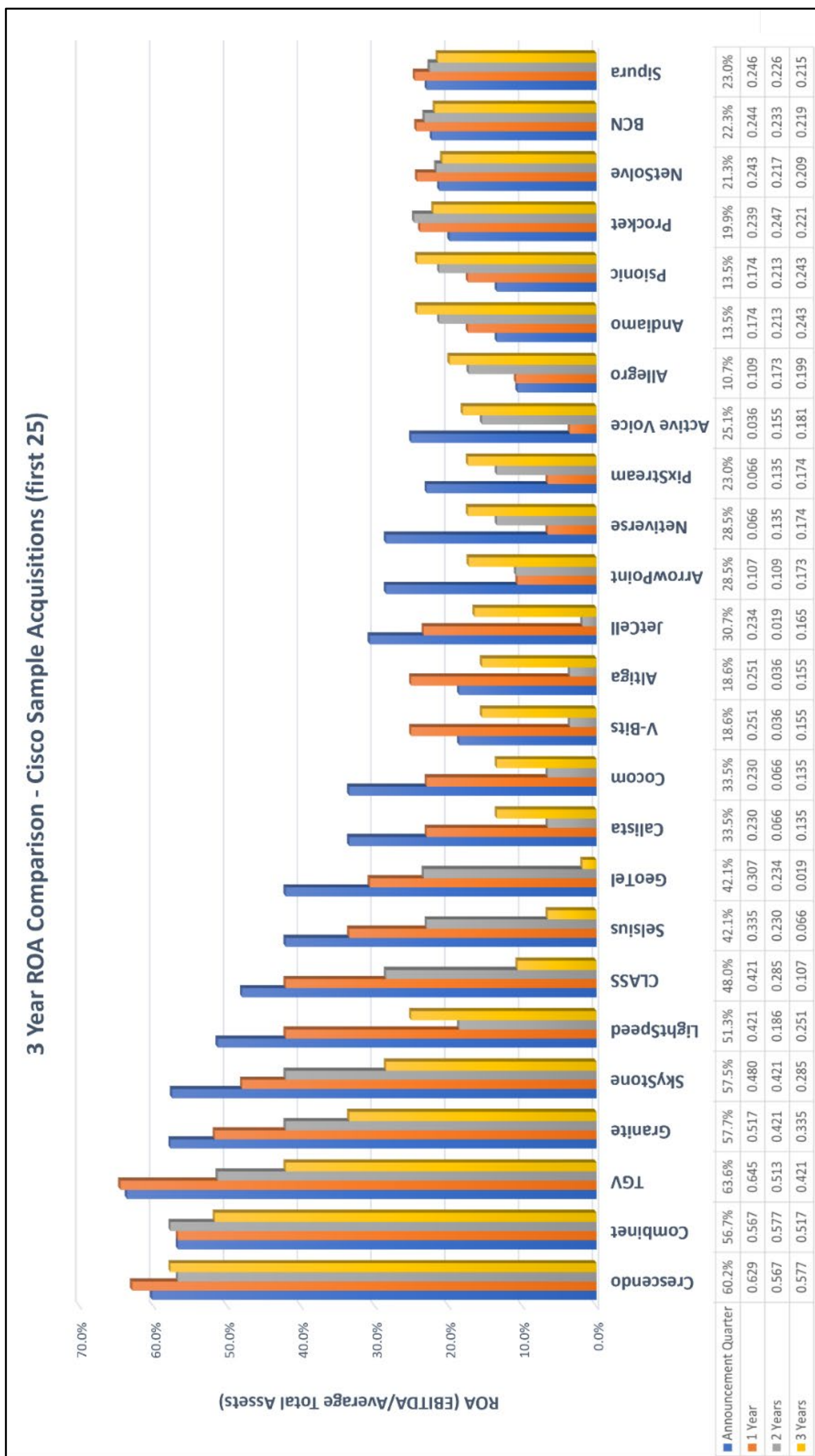
| Acquisition/Period (Quarters) | Announcement Quarter | 2 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|
| CoreOptics, Inc. | 0.149 | 0.152 | 0.138 | 0.134 | 0.145 | 0.148 | 0.147 |
| Inlet Technologies | 0.140 | 0.127 | 0.142 | 0.137 | 0.147 | 0.143 | 0.133 |
| Versly | 0.127 | 0.142 | 0.137 | 0.147 | 0.143 | 0.133 | 0.120 |
| ClearAccess | 0.142 | 0.137 | 0.147 | 0.143 | 0.133 | 0.120 | 0.131 |
| ThinkSmart Technologies | 0.137 | 0.147 | 0.143 | 0.133 | 0.120 | 0.131 | 0.126 |
| Cariden Technologies, Inc. | 0.148 | 0.147 | 0.147 | 0.129 | 0.123 | 0.132 | 0.132 |
| SolveDirect | 0.147 | 0.143 | 0.133 | 0.120 | 0.131 | 0.126 | 0.133 |
| Sourcefire | 0.147 | 0.147 | 0.129 | 0.123 | 0.132 | 0.132 | 0.131 |
| Tail-f Systems | 0.129 | 0.123 | 0.132 | 0.132 | 0.131 | 0.129 | 0.124 |
| Memoir Systems | 0.120 | 0.131 | 0.126 | 0.133 | 0.124 | 0.125 | 0.117 |
| Piston Cloud Computing | 0.132 | 0.132 | 0.131 | 0.129 | 0.124 | 0.116 | 0.115 |
| Portcullis | 0.126 | 0.133 | 0.124 | 0.125 | 0.117 | 0.116 | 0.124 |
| Acano Limited | 0.132 | 0.131 | 0.129 | 0.124 | 0.116 | 0.115 | 0.127 |
| Synata | 0.133 | 0.124 | 0.125 | 0.117 | 0.116 | 0.124 | 0.135 |
| AppDynamics, Inc. | 0.129 | 0.124 | 0.116 | 0.115 | 0.127 | 0.147 | 0.162 |
| Observable Networks, Inc. | 0.124 | 0.116 | 0.115 | 0.127 | 0.147 | 0.162 | 0.173 |
| Cmpute.io | 0.116 | 0.115 | 0.127 | 0.147 | 0.162 | 0.173 | 0.162 |

*Notes:* *These acquisitions and the immediately previous acquisitions were both announced in the same quarter.

Source: Financial Ratios Firm Level by WRDS (beta) Query. However, the final ROA value for Cmpute.io was not available in WRDS when this query was run on October 12, 2021. The value is derived from Cisco's 2020 annual EBITDA ($15,428 [millions] divided by the average of total assets ($95,302 [millions]).

**APPENDIX G**

**ROA QUARTERLY COMPARISON – CISCO SAMPLE ACQUISITIONS**



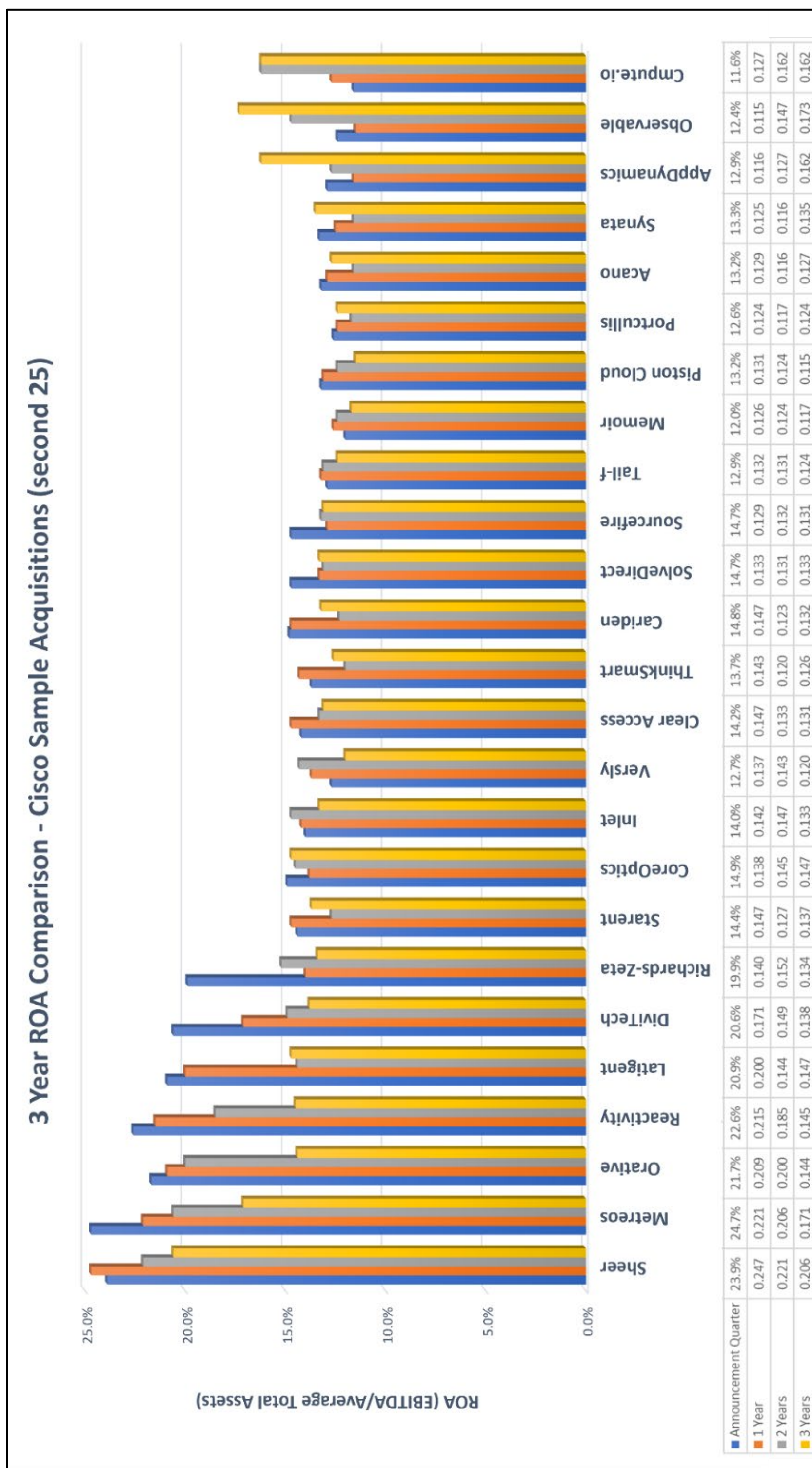

| | Crescendo | Combinet | TGV | Granite | SkyStone | LightSpeed | CLASS | Selsius | GeoTel |
|---|---|---|---|---|---|---|---|---|---|
| Announcement Quarter | 60.2% | 56.7% | 63.6% | 57.7% | 57.5% | 51.3% | 48.0% | 42.1% | 42.1% |
| 1 Year | 0.629 | 0.567 | 0.645 | 0.517 | 0.480 | 0.421 | 0.421 | 0.335 | 0.307 |
| 2 Years | 0.567 | 0.577 | 0.513 | 0.421 | 0.421 | 0.186 | 0.285 | 0.230 | 0.234 |
| 3 Years | 0.577 | 0.517 | 0.421 | 0.335 | 0.285 | 0.251 | 0.107 | 0.066 | 0.019 |

| | Calista | Cocom | V-Bits | Altiga | JetCell | ArrowPoint | Netiverse | PixStream |
|---|---|---|---|---|---|---|---|---|
| Announcement Quarter | 33.5% | 33.5% | 18.6% | 18.6% | 30.7% | 28.5% | 28.5% | 23.0% |
| 1 Year | 0.230 | 0.230 | 0.251 | 0.251 | 0.234 | 0.107 | 0.066 | 0.066 |
| 2 Years | 0.066 | 0.066 | 0.036 | 0.036 | 0.019 | 0.109 | 0.135 | 0.135 |
| 3 Years | 0.135 | 0.135 | 0.155 | 0.155 | 0.165 | 0.173 | 0.174 | 0.174 |

| | Active Voice | Allegro | Andiamo | Psionic | Procket | NetSolve | BCN | Sipura |
|---|---|---|---|---|---|---|---|---|
| Announcement Quarter | 25.1% | 10.7% | 13.5% | 13.5% | 19.9% | 21.3% | 22.3% | 23.0% |
| 1 Year | 0.036 | 0.109 | 0.174 | 0.174 | 0.239 | 0.243 | 0.244 | 0.246 |
| 2 Years | 0.155 | 0.173 | 0.213 | 0.213 | 0.247 | 0.217 | 0.233 | 0.226 |
| 3 Years | 0.181 | 0.199 | 0.243 | 0.243 | 0.221 | 0.209 | 0.219 | 0.215 |

