EXPLORING MERGERS AND ACQUISITIONS IN PUBLIC ACCOUNTING

McGowan, J. and Norris, D.

Sorrell College of Business, Troy University, Troy, USA

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Abstract

Mergers and acquisitions (M&A) assist public accounting firms in multiple ways. These transactions expand client services, open opportunities in consulting and wealth management, increase revenues, and secure talented personnel. This exploratory study looks to build a preliminary model surrounding the likelihood a firm participates in an M&A transaction. To do so, a sample of the top 100 accounting firms, as reported by Accounting Today in 2019, is utilized. This data is combined with hand-collected news reports of mergers or acquisitions that occurred in 2018. Utilizing logistic regression, the effects of different firm characteristics such as revenues, CEO gender, and management efficiency on the likelihood of a public accounting firm being involved in a merger or acquisition are presented. The model is significant, having a log likelihood of 74.65. This study contains limitations. As this study's sample is confined to the top 100 firms and reflects a short time window, these results might not apply to all accounting firms. Further, not all accounting firms' M&A transactions are public knowledge, which may result in a biased sample. However, these limitations do not prevent this study from providing value. This study is one of the few to explore M&A transactions in public accounting. As certain firm characteristics are found to be related to M&A activity, this paper provides a starting point for future research on this topic at a time when M&A activity in public accounting is gaining in popularity.

Keywords: Mergers and Acquisitions, Public Accounting, Human Capital, Consolidation

JEL Classification Codes: G34, M40, M41

Corresponding email: dylann@troy.edu

1 Introduction

Mergers and acquisitions (M&As) have played an instrumental role in shaping the public accounting industry. In today's environment, these transactions are more common than ever. In fact, in 2019 over 100 mergers and acquisitions were conducted by the top 400 public accounting firms within the United States (Inside Public Accounting, 2019). Further, professionals in the industry believe this activity will remain constant or grow in future years. Terry Putney, CEO of Transition Advisors, recently spoke about mergers and acquisitions in public accounting and noted, "We don't see any let up in the market. All the factors that have been driving activity remain and some are even more prevalent" (Hood, 2019). Recognizing the importance of M&As, this study seeks to expand the literature on M&As in the public accounting industry.

The accounting literature, while not extensive, has mainly focused on corporate governance and the outcomes of M&As (Cumming et al., 2023; Haleblian et al., 2009; Thanos & Papadakis, 2012). Accounting firms participate in M&As for several reasons such as to improve operating efficiency and enter niche markets (Wootton et al., 2003). As approximately 50% of an accounting firm's expenses are related to labor, improving efficiencies can make a significant impact on a firm's earnings. Further, a firm becoming a specialist in a specific niche allows them to increase prices and grow efficiencies. There are many niche markets within the audit and tax industries, which can add value to acquiring firms. Allan Koltin, CEO of Koltin Consulting Group, Inc. spoke at the Thomson Reuters Synergy Conference in 2016 of characteristics that make firms attractive for M&A and noted that "A firm that's done well in terms of growth and profitability is obviously going to catch the eye of a potential buyer. But other factors, like talent, use of technology, scalability and niche specialty, can further increase interest" (Baron, 2016).

Furthermore, the accounting industry is currently dealing with a labor shortage. Accounting firms have constantly ranked finding and retaining staff as their greatest challenge in recent years (Association of International Certified Professional Accountants, 2016). Therefore, an additional benefit of M&A transactions is acquiring human capital. James Gosling, who oversees M&As at AJ Chambers, a firm that specializes in accounting M&As, recently stated, "The fight for talent is very tough at the moment. So, more often than ever, we're seeing acquirers that, alongside looking to build the business, will be looking to acquire the smaller firm's talent" (Gonzalez, 2023).