*Source*: Author

**Appendix G.** (continued)




*Source:* Author

# APPENDIX H

## MANAGER SUBJECTIVE ASSESSMENT EXCERPTS BY ACQUISITION

| Acquisition | Subjective Data Excerpts (Cisco Sample Acquisitions) |
|---|---|
| Crescendo Communications | Crescendo's business evolved into Cisco's Catalyst switching business, and the deal, though expensive, paid for itself over time<br><br>Wall Street was in disbelief that Cisco spent so much to acquire only $10 million in annual revenue; Cisco's stock took a dip for the first time. 3 years later, Mazzola's team was producing more than $500 million in annual revenue.<br><br>Sometimes, we necessitate paying a great deal more to get what we hope, but in business this is not always considered as a loss.<br><br>The original Catalyst 5000 and 6000 series were based on technology acquired from Crescendo Communications. The 1700, 1900, and 2800 series Catalysts came from Grand Junction Networks, and the Catalyst 3000 series came from Kalpana in 1994.<br><br>Crescendo's product line went on to become Cisco's Catalyst switching unit, now a multibillion-dollar business<br><br>1994 - Cisco launched Catalyst series switches – the most profitable product line for the next 20 years. |
| Combinet | The acquisition looks like a win-win situation for both companies, said John Coons, director, and principal analyst for wide-area networking at Dataquest Inc., a San Jose consultancy. |
| Granite Systems | "These guys are scary," said Craig Restle, president of Systron Inc., a New York-based reseller that partners with Cisco. "Everybody jumps up and down about Microsoft [Corp.], but the way Cisco keeps acquiring everybody just blows me away." |
| SkyStone Systems | A year-and-a-half after California datacom giant Cisco paid a whopping $ 89.1 million U.S. for SkyStone, the company continues to flourish in Ottawa as a Cisco division. |
| Selsius Systems | October 1998 Of all the acquisitions Cisco has made, none may have had a bigger impact to Cisco than Selsius. For a mere $145 million, Cisco acquired the company that enabled it to move into the voice-over-IP market. |

**Appendix H.** (continued)

| | |
|---|---|
| Selsius Systems (continued) | About 15 years and billions of dollars later, Cisco stands as the market leader in VoIP sales and its Call Manager remains the most widely deployed IP PBX to date. Cisco has since acquired a number of other VoIP companies, but it all started with Selsius.<br><br>"This acquisition signals the new world in PBX technology," said Mario Mazzola, Senior Vice President, Enterprise line of business. "Customers should seriously consider the network PBX technology before committing to purchase old world equipment. Cisco will demonstrate its commitment to this technology by replacing its internal conventional PBX equipment over the company's 40-building campus," he added.<br><br>Cisco's integration of Selsius, now complete, largely has been seamless, said David Tucker, director and general manager of Cisco's enterprise voice business unit and a former executive at Selsius.<br><br>"The acquisition hasn't slowed our operations," he said. "If anything, Cisco's sales organization has opened a lot of doors for us into Fortune 1000 accounts. Our go-to-market strategy has remained largely intact because of our complementary fit within the Cisco product line," Tucker said. |
| GeoTel Communications | Kelly claims that the investment community has learned to trust Cisco's judgment as a technology shopper, rarely punishing the stock on news of an acquisition -- at least since its purchase of Crescendo Communications Inc., in 1993. That deal, arguably Cisco's most successful, became a driver of Cisco's business, according to Kelly. Investors also believe the details Cisco tells them about a deal. "If the company says it's dilutive this year and accretive next year, [investors] trust them," he says. |
| Altiga Networks | Analysts reacted positively to Cisco's purchases. |
| Netiverse | The acquisition is Cisco's 13th so far this year, bringing the company more than halfway to its goal of buying between 20 to 25 companies in 2000. |
| PixStream | "We are transitioning out of this business over the next four months," Lou Santora, vice-president of video networking at Cisco, said of PixStream.<br>He said that Cisco had decided to exit PixStream's business as part of its restructuring brought on by rapidly slowing customer demand. "This is not a decision reflecting the team ... [or] product. This is clearly a business decision resulting from the economy." |

**Appendix H.** (continued)

| | |
|---|---|
| PixStream (continued) | Mr. Santora didn't rule out the possibility of Cisco selling its PixStream assets to another company. "If opportunities arise over the next four months that [would ensure] this business and technology can survive outside of Cisco, we will certainly entertain, support and drive to that. We will be ... investigating whatever opportunities present themselves in that area."<br><br>Cisco's decision to shut down PixStream stands in stark contrast to its proclamation eight months ago when it bought the company and said, "video is expected to account for a growing percentage of traffic on the Internet, and the acquisition of PixStream is an important step in Cisco's plan to accelerate the delivery of broadcast-quality video over broadband networks." |
| Active Voice | Active Voice's Unity product offerings complement Cisco's existing IP-based voice solutions by providing advanced capabilities that enable the unification of both text and voice. Cisco believes such applications will help drive continued adoption of IP telephony. The acquisition of Active Voice's Unity operation brings Cisco a step closer to delivering unified communications solutions that will help enterprises enhance employee productivity, lower cost of ownership, and provide better customer care. |
| Allegro Systems | Matt Barzowskas, a vice president for Albany, N.Y.-based FAC/Equities, calls such acquisitions by Cisco a sign that "Its internal business is back in order. When the economy turns around, Cisco is going to be the long-term survivor." |
| Andiamo Systems | "Andiamo is an excellent example of how Cisco creates value for customers and shareholders through innovation," said John Chambers, president, and CEO of Cisco Systems. " . The integration of this successful partnership marks our continued commitment to delivering leading SAN and data networking technologies and intelligent network services, combined with storage services from Cisco and our storage partners." |
| Procket Network | Analysts and customers give Cisco mostly passing grades on its acquisitions report card, as the network giant already has bought five companies this year. But none of the acquisitions will drive the company into the groundbreaking new directions Cisco has hinted at, observers add. |
| Sheer Networks | The framework will provide vendors with a common information model to simplify integration of various management applications. Such open frameworks have been attempted in the past but have largely failed to achieve their objectives. |

**Appendix H.** (continued)

| | |
|---|---|
| Sheer (continued) | Meltzer acknowledged those failures, but he asserted that it can be done. "You need to open the southbound and the northbound interface built around a common information model so that future applications you build later would be able to interoperate with applications built today," he said. |
| Orative | Cisco clearly feels the relatively small acquisition is a win-win scenario, in that "there are immediate benefits to our customers because they're already a partner of ours, but now with tighter integration we'll be able to add other collaboration features such as IM and video." |
| Richards-Zeta Building Intelligence | Cisco Quietly Shuts Down Building Energy Management Program<br><br>Cisco Systems adds its name, with an announcement yesterday that it will exit building management software services while also retreating from the home energy management market<br><br>Cisco Getting Out of Building Management |
| Cerent (not in the sample) | Cisco's track record in acquiring optical networking companies is spotty. In 1999, the company paid $7.4 billion for Cerent, a maker of metropolitan networking transmission gear, and Monterey Networks, a maker of optical switches. Cisco killed the Monterey product in 2001 and has steadily lost share and expertise in optical multiservice SONET/SDH provisioning platforms (MSPP), a $6 billion market where the Cerent platform competes. |
| Sourcefire | Cognitive, Scan Safe, Secure Net, Ironport -- I think if we added up Cisco has a 23 security acquisitions. Some of which have been integrated, some of which have been discontinued -- some of which are still separate.<br><br>We closed the Sourcefire acquisition on October 7 and are already seeing the benefits of the focus and the assets we acquired.<br><br>Sourcefire integration continues to fuel growth and opportunities with customers<br><br>Sourcefire acquisition performed well. |
| AppDynamics | Cisco AppDynamics, the industry leading Business Observability platform, today announced the expansion of its Software-as-a-Service (SaaS) offering through five strategic new locations, enabling fast, secure, and reliable access to the AppDynamics Business Observability platform.<br><br>In the end, the fast-growing tech firm enables businesses to accelerate their digital transformations, optimizing complex application environments at a large scale -- a perfect fit for Cisco's current needs. |

**Appendix H.** (continued)

AppDynamics (continued)

If you think about AppDynamics as an independent company, we were on the eve of becoming one of the fastest growing software companies in the public market. Now within Cisco, the opportunity to accelerate what was already a hyper-growth business, because of all the relationships Cisco brings to the mix, and to integrate more deeply with everything that David was talking about earlier about taking what we do at the application at the business and at the user layer and making the intent-driven network smarter by taking our data as a currency down into that layer is very exciting.

AppDynamics achieved another solid qtr.

KELLY A. KRAMER: Yes. I mean we don't disclose the total SaaS number. I mean, again, it's made up of our WebEx business, a lot of our portfolio, Duo, Umbrella, in Security. And again, acquisition, Meraki is a hybrid, where we ship an appliance, but then it has the SaaS management. And things like ThousandEyes that we're adding to our networking portfolio and AppDynamics, I mean, that's just going to continue to accelerate.

Let's move on to Applications. To remind you, applications is made up our collaboration portfolio of Unified Communications, conferencing, and TelePresence as well as our IoT and application software businesses such as AppDynamics and Jasper. Applications increased 6% in total, with collaboration up modestly and AppDynamics driving most of the increase.

Observable Networks

Over the past few years Cisco has changed the face of its security business. What was once a struggling concern is now the fastest-growing part of Cisco.

Starent

BRIAN MODOFF, ANALYST, DEUTSCHE BANK: Hi, John. So, looking a little longer term, as you look at the network intelligence piece of your business, and looking into wireless as a specific area, you saw Starent -- or your Starent acquisition doing well for you. Are there other elements you see in these evolving networks that you think you need to strengthen in your portfolio to continue to see good growth in the service provider side of the business? Thanks.
JOHN CHAMBERS: Sure. We're working with the service providers on a bunch of fronts. I think, Brian, you set me up with a comment on the wireless. We commented in the session, I think, that we are at $1 billion run rate in terms of the key wireless components together in the service provider market as well as $1 billion run rate in the cloud.

EDZARD OVERBEEK: Yes. I remember when I was in APJC we had many opportunities there. I think with the acquisition of Starent in 2011

**Appendix H.** (continued)

| | |
|---|---|
| Starent (continued) | we really start moving the needle with that capability from a technology perspective. And for those of you who don't know that in detail, it really gives a software capability to scale 2G, 3G, 4G, femtocell, WiFi, all of those capabilities. And you can start to use the same kind of infrastructure for different sets of services.<br><br>FRANK CALDERONI: The second part was mobility. Mobility a combination -- I talked about, about a $3 billion business back for FY12; and that growing in the mid-teens. And that's a combination of the Starent activity, the SP mobility, as well as what we are doing in the wireless area.<br><br>But to your point, if you were comparing the ASR 5000 and going back to Starent based on that, and then look forward about the Starent improvement, you are seeing growth in this product category at about 30%. |

*Source*: Compiled by Author; from a variety of published news articles and transcripts.

# APPENDIX I

# INTERVIEW GUIDE

## Study Two – Interview Guide

**Introduction**
Commonly used methods for assessing the success or failure of corporate mergers and acquisitions (M&A) have found these transactions fail 20% to 90% of the time. Not only is there an unusually wide range in the results, but there are also contradictory results. This study seeks the practitioner's perspective on acquisition assessment practices, including pre- and post-implementation assessment criteria. The hope is to discover methods used by practitioners that may provide a more reliable assessment for these transactions.

**Interview Goals**
a. Understand practitioner focus for evaluating the success of corporate acquisitions
b. Describe the thought process and decision-making process used by managers to pursue a potential acquisition.
c. Describe the thought process and decision-making process used by managers to evaluate the success or failure of an acquisition.

**Interview Characteristics**
a. Interviews will be completed by phone, video conference, or face to face as is convenient for the participants.
b. Interviews will be facilitated as a discussion using a semi-structured interview format.
c. All interviews will be conducted with one interviewer and one interviewee.
d. All interviews will be recorded and transcribed.
e. Interviews will be approximately 30 to 45 minutes in duration.
f. Interviewee identifying information will be kept separate from the recording/transcription.

**Desired Participants**
a. Corporate executives involved in individual firm M&A activities
b. Consultancy firm members engaged in M&A activities
c. Lawyers providing M&A services
d. Investment bankers focused on M&A deals

**Interview Process**
While semi-structured interview questions will be listed below to help guide the conversation and facilitate consistency across interviews, the desire is to engage participants in a discussion that allows the participant to volunteer potentially meaningful insights.

**Appendix I.** (continued)

The actual interview will utilize the following pattern:

1. Preamble
    a. Review non-disclosure agreement for understanding
    b. Gain consent
    c. Start audio recording
2. Introduction
    a. Establish rapport
    b. Outline goals of the interview
3. Query regarding current role and M&A experience
    a. How would you describe your current role?
    b. Tell me about your experience with M&As
4. Root questions
    a. What do you think are the most important considerations when determining the success of failure of an acquisition?
    b. How does manager motivation (strategic objective) play into the decision-making process?
    c. What are the criteria you would use to determine whether to pursue an acquisition target?
        i. Do you have a checklist or a standard process?
        ii. Why do you consider those criteria?
        iii. Would you ever use just one criterion to decide? Why or why not?
    d. What is your recommended process to evaluate the success of failure of an acquisition?
    e. At what point in time compared to implementation or at what intervals would you measure the success of the acquisition?
        i. Would you ever use just one criterion to make this assessment?
    f. In your mind, is there any connection between the pre-assessment criteria and the post-assessment criteria? If so, can you describe that connection?
5. Wrap up
    a. Thank you
    b. Query regarding any questions, comments, or concerns.

**Important Definitions**

Following are definitions that might need to be clarified during the interview:

Accretive – gradual growth or increase; in the case of M&As the "deal is said to be accretive if the acquiring firm's earnings per share (EPS) increase after the deal goes through. If the resulting deal causes the acquiring firm's EPS to decline, the deal is considered to be dilutive" (Ross, 2021).

Acquisition – one company purchasing an ownership stake or taking control of the assets of another (Ghauri & Buckley, 2003). The ownership stake purchased

**Appendix I.** (continued)

could represent a minority (10% to 49%), majority (50% to 99%), or a full controlling stake (UNCTAD, 2000).

Buyer – Refers to the acquiring company or the firm seeking to purchase another firm.

Manager –the decision-maker, executive, or director-level resource(s) leading the acquisition effort and not necessarily the individual implementing aspects of the deal.

Merger – is the combination of two or more separate companies to form a new single entity (OECD, 2009).

Motivation – the primary reason(s) a firm is pursuing a particular acquisition target. Also referred to as merger motives, strategic goals, strategic intent, or strategic purpose of the deal.

Pre-assessment checklist –also called the due diligence checklist or valuation criteria. The key component is this assessment should include all the relevant factors (e.g., financial, strategic, organizational, etc.)

**References**

Ghauri, P. N., & Buckley, P. J. (2003). International Mergers and Acquisitions: Past, Present and Future. In Advances in Mergers and Acquisitions (Vol. 2, pp. 207-229).

OECD. (2009). OECD Benchmark Definition of Foreign Direct Investment 2008 (4th ed.). OECD Publishing. https://doi.org/10.1787/9789264045743-en

Ross, S. (2021). Accretive vs. Dilutive Mergers: What's the Difference? Investopedia.com. Retrieved October 15, 2021, from https://www.investopedia.com/ask/answers/043015/what-difference-between-accretive-and-dilutive-merger.asp

UNCTAD. (2000). Impact of Cross-Border Mergers and Acquisitions on Developement and Policy Issues for Consideration (TD/B/COM.2/EM.7/2). UN. https://unctad.org/en/docs/c2em7d2.en.pdf

# APPENDIX J

## INTERVIEW LOG

| Informant | Title | Date | Duration (mins) | Format | Informed Consent |
|---|---|---|---|---|---|
| **1** | M&A Assessment Manager | 2/3/2021 | 17 | WebEx | No |
| **2** | Lawyer (M&A Deals) | 10/6/2021 | 29 | Zoom | Yes |
| **3** | Public Company COO | 10/8/2021 | 73 | Zoom | Yes |
| **4** | Private Company CFO | 10/11/2021 | 43 | Zoom | Yes |
| **5** | Partner (Consulting Firm) | 10/15/2021 | 55 | Zoom | Yes |
| **6** | Public Company CFO | 10/16/2021 | 31 | Zoom | Yes |
| **7** | Securities Analyst | 10/17/2021 | 38 | Zoom | Yes |
| **8** | Senior M&A Manager | 1/14/2022 | 21 | Zoom | Yes |
| **9** | Global M&A Lead | 1/17/2022 | 27 | Zoom | Yes |
| **10** | M&A Director | 1/25/2022 | 29 | Phone | Yes |
| **11** | M&A Head | 1/27/2022 | 24 | Zoom | Yes |
| **12** | Investment Banker | 2/10/2022 | 23 | Zoom | Yes |
| **13** | International Tax Partner[1] | 2/10/2022 | -- | Zoom | Yes |
| **14** | Partner (Consulting Firm) | 2/16/2022 | 19 | Zoom | Yes |
| **15** | VP of Finance | 2/18/2022 | 18 | Zoom | Yes |
| | | **Total Interview Time:** | **447** | | |

[1]Informants #12 and #13 were interviewed at the same time
*Source:* Author

# APPENDIX K

# INFORMED CONSENT MEMO

## Informed Consent

**Date:** October 1, 2021
**To:** Potential Interviewee
**From:** Daniel E. Haws, Doctoral Student, Fox School of Business, Temple University
**Re:** Case Study Research - Interview

You are invited to participate in a doctoral research project I am conducting as a student at Temple University's Fox School of Business. My research is focused on reliable assessments of corporate acquisitions.

By participating in this interview, you will have the potential to assist me in the following ways:

a. Understand the practitioner focus for evaluating the success of corporate acquisitions
b. Describe the thought process and decision-making process used by managers who pursue a potential acquisition.
c. Describe the thought process and decision-making process used by managers to evaluate the success or failure of an acquisition.

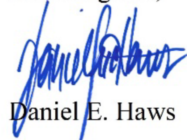
This study will focus on the acquisition due diligence/valuation process before implementation and practices to evaluate the success or failure of an acquisition following implementation. The level of analysis will be the firm or from the perspective of the involved manager/director.

Participation in this interview is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time. You may choose not to answer any question or continue the interview for any reason. ***The interview will be recorded and transcribed***. No form of compensation will be provided.

Information collected in this project, including direct quotes, may be shared in a published dissertation, other published articles, conference presentations, or with other researchers. ***Information that may identify you will be kept strictly confidential and will not be shared with anyone***. As necessary, details will be disguised which may reveal your identity or the identity of people or companies you may speak about.

If you have questions or concerns, please contact my doctoral supervisor, Professor Bertrand Guillotin, Assistant Professor of Instruction, Strategic Management Department, Academic Director, International Business Administration BBA undergraduate program, and Academic Director, International Management Concentrations for all MBAs, Fox School of Business, Temple University at bertrand.guillotin@temple.edu.

Kind Regards,



Daniel E. Haws

# APPENDIX L

## LIST OF PRIMARY AND SECONDARY ACQUISITION OBJECTIVES

| Acquisition | Primary Objective | Secondary Objective (if any) |
|---|---|---|
| Crescendo Communications, Inc. | New Market Entry | N/A |
| Combinet, Inc. | Market Expansion | N/A |
| TGV Software, Inc. | Market Expansion | N/A |
| Granite Systems, Inc. | Market Expansion | Defend Market Position |
| SkyStone Systems Corp | New Market Entry | Defend Market Position |
| LightSpeed International, Inc. | New Market Entry | Defend Market Position |
| CLASS Data Systems | Defend Market Position | Market Expansion |
| Selsius Systems, Inc. | Defend Market Position | N/A |
| GeoTel Communications Corp. | Market Expansion | N/A |
| Calista, Inc. | Market Expansion | N/A |
| Cocom A/S | Market Expansion | N/A |
| V-Bits, Inc. | Market Expansion | N/A |
| Altiga Networks | Market Expansion | Defend Market Position |
| JetCell, Inc. | Market Expansion | N/A |
| ArrowPoint Communications, Inc. | Defend Market Position | Market Expansion |
| Netiverse, Ltd. | Market Expansion | N/A |
| PixStream, Inc. | New Market Entry | N/A |
| Active Voice Corporation | Market Expansion | New Market Entry |
| Allegro Systems, Inc. | Market Expansion | N/A |
| Psionic Software, Inc. | Market Expansion | N/A |
| Andiamo Systems, Inc. [i] | New Market Entry | Market Expansion |
| Procket Network, Inc. | New Market Entry | Market Acceleration |
| NetSolve, Inc. | New Market Entry | Defend Market Position |
| BCN Systems, Inc. | Market Expansion | Defend Market Position |
| Sipura, Inc. | New Market Entry | Market Acceleration |
| Sheer Networks, Inc. | New Market Entry | Market Acceleration |
| Metreos Corporation | Market Expansion | N/A |
| Orative Corporation | Market Expansion | N/A |
| Reactivity, Inc. | New Market Entry | Market Expansion |

**Appendix L.** (continued)

| Acquisition | Primary Objective | Secondary Objective (if any) |
|---|---|---|
| Latigent, LLC. | Market Expansion | N/A |
| DiviTech A/S | Market Expansion | Talent Acquisition |
| Richards-Zeta Building Intel, Inc. | New Market Entry | N/A |
| Starent Networks, Corp. | Market Acceleration | N/A |
| CoreOptics, Inc. | Market Expansion | N/A |
| Inlet Technologies | New Market Entry | Market Expansion |
| Versly | Market Expansion | N/A |
| ClearAccess | Market Acceleration | N/A |
| ThinkSmart Technologies | Market Expansion | N/A |
| Cariden Technologies, Inc. | Market Expansion | N/A |
| SolveDirect | Market Expansion | N/A |
| Sourcefire | Market Acceleration | Market Expansion |
| Tail-f Systems | Market Acceleration | N/A |
| Memoir Systems | Market Expansion | N/A |
| Piston Cloud Computing | Market Acceleration | Market Expansion |
| Portcullis | Market Expansion | N/A |
| Acano Limited | Market Acceleration | Market Expansion |
| Synata | Market Expansion | N/A |
| AppDynamics, Inc. | Market Acceleration | N/A |
| Observable Networks, Inc. | Market Expansion | N/A |
| Cmpute.io | Market Expansion | Market Acceleration |

*Source*: Author

[i] Andiamo Systems, Inc. is a “spin-in” of which Cisco owned 40% prior to the acquisition transaction.