However, many mergers within the industry fail to capitalize on these possible

improvements due to differences in culture, poor transition planning, and lack of communication (Sinkin & Putney, 2009; Stahl & Voigt, 2004). Firm culture can vary widely due to location, size, and ownership. For example, a large, New York City-based firm and a small firm located in the coastal city of Destin, Florida may have different attitudes related to the amount of work expected in each week. The larger firm might expect the smaller firm to incorporate its values into its organization after the M&A is completed. However, these differences combined with poor transition planning and a lack of communication can lead to many challenges post-acquisition. Firms need to evaluate both the benefits and costs when considering whether an M&A transaction is appropriate.

An accounting firm considering an M&A will typically conduct due diligence. The due diligence of an M&A typically covers the strengths, weaknesses, opportunities, and threats of the transaction. As such, this is a timely and costly process. This study looks to explore the question of whether certain firms, determined by firm characteristics, are more likely to be involved in an M&A. While prior research focus primarily on the outcomes CPA firms realize when undergoing a merger or acquisition, this study hopes to identify relationships between both firm and CEO characteristics and the choice of firms to engage in M&A events. Specifically, this study hypothesizes that firm size, a higher ratio of human capital to revenue, and CEO gender are all significantly related to the likelihood a firm is involved in an M&A transaction.

The remainder of the paper is organized as follows: Section 2 reviews the M&A literature. Section 3 details the hypothesis and data. Section 4 presents the model used and empirical results. Section 5 ends with conclusion.

2 Literature Review

2.1 Accounting M&A Literature

Merger and acquisition literature varies drastically between the fields of accounting, finance, strategy, and organizational behavior. While it would be typical to focus on the accounting M&A literature, as public accounting firms are not public companies, a scarcity of data exists, and the literature is not considered mature. Further, much of the accounting research that is published regarding M&As is focused on the accounting aspects of these transactions that are taking place in different industries (Cumming et al., 2023). As such, this proposal relies heavily on literature from outside the accounting realm in forming hypotheses.

Regarding studies in accounting literature, the focus mainly revolves around the outcomes of mergers and acquisitions. One outcome that encompasses the entire industry is the finding that the public accounting field has become an oligopoly due to mergers and acquisitions (United States General Accounting Office, 2003). This oligopoly was previously controlled by the "Big Eight" firms (Wootton & Wolk, 1992), but due to mergers and scandals, four major firms are currently at the top of the industry. The current "Big Four" include Deloitte, KPMG, Ernst & Young, and PricewaterhouseCoopers.

In terms of specific outcomes of mergers and acquisitions within the accounting industry, a previous study found that mergers of smaller firms and the previously known "Big Eight" firms concentrated the audits of companies held on stock exchanges within the largest firms in the industry (Wootton et al., 1994). This appears to hold true today, as all 457 public companies within the Fortune 500 are audited by one of the "Big Four" firms.

The effects of mergers and acquisitions can also be seen in audit fees. Although M&A transactions have a goal to improve efficiencies, audit fees for the Big 4 firms increased after mergers because of enhanced market power (Ding & Jia, 2012). Still, mergers surrounding the Big 4 firms have also been shown to improve audit quality (Ding & Jia, 2012). It is noted that these outcomes surrounding M&A transactions are significant within the industry. This study hopes to extend this literature by understanding what firm characteristics are conducive to a merger or acquisition event.

2.2 General M&A Literature

Outside of accounting literature, M&A transactions have been studied in a variety of disciplines. In general, the finance literature focuses on whether these transactions increase or decrease wealth for shareholders of the companies involved (Cartwright & Schoenberg, 2006). It has been shown that the effect of acquisitions on returns varies widely at the firm level (Conn et al., 2001), giving credence to the process of exploring mergers and acquisitions within the accounting sector based on firm-level characteristics. In the organizational behavior strategy literature, several studies in the M&A realm have focused on leadership, decision-making, and firm culture (Cartwright & Schoenberg, 2006).