# APPENDIX M

## PRE-ASSESSMENT/DUE DILIGENCE CHECKLISTS

| I4 Checklist | Accounting Tools | Dealroom.net | Deloitte |
|---|---|---|---|
| Organization & Corporate Records<br><br>Financial Information<br><br>Legal, Regulatory, & Compliance<br><br>Taxes<br><br>Intellectual Property<br><br>Employee Matters<br><br>Contracts<br><br>Real & Personal Property<br><br>Credit Facilities<br><br>Related Parties<br><br>Securities & Investments<br><br>Products & Services<br><br>Customer Information<br><br>Other (e.g., professionals, licenses, press releases, insurance policies, claims) | Target Company<br><br>Employee<br><br>Employee Benefits<br><br>Financial Results<br><br>Revenue<br><br>Cost Structure<br><br>Intellectual Property<br><br>Fixed Assets & Facilities<br><br>Liabilities<br><br>Equity<br><br>Taxes<br><br>Selling Activities<br><br>Marketing<br><br>Materials Management<br><br>Information Technology<br><br>Legal Issues | Legal:<br>Corporate organization<br>Management<br>Capital structure<br>Legal<br><br>Commercial:<br>Suppliers<br>Marketing<br>Commercial policies<br>Customers<br><br>Financial:<br>Accounting<br>Finance<br>Operations<br>Insurance<br><br>Human Resources:<br>Agreements<br>Benefits<br>General HR Policies<br><br>Intellectual Property:<br>Registrations<br>Contracts<br>Litigation<br><br>Information Technology:<br>Administration<br>Security<br><br>Environmental, Health, & Safety<br><br>Tax:<br>Summary<br>Returns | Legal<br><br>Financial<br><br>Accounting<br><br>Tax<br><br>Employee Benefit<br><br>HR<br><br>Foreign Corrupt Practices Act<br><br>Reputational<br><br>Integration & Synergy<br><br>Insurance<br><br>Environmental<br><br>Engineering<br><br>Commercial & Operational<br><br>IT<br><br>Executive Alignment & Reporting<br><br>Risk Management<br><br>360° Communications<br><br>Day 1 Readiness |

**Appendix M.** (continued)

| E&Y Due Diligence | Harroch & Lipkin (2014) | K&L Gates | LexisNexis |
|---|---|---|---|
| Commercial | Financial Matters | Organization of the Company | Basic Corporate Documents & Documents for Any Subsidiary |
| Financial Risk | Technology/Intellectual Property | Ownership & Control of the Company | Securities Issuances |
| Human Resources | Customers/Sales | Assets and Operations | Shareholder Information |
| IT | Strategic Fit with Buyer | Intellectual Property | Material Contracts |
| Operations & Synergies | Material Contracts | Reports | Patent & Trademarks |
| Regulatory | Employee Management Issues | Compliance with Laws | Manufacturing |
| Cybersecurity | Litigation | Environmental Matters | Operations |
| Valuation, Modeling, & Economics | Tax Matters | Litigation | Sales & Marketing |
| Transaction Tax | Antitrust & Regulatory Issues | Significant Contracts and Commitments | Tangible Property |
| *Special Consideration for Digital Company Acquisitions:* | Insurance | Employees, Benefits, & Contracts | Litigation & Audits |
| Valuation (brand vs. cash flow) | General Corporate Matters | Tax Matters | Environmental |
| Talent Integration | Environmental Issues | Miscellaneous (contingent liabilities, lists of customers and suppliers, bankruptcy, lists of officers, directors, and stockholders, interim stockholder reports, banking and credit relationships, insurance summary, copies of judgments or liens, SEC filings) | Employees |
| Product Portfolio Strategy | Related Party Transactions | | Management |
| Commercial (go-to-market strategy, how new products affect existing products or customers) | Governmental Regulations, Filings, & Compliance | | Other Review (inside/ outside studies, OSHA. EPA inquiries, status of contracts subject to Renegotiation Act, summary of federal, state, local, and foreign income tax status, business permits) |
| | Property | | |
| | Production-Related | | |
| | Marketing Arrangements | | |
| | Competitive Landscape | | |
| | Online Data Room | | |
| | Disclosure Schedule | | |

**Appendix M.** (continued)

| Midaxo | Morris, Manning, & Martin | Truenxus | UpCounsel |
|---|---|---|---|
| Strategic Fit/Deal Rationale | General Business | Corporate Organization | Antitrust & Regulatory |
| Products/Services | Financial Statement Review | Management | Information Technology |
| Geographic Fit | Legal | Capital Structure | Publicity |
| Market Health/Market Position | Litigation & Regulatory Complaints | Legal | Outsourced Professionals |
| Competition/Market Stability | Permits & Licenses | Regulatory & Compliance | Insurance Coverage |
| Regulation Constraints/ Considerations | Taxes | Real Estate | Litigation |
| Financial Strength & Performance | Insurance | Accounting | Products & Services |
| Comparable Company Analysis | Human Resources | Finance | Customer Information |
| Deal Feasibility | Employee Benefits/ Compensation | Operations | Tax |
| Management Team/ People | Executive Compensation | Insurance | Materials Contracts |
| Ownership Structure/ Shareholders | **Priori Legal** | Tax | Licenses & Permits |
| Initial Integration Considerations | Corporate Structure & General Matters | Intellectual Property (contracts, development, & litigation) | Environmental |
| Commercial | Taxes | Health & Safety | Real Estate |
| Financial | Strategic Fit | General HR | Physical Assets |
| Tax | Intellectual Property | Benefits & Compensation | Intellectual Property |
| Legal | Material Assets | HR Agreements/Policies | Employees & Benefits |
| HR | Contacts | General IT | Organization & Good Standing of Company |
| Environmental | Employees & Management | IT Security | Financial Information |
| IT & Systems | Litigation | Supply Chain | Revenue Streams |
| IT security Assessment | Compliance & Regulatory Matters | Marketing | |
| | | Customers | |

**Appendix M.** (continued)

| I7 Checklist | IRIS FMP (HR) | Price (2019) Diligent.com |
|---|---|---|
| Formation & Qualification to do Business | *This is an HR specific Due Diligence Checklist* | *Is a duplicate of Harroch & Lipkin (2014)* |
| | General HR | |
| Corporate Proceeding and Capital Stock | Agreements & Contracts | |
| Management & Employees | HR Policies | |
| Material Agreements | Compliance | |
| Property | Benefits | |
| Finance (Financial statements for the last two years; Auditor's letters and opinions during the last two years) | Post-Integration: Develop New Hire Process | |
| | Prepare for New Hires | |
| Litigation | Create a Plan for Onboarding Union Employees | |
| Regulation & Compliance Law | Prepare Severance Documents | |
| Financing (Credit agreements, loan agreements and indentures; Loans and guarantees of third-party obligations) | File WARN Act Notice, if needed | |
| | Develop a New Org Chart | |
| | Partner with IT to Merge HR Systems | |
| | Create Performance Review Process | |
| | Create Training and Development Plan | |
| | Develop Communication Plan for HR Policy Changes | |

*Source*: Compiled by the author from the indicated sources.

# APPENDIX N

## INTERVIEW RESPONSES – ASSESSMENT CRITERIA

| Informant | Interview Responses |
|---|---|
| **I1** | What would the returns have been if you didn’t do the acquisition? |
| **I2** | There are legal, financial, and accounting due diligences. For a healthcare transaction, there is a healthcare regulatory due diligence<br><br>There are objective measures, EBITDA, higher valuations, profitability numbers, tax changes<br><br>In my experience, tax surprises can be a deal killer. |
| **I3** | He said [Jon Huntsman, Sr.], return on equity is the best indicator of value.<br><br>It was return on equity was the best indicator and purchase price. He [Jon Huntsman, Sr.] looked at cashflow.<br><br>Well, there's, there's only one really, does this help me get my objectives or not? Does it help me fulfill my mission or not?<br><br>The whole art to the whole thing really is two pieces: Does it fit the strategy? And did we estimate the risk properly?<br><br>Purchasing a fully formed company, including employees, brings a lot of things to deal with, as compared to just purchasing a technology or a product.<br><br>In the deal there are financial, strategic, people, legal, and cultural considerations.<br><br>The biggest component of the entire deal is the risk factor, not the net present value, not the contribution to future business. It's, what's the risk of the deal itself. |

**Appendix N.** (continued)

**I4** The first one is going to be price. If you overpay, you'll never get a return on your investment. So, you got to get the right price. Another huge one is culture, right? You don't want to buy a company where the culture is not going to mesh with your own… I guess the third, I mean, there are lots of considerations, but, and another third big one would be what's your post-integration plan?

An aggregate increase to your net income isn't necessarily a win, if you had to dilute your earnings to do that, where you effectively spread earnings over more people. So, the individual shareholder is getting less earnings from that standpoint. So, accretive means that it's a net increase to earnings per share. So, that's probably the ultimate success factor and the timeframe…depends on what your time horizon is.

**I5** Most transactions and the success of those transactions hinge on the ability to integrate and execute on the purpose of the deal to begin with.

----------------------------------------

Interviewer: So, let me ask that as a question, what you just said, what the organization leader would consider to be success, right, the deal success is determined on how that transaction might support the overall strategy of the company?

Informant: Absolutely.

----------------------------------------

Interviewer: There are different methods for assessing the deal, and I guess I I'd like to steer the conversation in that direction. And it seems to me that if you had a company like a Cisco, that's worth billions of dollars that is acquiring a company that's worth millions of dollars, and they're wholly acquiring that organization, its talent, its product, its offering everything and it's under the Cisco umbrella now, how you might assess the success of that would be different, than if you had two companies that were more equal in size?

Informant: Right.

**Appendix N.** (continued)

**I5**

Interviewer: Do you have any thoughts about that?

Informant: Yeah, that's right. That's exactly right.

----------------------------------------

I think there are different metrics. I don't know that I would put, I could put my finger on a list and say, well, with this kind of acquisition, you do a, B and C and with this other kind of do you know, C, D, E, and F like that, but there are different considerations.

----------------------------------------

Interviewer: Would you ever use one measure or I, I think early on in our conversation, you used the word holistic, is there a singular measure that you could rely on or is the measure or measures deal dependent?

Informant: I think they're deal dependent. I mean, you mentioned to me before, market movement, share price movement, right? Which is a reaction from investors as to the importance of that deal. But you defined it, you showed it as a very short timeframe, right? So, if someone announces a deal and the stock price moves because of that, which is viewed as, "Oh, this is a great transaction for this company." And when that announcement takes place, there's usually guidance on, this is what it's going to do for us. It's going to, you know, have an accretive or dilutive impact to our business. But after that initial measurement, you know, that ability to measure based off that goes away, because you've seen the bump in the share price. You've assumed investors have evaluated that and adjusted their models. But what do you do a year from now when you're still integrating this business? How do you determine that you're being successful or what's the share price done? So, there's a whole host of factors that could come into play that are going to move that share price. And I think that no longer becomes a very useful measurement of whether or not that particular acquisition is or has been successful. So, you need these internal measurements that you're using. And I think it's probably a handful of measurements and it covers everything from operational to financial metrics that you are tracking.

**Appendix N.** (continued)

| | |
|---|---|
| **I5** | ---------------------------------------- <br><br> [The criteria] is going to vary deal by deal. |
| **I6** | The success criteria, at least from my perspective gets mapped onto the reason for the acquisition and the type of acquisition. <br><br> Ultimately, we need to measure whether or not that value is being created. And that, that value is simply measured by running a DCF [discounted cash flow] against the acquisition case. That's my experience is that's the only way inside a company to measure the success of an acquisition. <br><br> What cash did it generate? And what's the, what's the net present value of that cash stream that you've either realized, or you plan to realize, and how does that compare to the business case and the price paid? <br><br> The success criteria are generally what underpins the business case. <br><br> ---------------------------------------- <br><br> Interviewer: Would you ever use a single criterion to measure the success of an acquisition, or does it need to be a different approach? <br><br> Informant: Well, the single criteria would be, you know, discounted cash, but there are multiple variables inside that, right? So, let's say you buy a product, but you're not delivering the growth of the business case. Well, maybe you got excess synergies from it. Maybe you thought you would have to have built a bigger sales force to run that product. And, in reality, you didn't have to, so you can still deliver the value of the business case and miss on one of the variables. <br><br> ---------------------------------------- <br><br> This is going to sound bad, but ultimately everything is financial. |
| **I7** | The C-suite is looking at EPS, at earnings per share. <br><br> The last couple of years, I've been looking mainly at private companies and the answer is a little bit different for private companies than public |

**Appendix N.** (continued)

| | |
|---|---|
| **I7** | companies. I think that for me, as an analyst, looking at a deal, the thing that I'm most interested in is, first of all, is the deal big enough to have some effect, and second of all, does it somehow bring some synergy to the acquirer? And sometimes it's actually hard to tell that, especially from the outside. |
| **I8** | Interviewer: And, so that strategic focus, whatever that initial reason for buying the company and whatever was established in that initial conversation about this is why we want to go after this firm as a target, and, this is our expectation of what it's going to do for us, or how long it's going to take, those are the criteria then that you use down the road to say, "Yep, we thought that that was a good buy or, or not?"<br><br>Informant: Yes. And we call those value drivers. They're the key metrics that we look at. There is probably a total of like 10 to 15 different key value drivers that we look at, and some of them are like subsets of others. So, for example, one of them would be hitting a particular revenue number by the end of the coming year.<br><br>----------------------------------------<br><br>Interviewer: Are those value drivers fairly similar across transactions?<br><br>Informant: They can be pretty different…the value drivers will change, depending on the deal rationale.<br><br>---------------------------------------- |
| **I9** | Developing the measurement approach for the integration is actually one of the most controversial things that I find between the management teams.<br><br>I usually spend over an hour with the executive team of the acquiring and the acquired company together to dig into how we are going to measure the integration. And usually, I create a measurement framework at three levels. At one level, you have revenue synergies, obviously. And I mean, most of the companies today, they don't focus on cost synergies anymore…The next category that I look into is what are the operational metrics that we have to hit in order to head those revenue synergies. It can be operational metrics, it can be retention, it |

**Appendix N.** (continued)

| | |
|---|---|
| **I9** | can be pipeline velocity…It can be whole bunch of things from an operational perspective…And, then at the third level, is what I call milestone metrics.<br><br>I had a conversation just last week with a very large company. They do a lot of deals and they're walking away from their playbooks because they come to realize that every deal is different. And, if you have too much focus on your integration playbooks, you lose focus on the deal thesis, and deal thesis is the north star of the integration. Everything evolves around that. |
| **I10** | Interviewer: So, if you're thinking about those kinds of strategic intentions behind the deal, how influential is that from your perspective in what ultimately becomes the criteria for assessing whether or not the deal was a success?<br><br>Informant: It could be the most important thing, or it can just be in the middle of the road in terms of reports. Generally speaking if they're looking for a strategic acquisition, it's why they're talking to somebody in the first place, so you could say that's the most important thing…Once they've targeted a firm that does what they think they want it to do, then the metrics [become important, because] there's no way in world they would ever buy a company, no matter how well strategically placed it was, if it was losing money. |
| **I11** | You've got a few other criteria to look at, and then this is always the case with acquisitions. It's evolving. One size doesn't fit all. There are multiple different types of acquisitions. You could make some really large companies. What we've noticed is to maximize the benefit of an acquisition, the real value is in the integration. And if you don't do that part right, it doesn't matter how attractive and how well you execute on your M&A. So, for us building out that criteria is also looking at the step past M&A, which is the integration portion of it.<br><br>When you get to that decision, [the question is] what are the risks associated with it? The integration risks, the regulatory approval risks, and what are the long-term risks? I mean, are you going to really hit all of these synergy goals that you've set for yourself? And you know, how much of that is aspirational versus how much of that is actually going to materialize? |

**Appendix N.** (continued)

**I11** We do have processes and playbooks that we use, but again, those processes and playbooks are defined for multibillion-dollar type transactions, cross border. You have to customize it for every deal. So, you can start off with it. And we do that. We do have playbooks. We have templates. We have processes that we follow…and we engage with outside advisors and consultants and the whole gamut of the ecosystem that's available to us, but every deal is different.

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Interviewer: Going back to something that we touched on just a little bit ago, deal over deal. That CTC [commit to close] plan is going to be different.

Informant: Absolutely.

Interviewer: And so, what you're benchmarking against could be a little, I'm sure there's going to be similarities in the things that you're paying attention to. I mean if the strategic intention behind the deal was the same for deal A and for deal B, there's probably some similarities there? But there's probably some nuances that are a little bit different, what you're benchmarking against is what you committed to deliver? Correct? In that CTC?

Informant: That's absolutely right. And, you know, every CTC, especially for a company that has multiple product lines or multiple businesses, they could be an acquisition of one product line or business line in a market, very different from the rest of the company. Or different parts of the company have different metrics and different customers and different geographies. So, it's hard to standardize the CTC. What you standardize is the form. And you just measure against that.

So, what are you measuring? The CTC is a P&L at the end of the day. What would you commit that your revenue is going to look like? Where are the operational synergies? Where are the cost synergies? Are you trending in the right direction? Where are you? And that's what you want to try and get out of this thing. And some companies are more acquisitive than others and may have a more watertight process, but in general, I suspect it's where

**Appendix N.** (continued)

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| **I11** | most companies go when it comes to tracking these transactions. |
| **I12** | Growth metrics from a revenue basis or their margin profile, both on gross and margin. So, we like an easy measure for us. A simple measure is looking at where those precedent transactions in both private and also public companies, and how those compare to the ultimate transaction that's agreed upon for our clients.<br><br>We want to include an earn out.<br><br>There are certainly playbooks. We have what we want to do and what we know needs to be done for an effective transaction, but there's going to be different circumstances for every deal where you're going to have to adjust and deal with the person that often was the founder of the businesses, it's super emotional. So, you're just dealing with these very successful people. We sometimes have opinions on how things are done. So, you have to adapt often. |
| **I13** | I think normal companies have what they call a deal team, whether it's the corporate development team, or somebody else at the company, and there's always something in the hopper. And it's great to get involved with the deal team because they have a list of criteria that they have on the back burner, whether it's the size of a company they want to go into, whether it's the type of company they want to go into, the product they want to get into, that they have. We were helping one company…they just did an acquisition. And I asked for the deal deck that they had presented. And there's this list of 10 different criteria that they presented. |
| **I14** | I think it starts with why did you acquire the business? And that can be anywhere from speeding up a roadmap for a product. And if I would look at what's the assessment, [I ask] how quickly did you make it to market with that product? How quickly were you able to save time in engineering costs that you would've had if you had not acquired the business? If you're acquiring a business to increase revenue scale…then it's, you know, it's looking at revenue scale. If it's evaluating it from a cross sell opportunity for what you can drive, either retain or you can increase revenue trajectory, then you're normally evaluating on what was the ability to cross sell or the attach rate of the products that you're selling into the acquired entity. I'd also look at it from an evaluation perspective and a market cap creation. |

**Appendix N.** (continued)

**I14** ----------------------------------------

Interviewer: So, the strategic intention or the strategic objective of the deal really drives the criteria that you would ultimately use to determine whether or not it worked? Whether it was a good buy?

Informant: Totally, because you do M&A for multiple, like the ton of different reasons. And so, there's no one evaluation for was it successful or was it not.

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Interviewer: Would you ever assess the success or failure of an M&A based on a single point in time, a single transaction?

Informant: Well, I mean, it can always change. The thing is we had many that were not going well, and they were not on track after a quarter or two, and then they picked back up and then they were or vice versa. We had some that looked like they were huge successes out of the gates or in the first two or three months or two or three quarters. And then over time, they turned out to be not nearly as successful. I say there's always learnings from them, but it just depends at what time you're looking at it and what lens you're looking at on whether or not it was successful.

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I think it depends on the company very much. If you're an engineering led culture, that's probably what you're evaluating. If you're sales culture, that's probably what you're looking at. If I were to look at, Cisco, or if I know the way that they evaluate M&A, or Oracle, the way that they would evaluate it is very different than the way that Google or Amazon or Facebook would evaluate M&A. And so, I think that it's hard to just say in a vacuum, whether or not they’re successful or not, or even how to evaluate it really has to be within the eye of the acquirer or the entity that's looking out and doing it. And it just depends so much on the market.

**Appendix N.** (continued)

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| **I15** | From my experience, the key things you look at when you're considering M&A are, you really have to, before you even do it, you have to have an objective in mind.<br><br>----------------------------------------<br><br>Interviewer: So, you've got this strategy decision, and somebody is saying these are the objectives for the deal. And you just talked about a playbook and criteria, and so dependent on the strategy, dependent on the objective, what I'm hearing you say is that the criteria to assess the success or failure of a particular transaction are dependent then on that objective or that strategy?<br><br>Informant: That's right.<br><br>---------------------------------------- |

*Source:* Interviews conducted by author

# APPENDIX O

## INTERVIEW RESPONSES – WHEN ASSESSMENT CRITERIA ARE DETERMINED

| Informant | Interview Responses |
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| **I3** | We set the success criteria up front, in a very simple hypothesis that everybody knows. And then we measure the business to try to get us those successes. And, you have your overall objectives that you're trying to achieve as a company, but each of these deals has to have its own set of success criteria that you set up front. |
| **I4** | Well, typically the strategy is done up front, they're the ones that are identifying, you know, potential companies to either invest in or acquire. The diligence checklist I gave you is really kind of the, that's the step you go through when you are getting ready to either make the investment or the purchase.<br><br>----------------------------------------<br><br>Interviewer: And when, when do you think is the right time to establish what the success criteria might be?<br><br>Informant: Before you buy.<br><br>Interviewer: So, that's a determination that's made in the lead up to the purchase?<br><br>Informant: Yep, absolutely. |
| **I5** | That decision making process should happen even before there's even a transaction on the table, or even thought of a thought of a transaction.<br><br>----------------------------------------<br><br>Interviewer: That strategic objective conversation would happen, or should happen, before the due diligence process, which would happen then before the deal making process?<br><br>Informant: Absolutely. It should happen before. It should happen during the process of where are we going strategically as a company and why are we going to engage? Why are we going to use M&A as a tool to get to where we're going? |

**Appendix O.** (continued)

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| **I5** | | And if we are going to use M&A as a tool, how do we determine what the right company is to acquire? And how do we measure that that's the right company? |
| **I6** | Interviewer: | And so, your business case development includes the success criteria for that deal. |
| | Informant: | Correct. |
| **I8** | I would say the deal rationale. So, it starts with when we identify the whole reason that we're buying this new company to begin with.<br><br>That rationale, that reasoning for whenever we buy a company is the starting point of the assessment and of the integration of the business.<br><br>The assessment of an integration in large part begins with the whole reason for buying a company. | |
| **I9** | The first thing is the corporate strategy, which can be quite aloof, or has specific milestones in it. And then you figure out which piece of the corporate strategy you will accomplish by organic growth and with inorganic growth. And then the corporate development organization springs to life and works with the business to then translate the inorganic growth further down into what type of companies do we want to buy.<br><br>Very often these deal theses are being developed prior to operational diligence being done. | |
| **I11** | The way we look at it is a more holistic approach to what you consider in organic growth. And when you think about inorganic growth, a lot of people look at M&A, or acquisitions as a one stop shop or the silver bullet. What we've done over time is recognized that doesn't always work. So, we've come up with an investment thesis that actually is a staircase. And you look at starting with say a partnership or some sort of equity investment, or joint development agreements, or joint ventures. And then right up at that scale is an acquisition. So, for us, what we try to do is understand as a basis to making that decision on what the appropriate investment step is, what is the fundamental driver? So, before you decide you want to go acquire a company or invest in a company it's supremely important for us to understand what the strategic rationale for that investment is. | |