2.3 Lack of Relevant Literature

Although the above examples highlight only a small segment of M&A literature, the diversity in the literature between different fields of academic research highlights the importance of this area of study. While the accounting literature has not generally focused on mergers and acquisitions, it is an important area to expand due to the increasing number of transactions within the industry, high cost of engaging in such events, and variability in M&A outcomes. Presently, this study is thought to be one of the first to explore the relationship between firm characteristics and M&A activity.

A study that examines firm characteristics could benefit firms looking to grow their practices and firms looking to sell as partners enter retirement. As noted previously, firms may look at M&As to improve efficiency, move into niche markets, and secure talented human capital. Further, small and medium-sized firms tend to struggle with succession planning (Amato, 2022). With the decrease in the number of new CPAs in the United States (Oliver, 2022), firms are finding it tougher to locate local CPAs to succeed the current partners. Therefore, many of these smaller firms are looking to M&A transactions for succession planning. 2021 was a record year for the number of small accounting firms merging into larger firms (Callam, 2022). As it is expected these trends will continue, this study hopes to help firms of all sizes by providing guidance on which firms are likely to be conducive to M&As.

3 Methodology

Unfortunately, there is little guidance from prior research on predictive models for M&As in the accounting literature. As such, literature in the hospitality management industry has utilized a guide. While it may seem as though this is unrelated to the accounting field, many of the firm characteristics noted to be significant in mergers in the hospitality industry are present in the public accounting sector.

Firm size is considered first. In the hospitality sector, the smaller the firm size, the more likely a firm is to be involved in a merger (Kim & Arbel, 1998). This is based on the idea that the larger a firm is, the more expensive it is to be involved in a merger due to organizational culture costs, absorption costs, and legal costs. Furthermore, a study specific to accounting literature found that the "Big Four" firms operated at constant returns to scale, while smaller firms operated at increasing returns to scale (Chang et al., 2009). As such, the biggest firms in the accounting industry would not receive any benefit in terms of efficiency by growing larger, but

the smaller firms would benefit from mergers and acquisitions. As such, the following hypothesis is presented:

H₁: The larger the firm's size, as proxied by annual revenue, the less likely the firm will be involved in a merger or acquisition.

A firm's management efficiency is also related to mergers and acquisitions. It has been shown that merging with or acquiring a firm can be used to improve management (Brealey et al., 1988). Further, Walsh and Ellwood (1991) found top management turnover to be significantly higher in an acquired company for the first two years post-acquisition. The ratio of total employees (human capital) to revenues is utilized as a proxy for management efficiency. In the accounting industry, revenues are created by employee chargeable hours. Therefore, the greater the number of employees, the higher the firm revenue should be. It is expected that firms with more employees per dollar of revenue will be targeted for mergers and acquisitions at a higher rate than those firms that utilize their employees more efficiently. The second Hypothesis then becomes:

H₂: The higher the ratio of human capital to revenue, the more likely the firm is to be involved in a merger or acquisition.

Previous studies have found that company leadership significantly affects whether mergers and acquisitions are successful (Cartwright & Schoenberg, 2006), with several finding different outcomes for M&A events depending on CEO gender. Levi et al. (2011) found an inverse relationship between the number of female members on public company boards and the likelihood the firm would acquire other companies. In line with Levi et al. (2011), it has been shown that female CEOs have a stronger risk-avoidance strategy than male CEOs (Faccio et al., 2016). Thus, the final hypothesis is as follows:

H₃: A firm with a male CEO is more likely to be involved in a merger or acquisition compared to a firm with a female CEO.

The independent variables are collected from the "2019 Top 100 Firms" publication (Accounting Today, 2019). This database is published by Accounting Today and is updated annually to reflect data and trends surrounding the top 100 public accounting firms in the United States. A limitation of the database is that all statistics are self-reported by the firms. Although this does cause some concern as public accounting firms are not public entities, this is deemed the best available data and the report has been used in previous accounting studies (Banker et al.,

2003; Chang et al., 2009). The following independent variables will be utilized from the Accounting Today 2019 Top 100 Firms database:

Net Revenues in 2018: Net revenues (in millions) will proxy for firm size. Although the number of employees was also considered to be a proxy for firm size, Accounting Today along with other publications tends to rank firms based on revenues.