**Appendix O.** (continued)

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| **I11** | So, almost all of that initial, upfront effort is deriving and defining that strategic rationale. Once there's clarity around the strategic rationale, then the question is what can I do to achieve that? What is the lowest risk maximum reward option, and what is the maximum risk, maximum cost, and maximum benefit option? |
| **I12** | It happens pretty early. You know, you're kind of determining in terms of numbers and valuation, you're going to find out pretty early if those numbers are real. |
| **I14** | Interviewer: When that conversation is happening is when people are starting to think about how we're ultimately going to judge, if we go down the road of M&A, whether or not it was successful?<br><br>Informant: Yep. And when you start talking to the company, then you're developing your thesis and you're developing why. |
| **I15** | There are various different ways that you [say] pretty early on and try to figure it out. What does the success look like? And, what's the timeline to success? And then you go with it. |

*Source:* Interviews conducted by author

# APPENDIX P

## INTERVIEW RESPONSES – WHEN TO ASSESS THE DEAL

| Informant | Interview Responses |
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| **I2** | And I think…the most successful clients, who are the most successful, they involve everyone at an early stage. So, they've got finance and they've got legal, and they've got accounting, and they've got HR, and they've got whatever they've got…all of those resources are coordinating with each other and communicating at an early stage…when they're assessing. |
| **I3** | If you're going to ask me, when would I look to see if an acquisition was a success or not? I would say a year afterwards.<br><br>It takes at least three years to know for sure right now. Typically, the very best strategic moves are ones that nobody understands at the time that you announce it because the best strategic moves would be considered to be scary or not understandable.<br><br>I think you could start as early three months into it when you get a feel for how easy is the integration going to happen. But I don't think you are able to do it until the objectives that you set are going to be realized. And I think that for any particular deal you would set specific success criteria with timeframes, depending upon the deal itself, smaller deals, may be shorter term, or longer term based upon why you're doing it. |
| **I4** | I think, unfortunately the answer to that is it depends, it's going to depend on the deal.<br><br>In public markets, they like to see things that are accretive, if not immediately, within a year or so.<br><br>It's going to depend on the business. Some businesses are more disciplined about that, and they'll look at it. I think once they realize they see they're getting a good return, they probably aren't looking at it over and over again. Smaller businesses probably look at it, you know, the one time and then just move forward. There's a pragmatic approach, which is I've already paid for it, I just got to figure out a way to make it as successful as I can. |

**Appendix P.** (continued)

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| **I5** | That decision making process should happen even before there's even a transaction on the table, or even thought of a thought of a transaction.<br><br>I think you have to do that right away. You need to lay out, we talk often about a hundred-day plan, so what are you going to do in the first a hundred days after the acquisition and what needs to be in place already? You have either integrated or you've got the wheels in motion to do that integration and then have periodic check-ins after that. |
| **I6** | Yeah, that's a, it's a great question. For the acquiring management team, it's happening pretty fast because you make an internal business case and say, "Hey, look, I'd like to spend, $4 billion to by this product from company X." And then you missed the first-year sales projections. You're going to get a fair amount of scrutiny and interventions to say we may have misjudged this. What's the turnaround plan? But ultimately, it's obviously the long term that really delivers the value. So, [you'll have] checkpoints probably at year 1, 3, 5. Probably after year five, you're either on a trajectory or you're not. |
| **I9** | They also start at looking how are these companies doing that we've acquired around two years into it. So, all of a sudden there are requirements from a, from an integration team perspective. It's like, I need you to set up SQUEs for these new SQUEs that are coming in so we can track them. So again, from a measure perspective, you have to think about this upfront, because if you just nail them together, it's very difficult to even measure whether it was revenue accretive or not. So, these are all requirements from integration team. To set up the measurement track in a right way, I usually have one person fully dedicated to nothing else but measurement. They're a very busy person.<br><br>It takes a little while to get there. |
| **I10** | That's anyone's guess sometimes it's years down the road, it depends on what you start off originally asking about. What is it, is it term play? Is it technology that could save your company or is it just for more volume doing the same, or are they getting rid of a competitor? And in the case of a merger, if it's a real merger, two companies near the same size, I mean, then, is everyone going to play nice? And are you going to achieve the economies of scales that you hoped for? If that was the main reason for the merger and the two entities never really connected together, then it was a failure because now you've got not more efficiency, you have less…I think sometimes it could be immediate and sometimes it could be a decade before you really know if it was a |

**Appendix P.** (continued)

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| **I10** | success in terms of timing of the value. You just have to pick a time that everyone agrees on. |
| **I11** | We sign off on the CTC [commit to close] a year after that point, we actually have to come back to our M&A committee and present to them, our plan execution versus CTC. So, your benchmark, the CTC, that's what you're committed to. That's where you track after a year. And then after that you do on a quarterly basis. The reason you, you don't do it every quarter for the first year is because it takes a year to do the integration. |
| **I12** | Another metric just could be, and this is probably a year or two afterwards because that's how often earnings are paid out over.<br><br>----------------------------------------<br><br>Interviewer: So, what are your thoughts about that? Can we tell pretty quickly this is a win or do we have to let things happen and manage it for a while before we can tell whether it's a win?<br><br>Informant: It's the latter. I mean, you can't tell day one what's going to happen. Some deals you have got to see what happens a year or two down the road, because you're buying for the future. Right? So, you can probably figure out quickly if it's a disaster, if you find fraud or a bunch of people quit day one, then you know, that's one thing. But to determine if something's successful takes time.<br><br>----------------------------------------<br><br>I think employee retention is kind of an interesting one. Like, how many people stick around? And that's something you figure out over a year or two. |
| **I13** | Well, after the deal team says, we want to chase this one. The next step would be do that due diligence, whether it's financial or tax due diligence. And then you get to assign a process where they may agree to terms whether it's cash, stock, whatever on terms. There's probably some tax and legal and operational steps in between signing and closing. Sometimes sign and close are simultaneous, meaning it happens on the same day. Other times I've seen deals where you sign on day one and a year later is close. In fact, one of my clients, that's |

**Appendix P.** (continued)

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| **I13** | going through one right now, they made the public announcement last June. And they're looking to close at the end of February on a deal.<br><br>It really depends. Companies will look at the location of the target, if they're international, or if they're just U.S. Where are the customers based, if they're, again, international or if they're just focused in the U.S.? Is the category the same as what they're in or are they so similar to the vertical integration versus horizontal integration? Are they looking at what revenue do they have? Are they pre-revenue? Are they a startup company that has an idea and that idea has value and some trademarks and patents that go along with it or, do they have some customer success behind it where they have a consistent track record of customers going back and buying it again and again and again, or is it a, a one-time thing? They'll look at how many times targets have been through a [capital] raise if they've been through a series, A, B, C, if they're on an E raise or wherever they're at, because that tells them the story of how far they are along in their product lifecycle, but then [also] where are they at from an investor perspective if investors are still in it from the A to the E range or if they have different rounds of investors and that may tell some stories that they'll want to take into consideration. |
| **I14** | I think it's before you even think about M&A. It's like, what's the problem. The problem is either we need to increase revenue, we need to expand into adjoining markets, we have a competitor that's coming after us, we need to speed up our engineering roadmap, we need to acquire talent that we couldn't acquire elsewhere, it's normally the problem. And then one solution or one lever in order to improve that or to achieve it is through M&A. But we don't normally start M&A by just saying, “I want to buy this company,” if there isn’t an underlying rationale for why. And that normally then goes into how you're going to evaluate. Every time we would bring up a deal, we would need to show what's the strategic rationale either from a product or a technical side, or from a business perspective, what's the rationale for doing the deal. And it was never one thing. It was never just one blanket response. It was always very nuanced for every deal that we were doing.<br><br>Every company is different. I've seen it, companies that I am now on the board of, I've seen it at companies that I work with that, my current job, I've seen it with the last three companies where I've done M&A for it. It's all different. And so, it can be a quarter after, it can be two quarters after, it can be a month after. Again, it depends on the size of |

**Appendix P.** (continued)

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| **I14** | the transaction. It depends on the things that you're solving for. But with most of the other companies that I work with, there was always a quarterly look back, a yearly look back and a two year look back and we were constantly looking for whatever it was. |
| **I15** | And then that becomes the overarching thing that guides the rest of the work down the road, whether it's six months, or some acquisitions obviously take many years to integrate. So, I think it goes back to really setting that objective first, and the strategy around M&A.<br><br>M&A strategy even goes before that, because then it lets you understand which targets to pursue and how to approach M&A.<br><br>So, there are various different ways that you say pretty early on and try to figure it out. What's the success looks like, and what's the timeline to success, and then you go with it.<br><br>That tends to, of course, vary by the size of the acquisitions…[with] small acquisitions, you can know whether or not you've succeeded within the first six months of closing the transaction and on some of the larger deals it could be a long time…And so, the other thing that often is driving that is there is a TSA, a transition services agreement. That's very common in M&A where you have a large transition from one company to another. And it's also usually pre-negotiated before the deal closes because that way the company that's selling, they know how long it will take to transition everything. And that includes people, data, any patents that may go along, and those things tend to be 12 to 18 months in length and have a really long checklist of things that need to be done. That then kind of drives the whole process post acquisition and companies just move on after that.<br><br>That could be extended or that could be further or later negotiated…but, as a buyer you go back to the model that you've had in the beginning. If it's an acquisition in order to help revenue growth, then you constantly go back to that model…you just constantly check against the model. Are we on track? Do we need to modify? Is it meeting objectives? You typically know pretty quickly. So, if the plan was two years, then you just periodically look at it like on a quarterly, or a monthly basis. |

*Source:* Interviews conducted by author

# APPENDIX Q

## INTERVIEW RESPONSES – DETERMINING SUCCESS OR FAILURE

| Informant | Interview Responses |
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| **I2** | The success or failure of the earnings may be indicative of…the success or failure of the acquisition or the integration.<br><br>It seems that most of the transactions that we're involved in, um, are ultimately successful. I think in the eyes of both the, you know, the buyer and the seller.<br><br>And so, I think it depends on the perspective and I think…different buyers and sellers have different perspectives…depending on…what the primary objective of the transaction was.<br><br>They had a management team that was very good at assessing the operations and the operational efficiencies and billing practices, all of their targets. So, they were very good at doing that diligence on the front end. And that contributed significantly to the success of growing and maintaining those operations post-closing and integrating them with the culture of the rest of the platform.<br><br>Companies with acquisition experience and integrated management teams are more successful. The experience and organization provide a significant advantage. |
| **I3** | I suspect that anytime where an acquisition didn't go well, they would say, well, my job is to get the deal done, not to do the integration.<br><br>I've been involved in deals where the CEO just says, "Hey, as long as the deal is viewed as accretive at the time we announce, that's all I care about. That way my shareholders wont string me up." I thought, that's, that's a little shallow. Don't you want your shareholders to say, that's a great strategic move as opposed to, oh, you spent $5 and it's worth six today.<br><br>The more a deal happens just on money, the more likely it could be that it's going to fail because they don't take those strategic decisions into account or strategic situations into account. |