Percentage Change in Revenues from 2017: This variable captures the percentage increase or decrease in net revenues from 2017 to 2018 and will proxy for firm growth.

Partners: This variable captures the number of partners within the firm. It is noted that these partners could be equity-based or non-equity-based depending on the individual firm and how they classify their employees.

Offices: This variable represents the number of offices for the firm. Only offices in the United States are considered.

Total employees: This represents the number of total employees within the firm and is utilized in the ratio of "human capital/2018 revenues". Total employees consist of all partners, associates, and other firm staff members.

Chief Executive: This is a binary variable taking the value of "1" if the firm CEO is male and a value of "0" if the CEO is female.

The dependent variable in the model, *Merger/Acquisitioni*, indicates whether a firm participated in a merger or acquisition in the 2018 calendar year. *Merger/Acquisitioni* will take the value of "1" if the company was involved in at least one M&A event in 2018 and a value of "0" otherwise. To gather this data, firm websites along with local and national news outlets were searched for press releases surrounding a specific firm and any transactions taking place in 2018. The press release date is utilized to determine in which calendar year the merger or acquisition took place. For example, an article dated August 9th, 2018 in the New York Business Journal notes that the firm Baker Tilly is merging with the forensic accounting firm RGL. As such, Baker Tilly would be considered to have been involved in an M&A transaction in 2018.

4 Results

Table 1 displays descriptive statistics for the variables. As seen below, there is wide variation in the characteristics of the top 100 firms. For example, in reference to the number of employees, the smallest firm has only 192 employees while the largest has 94,367 employees. It is also noted that 57 out of the 100 firms in the sample conducted a merger or acquisition in

2018. Figures 1, 2, and 3 that follow are visual representations of data in Table 1.

Table 1 - Descriptive Statistics

| | N | Mean | SD | Median | Min | Max | Skew | Kurtosis | SE |
|--------------------------------------|-----|----------|-----------|--------|--------|-----------|------|----------|----------|
| CEO Gender | 100 | .9 | .3 | 1.0 | .0 | 1.0 | -3.1 | 7.4 | 0.0 |
| 2018 Revenues (Millions) | 100 | 810.39 | 3,041.47 | 97.31 | 41.00 | 19,897.00 | 4.97 | 24.43 | 304.15 |
| % Change in Revenues from 2017 | 100 | 10.40 | 9.22 | 8.90 | -5.28 | 71.77 | 3.07 | 17.66 | 0.92 |
| Offices | 100 | 17.90 | 24.93 | 9.00 | 1.00 | 120.00 | 2.50 | 5.71 | 2.49 |
| Partners | 100 | 258.02 | 754.57 | 55.00 | 14.00 | 5,492.00 | 5.09 | 27.43 | 75.46 |
| Employees | 100 | 3,329.92 | 12,219.14 | 462.50 | 192.00 | 94,637.00 | 5.60 | 33.79 | 1,221.91 |
| Human Capital Ratio | 100 | 5.04 | 1.02 | 4.93 | 2.74 | 7.97 | 0.35 | -0.15 | 0.10 |
| Merger and Acquisition | 100 | .6 | .5 | 1.0 | .0 | 1.0 | -0.3 | -1.9 | 0.0 |