**Appendix Q.** (continued)

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| **I4** | Everything and anything can go wrong, right? I mean, you could have employees that are in the target company, or they're dissatisfied with the new arrangements. They don't like the new company culture. They don't like benefits changing. They don't like being associated with a big company when they were a smaller company. Um, they may not like their new boss, right? I mean, pretty much anything you can think of.<br><br>Other things could happen…the market shifts, the market is fickle, consumer taste changes, a competitor comes out with a better competitive product, or the sales tank.<br><br>Most leaders want to see some quantitative results. So, they'd like to see, in a perfect world, you'd like to see what they call accretive deals, where you buy a business and it's going to be a net increase to your net income and your earnings per share.<br><br>It's easy to measure a bad deal. You don't need a lot of analysis. If the deal goes sour quickly, then you don't need a lot of analysis to figure out that it was a bad deal. |
| **I5** | I think a deal falls down is in the actual post acquisition execution of the strategy related to that business. And I would say the inability to integrate different corporate cultures could be a cause of it.<br><br>Fail [means to] not achieve the objectives that were laid out for the transaction to begin with… [For example,] they don't get the performance they are looking for, they can't achieve the margins they want to achieve, or they aren't expanding the customer base…maybe they find out the product or service isn't quite as great as they thought it was to begin with, and that become a problem. They can't really deliver what they hoped to.<br><br>They acquire the business and five to 10 years later, they sell it or shut it down. That's an obvious failure, right? You don't buy a business, you don't pay billions of dollars for a company to, to shut it down, or then just turn around and sell it at a loss from what you pay for it.<br><br>What you're trying to solve through this acquisition [is] made at a very fundamental, very core level to the overall strategy of the company. If they're not, if what you're doing is, "Hey, this asset came on the market, let's go buy it because it looks interesting, and it can maybe work for us," you're setting yourself up for failure…because you're not |

**Appendix Q.** (continued)

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| **I5** | really thinking strategically about why you're doing the deal. It's like, "Let me buy the new shiny thing. Let's go get that." |
| **I6** | Success is always about bringing through the business case that you created to support why you're going to make that acquisition.<br><br>I think, especially if it's, a public company, there is a ton of scrutiny on acquisitions and like ultimately organic growth is preferable to inorganic. I think there's a general consensus that most acquisitions fail to deliver the business case and when that's the case, then there's value destruction. So, shareholders, financial statement users, analysts think management's not being a good steward of the business. So, I think most times management's quite clear in terms of what the business rationale is for the acquisition. And then if they're clear on what the business rationale is, the measures should be pretty clear as well. And then depending on the industry most of the time growth is the measure, it's the biggest driver of value. |
| **I7** | The way I would implement something when an acquisition is announced is to look at my value of the inquiry and to say, what are the prospects of this company? And then to overlay that with the price that the acquirer is paying. And there probably there are some synergies, and I'm pretty suspicious when a corporate management talks about synergies. I think a lot of time [synergy] is elusory, but there are some actual synergies, you know, the sales staff can be paired down. You can use your extant sales channels. There's a lot of back-office stuff that can be paired down and made more efficient and so forth. But if the acquirer is paying a lot more than the value of the firm, let's say 1.5 to 2, I am worried about that. And I'm worried that this is going to lead to a write-down in the future. And I believe that to your point, after the acquisition is made and before a write-down is made, you should be able to see that in the accounting, that, in fact, profits are not growing as quickly as, that they, they spent X billion on this. And you're seeing, if you think about it, simple mindedly, so I spent 10 billion on this, what am I getting extra in profits every quarter? And the real difficulty is, and this is the reason that these boneheaded acquisitions can continue year after year, is that it's hard to sort out what is organic and what is acquisition related, and everything kind of gets mixed up, but on average, what you should see in a good acquisition [is] what I described for [one firm]. Wow! Suddenly you're getting a huge amount of operational leverage that you haven't seen before. Suddenly the median profit margin has jumped up by like 500 basis points and that's |

**Appendix Q.** (continued)

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| **I7** | a quality acquisition. And, on the other hand, if you see a company where they make this big acquisition profit, but margin doesn't increase, operating leverage doesn't increase, you start wondering. I mean it's a value neutral acquisition that they ended up spending shareholder value on.<br><br>Everything should get reflected in numbers somewhere. |
| **I8** | One of the things that we've done is making adjustments in order to get the right resources onto the problem. As an example, maybe as a part of an acquisition, in order to merge the new product with ours, we need to hire a bunch of engineers, but you know, because of how much time it takes to onboard engineers or because we don't have enough, let's send HR people to do all the interviews to find the engineers to begin with, and that may create a bottleneck which may result in not getting the product up the door, which may result in affecting the revenue that we were expecting from this acquisition.<br><br>I think they're generally successful because we keep doing them. And because I can see that the company has expanded its line of products that it offers and is growing as a result of these offerings.<br><br>There definitely is time put into making sure that the right value drivers are selected. They are shared with the executive team and if they want to look at something different, then we'll make the adjustment. Another thing is it's one thing to identify the value drivers, but it's another thing to actually be able to get the data and to present it.<br><br>So that upfront determination is critical, both in terms of the being able to align resources to do the prioritization and then, subsequently, to be able to answer the question, whether it worked. |
| **I9** | The next question is why on earth are people still [engaging in M&A deals] if it's such a high failure rate. I think it's vastly overblown, the way that many consulting firms are positioning this. I think that there are so many different ways of looking at it. You could look at it from the perspective of revenue growth, or from a perspective of, “Hey, I acquired that company, so my competition couldn’t acquire that company,” or “I acquired that company so that company wouldn't become a competition.”<br><br>I think the first point of failure is when you are at the beginning of the integration. Basically, what you're focusing on is stabilization of your |

**Appendix Q.** (continued)

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| **I9** | own company…and there are three metrics there. You don't want to lose customers…you don't want lose sales momentum, especially when it's an acquisition that comes with revenue, and you don't want to lose employees that you didn't want to lose. |
| **I10** | The best kind of acquisitions is if they're accretive, in other words, it's not just that they sell what you sell, but they bring something to the table that you don't. |
| **I11** | Interviewer: And, so maybe oversimplifying what you just said, but strategic intention is important, but it's not enough. There's got to be a way to quantify the outcome of the strategic intention in order for your M&A committee to say, yep, we like this, or we don't.<br><br>Informant: That's absolutely right. So, there's this one other aspect. It has to be quantifiable and then how do you drive accountability? Because that's the other part that we've seen success or failure of an M&A transaction is when you have accountability diffused across the entire organization, everyone's happy, but nothing gets done. So, it's, how do you quantify it and then where if you can quantify each bucket and then you've got accountability associated with it. When you come back a year from now, we want to have people who stood up and stood on the sidelines and cheered this deal on, is there a consequence for not meeting what we committed to? |
| **I13** | I think on the financial side, if they bought the company because they want to double revenue or if they want to make things more efficient than the numbers speak for themselves at the end of the day. If they are a billion of revenue before and they acquire something that has $500 million of revenue, you'd expect their next year financials to be $1.5 billion because they acquire one plus one. Then they get to three because they were able to get some efficiencies. Teams were able to cross sell and get even more sales at the end of the day. Then expenses, are they able to reign in expenses and increase the operating margin and gross margin along the way? So, I think numbers have a good understanding of whether it's successful or not as well. |
| **I14** | I would also say that different people define success differently. You may have the business side saying, “No,” but you have the product side saying, “Yes.” You may have the integration team saying, “Yes,” but |

**Appendix Q.** (continued)

**I14** you may have the executive team saying, “No.” So, there's different ways that you can evaluate whether or not it's a success or not.

And those are unforeseen things that happen post M&A, that would result in more of a negative success of a company. But then there's tangential benefits, whether that's to have the [acquired] product out of the market. And so now it's not competitive or taking away from your core offering. And so again, that's why it's very nuanced around what is success or what's not. And at what time? Sometimes there's nothing you can do other times, and there are things that you can do to try and change the overall outcome.

Interviewer (comment during interview): I think that you made a key point though, is a company acquiring another firm because they want to transform their offering or are they acquiring it because they want to enhance an existing product. And maybe there's a difference there. And I would agree with you that, perhaps, the Apples and the Ciscos of the world are trying to enhance something they already have where the Facebooks and Googles are trying to transform what they have.

**I15** There's a variety of different metrics and it goes back to what was the original objective. Sometimes you actually even don't do a deal unless you can reach a certain number. So, an example, I did an acquisition once where it was actually both the product, with a diversification objective, and hiring engineers, or just hiring a team that would sustain the product because we needed to transition the product off [a web service] to our own servers. And we put it in the terms of the deal that 80% of the current team has to accept the offer letters from our company to join as part of the acquisition, or we don't do the deal because we knew we would fail unless most of the team came over.

My personal experience is both with inbound and outbound deals. I did approach it like sales. A lot of deals are presented to you. Inbound is when you reach out to the company and pitch them. And so, I have actually probably seen less of a failure percentage from the few transactions that I've actively completed. But I have also seen, when I was on the consulting side…that was actually a pretty accurate number from just a number of deals that large companies were buying. So, I think the 80% is first primarily to large companies like Google and HP, et cetera, that acquire a lot of businesses and then they just fail to integrate them, and for whatever reason that fails. So, I think it

**Appendix Q.** (continued)

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| **I15** | depends. I think there's a higher chance for success if it's a smaller deal and it's a smaller company where you can pay attention to it. With a large company, oftentimes these things just get bought and then they just don't prioritize the integration. |

*Source:* Interviews conducted by author

# APPENDIX R

## INTERVIEW RESPONSES – DEAL OBJECTIVES

| Informant | Interview Responses |
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| **I5** | There could be a number of motivations. One could be, I want to take out a competitor. I mean, there are situations where you're looking in a market, you have a competitor you want to eliminate that competitor. One way to do that is to buy them and shut them down, that's happened before, or integrate the product so that there's only one product in the market and it's yours or whichever one's the best.<br><br>The decision really should be, "Do I build this, or do I buy it?" And if I'm going to build it, how long will it take me to build it? And how much will that cost and what do I lose during that build time that may make it more beneficial to go buy it somewhere. So, you start there and that is really what's setting your objectives for what you're going to do next, which is I have this hole in the market that I see that I'm not serving. How do I fill that hole? Because maybe that's important to my current product, maybe in that market, I'm selling something. And I'm finding that my customers would rather it be sold in connection with this other product. Maybe it's software, but they need a hardware piece or vice versa.<br><br>And so, the question becomes, am I going to buy it or am I going to build it? And how long does that take and what you find in Silicon Valley, particularly because the market moves so quickly in technology where two years from now it's a different ball game and you don't have time to wait.<br><br>The bulk of the transactions are being done with the idea to grow revenue or take additional market share, which should grow revenue.<br><br>[M&A] is probably the best way to get a product into the market quickly. And to eliminate some of the extra costs that are associated with that company. You just put them all on your payroll, put them all on your financial systems, sell the product through your existing sales channel, your whole internal team, external salespeople, channel partners, all of that, and do that as quickly as possible. |
| **I6** | A short list of reasons for doing an acquisition, you might want to accelerate growth, participate in a sector that you don't have your capability or product in, like a new market. You may see an opportunity to be a better owner. So, you get some growth, and you get |