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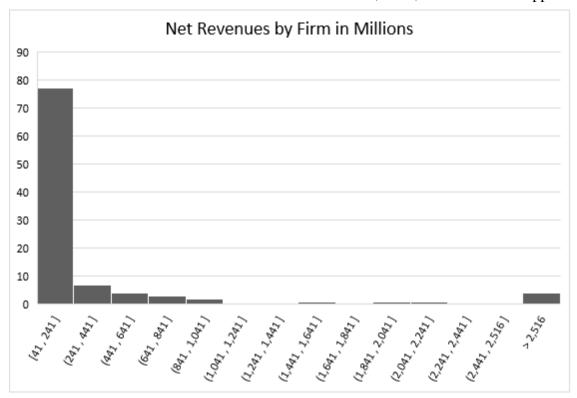


Figure 1. Net Revenues by Firm in Millions

Figure 1 shows that most public accounting firms in the top 100 have below \$241 million in net revenue. Given that the "Big 4" within the industry each creates over \$2.5 billion of net revenues, this helps visually display the oligopoly market structure.

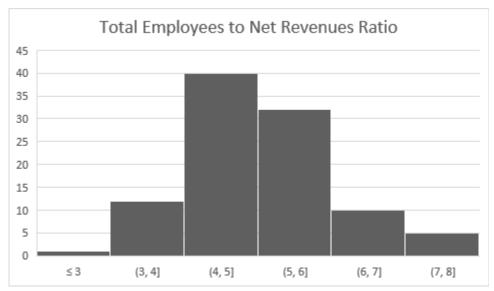


Figure 2. Total Employees to Net Revenues Ratio

Figure 2 displays the ratio of employees to net revenues or the "human capital

ratio". It is noted that most of the firms fall between 4-6, however, in general, a normal distribution is present among the firms. The most efficient firms are operating at a ratio of below 3.

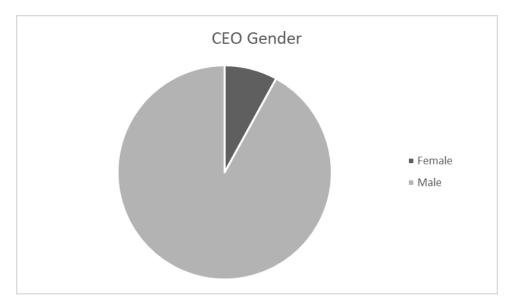


Figure 3. CEO Gender

Finally, Figure 3 looks at the gender of the CEOs in the sample. It is noted that the vast majority of the top 100 accounting firms have a male CEO.

4.1 Hypothesis Testing

The following logistic regression model is presented to analyze the hypotheses:

 $Merger/Acquisition_i = A + \beta_1 2018Revenues_i + \beta_2 Human Capital to Revenues Ratio_i$ $+ \beta_3 CEOGender_i + \beta_4 Number of Offices_i + \beta_5 Percentage Change in Revenue from$ $2017_i + \beta_6 Number of Partners_i + \beta_7 Number of Employees_i + \varepsilon_i$

It is noted as the dependent variable is binary, a linear probability model could also be conducted, however, previous research modeling mergers and acquisitions have found greater success with logit models (Adelaja et al., 1999; Kim & Arbel, 1998).

Table 2 below reports the results of the logistic regression. Variable coefficients are shown in the log-odds form. H₁ is not supported. While the coefficient on 2018 Revenues is negative, it is not statistically significant. H₂ is supported, as the coefficient on Human Capital Ratio is positive and statistically significant. Finally, while the presence of a male CEO is associated with an increase in the likelihood of an M&A event, this relationship is not

statistically significant and therefore H₃ was not supported.