**Appendix R.** (continued)

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| **I6** | a margin synergy, or this is something that's coveted by competitors, and you are worried about it being in their hands and you prefer it in your hands. And then lastly, and I have no personal experience with this one, you know, senior management sometimes does acquisitions for the pure distraction of doing an acquisition.<br><br>Ultimately, it's the same basket of variables. So, you know, either this acquisition is going to deliver the growth, deliver the margin, deliver the synergies or maybe even a new capability, you know, companies, tech companies might buy a patent that they would use to embellish or build on their existing products and make them better. |
| **I7** | Well, so in fact, a lot of those acquisitions, they're just acquiring a research team, especially if we're talking about a big tech company and you see this all the time. |
| **I8** | One is revenue…technology, speed to market, new product lines and new markets, but yes, centering around the technology…[or] purchase of employees in what we call acquihires.<br><br>Because it would take longer if we try to build the product ourselves or are we buying this company because it would be just more cost effective to purchase this new area of business then to build it ourselves. You know, maybe it would just cost more if we went that route, so therefore let's buy it. Or maybe we want to go into an entirely new market, but we don't have any expertise there. So, even if we had the money and even if we had the time, we don't have the expertise about the market, therefore let's buy this company. And so that rationale, that reasoning for whatever we buy the company is probably the starting point of the assessment and of the integration of the business. |
| **I10** | I refer to that as a strategic acquisition to get into a market you're not in, or a product that you don't currently have, or get personnel that you want. |
| **I13** | Maybe it's build versus buy. They'd rather build a company, or they'd rather buy a company than build it out. There might be talent acquisitions where they're looking at acquiring a workforce that's already been in place and has experience rather than having to train and develop and get them going. I have one company that just did an acquisition because they wanted to get into a market, and another company was already there. They figured, "I can get 2,500 clients with |

**Appendix R.** (continued)

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| **I13** | a single stroke of the pen rather than having to go through and build those clients up myself." And so, they're able to expand into that market, whether companies do vertical or horizontal integration. |
| **I14** | I think it's before you even think about M&A. It's like, what's the problem. The problem is either we need to increase revenue, we need to expand into adjoining markets, we have a competitor that's coming after us, we need to speed up our engineering roadmap, we need to acquire talent that we couldn't acquire elsewhere, it's normally the problem. And then one solution or one lever in order to improve that or to achieve it is through M&A. But we don't normally start M&A by just saying, "I want to buy this company," if there isn't an underlying rationale for why. And that normally then goes into how you're going to evaluate. Every time we would bring up a deal, we would need to show what's the strategic rationale either from a product or a technical side, or from a business perspective, what's the rationale for doing the deal. And it was never one thing. It was never just one blanket response. It was always very nuanced for every deal that we were doing. |
| **I15** | It could be many things. It could be acquiring a new customer segment, or accelerating a product development, or it could be intellectual property acquisition. It could be just acquihiring. A lot of the acquisitions, especially in software space are just accelerating hiring, or maybe hiring somebody that wouldn't join your organization any other way. And it could be entering a new market. An international acquisition could accelerate the entry. It could be all competition, the elimination of competition. |

*Source:* Interviews conducted by author

# APPENDIX S

## INTERVIEW RESPONSES – ADDITIONAL COMMENTS OF INTEREST

| Informant | Interview Responses |
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| **I1** | "The corporate development integration team…they are the post-acquisition, integration, measurement, everything…they are the ones tracking the numbers."<br><br>When asked if the acquisition pre-assessment process involves the calculation of cumulative abnormal returns: "Not that I know of." |
| **I2** | We kind of generally put, if you want to think of it this way, buyers in two different buckets…So you have financial buyers…who may be…private equity. And then you have strategic buyers who are typically industry incumbents and…a strategic buyer is certainly [going to] be focused on the…the financial…piece of it, but is, is also [going to] be looking at things that…a financial buyer might not…look at, or it may not be as, as important a consideration for financial buyer.<br><br>A strategic buyer may be willing to pay more for a transaction that a financial buyer ever would.<br><br>There may be a period of time between the announcement and the actual closing or signing of the deal…And I would say maybe…it was probably a benefit to both the buyer and the seller that we actually had, that…period in between signing and closing, because it allowed for more time for transition and integration planning. |
| **I3** | I didn't do any deals at all, or pitch any deals at all, that were pure number deals. All my deals are strategy deals.<br><br>The long-term ramifications of the deal are far, far more significant, than the announcement date. |
| **I4** | The examples I'm using, I'm thinking, in all cases, you're buying a majority interest. Okay. If you have a minority interest, then a lot of those considerations go away because you don't control the company, you don't control it. You're looking at it more from a standpoint of just what's the investment. |

**Appendix S.** (continued)

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| **I4** | Return on asset or return on capital would only be a valuable metric in a company that was asset heavy, like a manufacturing company. ROA would not be a useful measure in a software company that had very little assets. |
| **I5** | Because you don't know which ones are ultimately going to be the good ones or bad ones you take a portfolio approach |
| **I6** | You can clearly track revenue from the acquired assets. You can quite easily understand and allocate the cost profile against that.<br><br>The shelf life of management is finite. If you went to the Wharton database and tabulated the tenure of the fortune 500 CEOs, probably three to five years is their average tenure…So, then the success or failure of the merger, the acquisition may supersede or outlive the CEO or the management team that's advocating for the acquisition. That's one thing. The other thing is the management team that makes the acquisition, they're not incented or dis-incented on that acquisition typically, the sort of one-off cost, the restructuring, they're neutral usually. And then if a new management team comes in and determines, “Hey, you know, this is a complete disaster acquisition and we're going to write it all off,” that management team is not held accountable for that either in their incentives. |
| **I7** | I think it's important to frame this as the perspective of the person that you're talking to. So as a security analyst, I would look at things differently than as an executive from the company. What I've seen is that mostly there are a huge number of agency issues, principal-agent problem issues that are wrapped up in acquisition strategy, that, a lot of times, from a managerial perspective, investors, and like boneheaded investors are, are interested in growth, but they don't know what growth means. They don't understand whether that's revenue growth or profit growth, and they want to see something happening. And so, for a company manager, they can acquire, they can essentially buy revenue. And whether that is value creative for a shareholder or not is a different matter entirely.<br><br>But I think a lot of times this is really covering up this agent-principal problem, where the agents are getting paid by shares and they're also being incentivized to keep the EPS growing. And so, they're using shareholder cash flow to help themselves on compensation. So, I hate to say it, but honestly, I think that this is one of the dynamics that happens in corporate mergers, that a lot of it is an agency problem. |

**Appendix S.** (continued)

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| **I7** | Essentially, there are only three levers to increasing value to the company. One is revenue growth. Is the company responding appropriately to the demand environment and the competitive environment? Second is profitability. Is the company able to convert the revenue rates into profits at a sufficient rate? And the last is something that I'll just say, "Medium term growth is governed by investment amount and investment efficacy."<br><br>----------------------------------------<br><br>Interviewer: I appreciate the fact that you're articulating that depending on the company size, or maybe the acquisition size, or the maturity level of the firm, things like that are going to change how this whole success or failure conversation goes. Because if you've got a big company buying a big company, that's going to be a pretty visible thing. If it's a big company buying a little company, or a mature company buying a startup, or maybe it's two smaller companies trying to come together, all of the criteria there may be adjusted a little bit for those scenarios. Right?<br><br>Informant: Yeah. And in fact, the one dynamic that we haven't touched on yet, which I think is important is one consistent problem in market-based capitalism is that incumbents are favored and simply favored by access to capital.<br><br>----------------------------------------<br><br>The most important thing, if you're thinking about acquisition policy and acquisition efficacy…is agent-principal problems [are] the most important. I really see you've got ignoramuses who are investing that don't under understand what growth means, and that encourages corporate ignoramuses to make ignorant purchases of things. |
| **I8** | So, there is pretty good alignment by time the purchase is made and not just with [the involved] teams, but also ultimately with the CEO and also with the board of directors of the whole company. They are all bought into it and aligned. |
| **I9** | We are thinking about measuring the integration and with that comes accountability. |

**Appendix S.** (continued)

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| **I9** | ---------------------------------------- <br><br> Interviewer: Thank you for sharing all of that. And maybe an oversimplification of what you just related, but at the executive level, as somebody is thinking about pursuing a deal for a particular reason, maybe they want to reduce time to market for a product or something of that nature. There's some level of, "This is what would make this successful in our mind at that level." And then as you come in and you start doing the due diligence, then there's some of the real black and white, nuts and bolts, kind of things that you'll reveal in that process and be able to say, "Yeah, we can hit that target, or we can't hit that target. We're going to recommend you pursue the deal. We don't recommend you pursue the deal. If you do pursue the deal, here are milestones along the way that would tell us we're on track and being successful." <br><br> Informant: Exactly. <br><br> ---------------------------------------- <br><br> All my clients are asking for playbooks, and I give them playbooks, but there are three key inputs for your integration planning…As you're thinking about, "Here's a checklist for everything I need to do in order to not forget anything more important," is the deal thesis. What are the things that we are actually trying to accomplish? And then you have your findings from your operational diligence, financial diligence, the key risk of that we identify that have to be addressed. So, it's a triage. It's not just blindly following an integration table. <br><br> I think there's the operational level and then there's the financial level. I think these are the two things. For a lot of companies, there's really no alternative, but to grow inorganically. I mean, for a lot of tech companies, there's no alternative to inorganically. So, it's the wrong question to ask whether we should do the deal or not. The question is let's do the deal the right way, because they can't grow organically at the growth rates that the market is expecting of them. |
| **I10** | The most important thing in a small merger is the two managing partners have to know, like, and trust each other. If you have that, then you have a deal. And the key component of that is to have a deal structure that both sides feel comfortable with. So, the first step there is |

**Appendix S.** (continued)

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| **I10** | just the people part of it, the things that probably the math part doesn't deal with. If the two guys think like each other, then there's a possible deal there. If they don't, then there is no deal, no matter what. |
| **I11** | We've encountered a lot of this ourselves where in an M&A transaction you could announce or sign a deal, but it doesn't guarantee that a deal gets closed.<br><br>The scale of the deal doesn't determine the effort that goes into the deal and smaller deals are just as complex, the needs aren't that different, and the risks are about the same. The big difference between a small transaction and a big transaction, back to the playbook question, in a big transaction, if it's two publicly traded companies, information's more easily available. I can do a lot of research in a company that's up on Capital IQ or Crunchbase. I can get a lot of information. That's easy for a company that is publicly traded. But if it’s a small unlisted, private company, you don't know what you don't know till you get into the due diligence. And there's a good chance even after due diligence, you don't know. So, playbooks are good, but you follow variations of a playbook on how the deal and what the deal looks like.<br><br>I think we touched upon a lot of this in the last 30 minutes, it's being able to not just come up with a robust strategy or a strategic rationale, I think that's, that's the most important and foundational piece, but being able to transform objectives and goals into something that is measurable. And once you're able to measure it and quantify it, how do you then drive to being able to hold someone accountable to actually deliver on that value?<br><br>----------------------------------------<br><br>Interviewer: I have to ask a follow up question, something you just said that struck me and help me with whether you think this might be a valid point. Accountability, as you described it, impacts the future success of the deal?<br><br>Informant: A hundred percent accountability. So, two things. Not just future success of the deal, but the future of doing any more deals. If you don't have accountability and you don't succeed in the current deal, then the next deal that you want to do, the threshold or the barrier to get that deal approved goes up that much more. So, it's accountability. The other side of that coin is credibility. If you have |

**Appendix S.** (continued)

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| **I11** | accountability, and if you demonstrate that you achieve the goals of your transaction, the credibility cost goes up with it. So, when you come back as a business sponsor or business leader and say, I want to go do the next thing. You're going to find a supportive audience within the M&A committee. Otherwise, you have one chance of success. |
| **I14** | Strategic intention is the thing that guides how you're doing diligence on these companies…the strategic intention is what drives the type of diligence that you do.<br><br>There's the first step of diligence and the second step of diligence. The first step of diligence is getting the initial view of the business and the business diligence that you would need in order to understand whether or not you actually want to acquire the business. And then once you've gotten down that step of saying, okay, this is interesting, or we want to acquire, or if you sign either an LOI or a term sheet, then there's the standard diligence. |

*Source:* Interviews conducted by author