Table 2. Logit Analysis of Mergers and Acquisitions

| Independent Variables | Dependent | | | |
|-------------------------------|-------------|--|--|--|
| - | Merger and | | | |
| | Acquisition | | | |
| 2018 Revenues | -0.001 | | | |
| | (.808) | | | |
| | [0.003] | | | |
| Human Capital Ratio | 0.996* | | | |
| | (.004) | | | |
| | [0.348] | | | |
| CEO Gender | 0.215 | | | |
| | (.857) | | | |
| | [1.193] | | | |
| Number of Offices | 0.086 | | | |
| | (.105) | | | |
| | [0.053] | | | |
| % change in Revenue from 2017 | 0.072* | | | |
| | (.011) | | | |
| | [0.028] | | | |
| Number of Partners | 0.032* | | | |
| | (.009) | | | |
| | [0.012] | | | |
| Number of Employees | -0.002 | | | |
| | (.004) | | | |
| | [0.001] | | | |
| Constant | -8.975 | | | |
| | (.001) | | | |
| | [2.653] | | | |
| Observations | 100 | | | |
| Log Likelihood | 74.65 | | | |
| Nagelkerke R ² | .623 | | | |
| - I agement it | .023 | | | |

Notes:Significant level is indicated by * for 5%. *P*-values are shown in parentheses, and standard errors are reported in square brackets.

5 Conclusions

Mergers and acquisitions in public accounting are occurring at an increasing rate. As firms strive to find value in these transactions, academic research can play a vital role in

understanding the pros and cons for both the firm being acquired and the firm completing the acquisition. At present time, few studies in the M&A accounting literature conduct analyses at the firm level. As firms exhibit vast differences, this study fills an important gap in the literature by using firm level data from the top 100 accounting firms. Additionally, prior research has focused primarily on the outcomes of firms who engage in M&A activity. While this is a fruitful and necessary line of research, little attention has been given to the decision to engage in such activity. This study is one of the first to explore this topic. Specifically, the use of logistic regression is utilized to examine the effect of different firm characteristics on the likelihood of a firm engaging in M&A activity. While most studies look at the end results of M&A activity, the study bridges the gap to vital information relating to the decision to engage in M&A activity.

Mixed evidence is found related to the characteristics included in the model. One interesting finding relates to the positive relationship between the number of partners at a firm and the likelihood that the firm participates in an M&A transaction. One explanation could be that as there are more C-level individuals, there may be more discussion of and therefore more engagement in M&A opportunities. The ratio of human capital to revenue was also positively related to the likelihood of an M&A event, possibly stemming from the fact that firm's use M&A to improve management and may see more opportunity to do so in firms with a higher ratio (i.e. poor management efficiency). The other variables including Revenue, Number of Employees, Number of Offices, and CEO Gender were not found to be predictive in this model.

The lack of full support for the hypotheses could be due to a few factors. First, the sample of this study was limited to the top 100 firms in the United States. Many M&A transactions within the accounting industry are conducted between firms outside of the top 100. Therefore, it is possible that if the whole population of M&As was included for the years within this study, the results would have differed. Future research could expand the sample to the entire population of public accounting firms. The dependent variable of whether a firm participated in an M&A transaction was hand-collected based on press releases. As such, it is possible that not all transactions were captured. Firms make an internal decision of whether to publicly announce a merger or acquisition and if an M&A transaction was not reported in a press release, this study would not have known of the transaction. To address this limitation, a future study could survey firms and collect M&A data directly. Utilizing surveys of accounting firms could also provide other avenues to examine M&A transactions in the accounting industry. For example, CEO

personality and a firm's organizational culture could affect the likelihood of the firm conducting M&A transactions.

Further, future research might be able to explore which type of firms are more favorable to being acquired. Specifically, as noted previously whether a firm is considered a specialist within the accounting industry could be a firm characteristic that increases the chances of involvement in M&A. Larger firms are able to expand their services to an untouched market when acquiring a firm that has a specific niche. As human capital has become scarce in recent years, firms that have a high percentage of CPAs at the staff level could also be targets of mergers or acquisitions. Additionally, firm characteristics such as profitability and geographic location could be related to M&A activity as well.

While mixed support for the hypotheses is found, the study was able to provide a glimpse at the firm characteristics related to M&A transactions in public accounting. This study is meant to be a starting point for research on these transactions within the accounting industry. As M&A transactions are currently more popular than ever before in the accounting industry, future studies will continue to provide practitioners and researchers with relevant and timely information.

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