(Note: Pre-publication version)

Competitive Aggressiveness, Community Banking and Performance

Jeff Stambaugh (Midwestern State University, Wichita Falls, Texas, USA)
G.T. Lumpkin (University of Oklahoma, Norman, Oklahoma, USA)
Ronald K. Mitchell (Texas Tech University, Lubbock, Texas, USA)
Keith Brigham (Texas Tech University, Lubbock, Texas, USA)
Claudia Cogliser (Texas Tech University, Lubbock, Texas, USA)

Abstract

Purpose – The purpose of this paper is to develop and empirically test a conceptualization of competitive aggressiveness, a dimension of Entrepreneurial Orientation.

Design/methodology/approach—Structural equation modeling and hierarchical regression are used to analyze responses from 182 banks in the southwestern U.S. Performance data on the banks are drawn from the FDIC's Call reports.

Findings—The results indicate awareness, motivation, and capability are antecedents of competitive aggressiveness, which itself is positively related to increased market share and, in more dense markets, profitability.

Practical implications—Aggressive firms exhibit certain routines that can lead to competitive actions, which assists performance in some contexts. Managers who wish to increase (or decrease) their firms' overall competitive posture can encourage (or discourage) employees from performing competitive routines such as monitoring their rivals or talking about their rivals' strategies.

Originality/value—By developing competitive aggressiveness' conceptualization, the study advances the understanding of the antecedents of competitive behavior and makes it easier to study competition in smaller firms.

Keywords—Competitive aggressiveness, Entrepreneurial orientation, Banking, Firm performance

Paper Type—Research paper

Competitive Aggressiveness, Community Banking and Performance

Over 20 years ago, Lumpkin and Dess (1996) integrated the concept of competitive aggressiveness (CA) into the Entrepreneurial Orientation (EO) construct, defining it as: 'a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace' (p. 148). Covin and Covin noted that 'a propensity for aggressive competitive behavior' is a key characteristic of an entrepreneurial top management style (1990:38) and subsequent research has suggested that small firms (Lechner and Gudmundsson, 2014; Short *et al.* 2009), market entrants (Hughes and Morgan, 2007), and intrapreneurs (Chang *et al.* 2007; Ferrier and Lee, 2002) that seek a more entrepreneurial stance strategically employ competitive aggressiveness. Despite these discoveries, relatively few researchers have capitalized on CA's potential contributions to EO (Wales *et al*., 2013) and the construct remains underdeveloped.

Ferrier (2001) has also used the term competitive aggressiveness but reoriented it as part of competitive dynamics (henceforth, CD CA) research. While the EO CA conceptualization is about the antecedents associated with competitive behavior, CD CA focuses on the performance impact of observable competitive actions. As such, CD CA researchers have developed a large body of evidence about the results of competitive behavior (Ketchen *et al*., 2004; Hughes-Morgan *et al*., 2018). Far less is known about the postures and routines that are internal to the firm that drive competitive behavior. This is problematic because even within industries not historically known for their entrepreneurial focus, to remain viable and grow, firms must innovate, adapt, and aggressively compete to develop and leverage competitive advantages (Sirmon, *et al*., 2007). The purpose of this paper, therefore, is to address the antecedents of the EO CA construct and investigate its relationship with strategic performance indicators such as comparative profitability and changes in market share.

To do so, we turn to that part of the CD literature that is focused on the relationship between competitive behavior and firm-level attributes (Litz and Pollack, 2015; Nadkarni *et al*., 2016; Smith *et al*., 2001; Tsai *et al*., 2011). In particular, Chen's (1996) conceptualization of awareness, motivation, and capability as 'three essential antecedents that affect a firm's competitive activity' (Chen 2009:11) provides a useful framework to bridge competitive propensities and routines (EO CA) with competitive behavior (CD CA). This, in turn, opens new opportunities in competitiveness research because CD CA, which relies on public, archival documentation of competitive behavior, has naturally focused on larger firms. The present study expands the EO concept of CA by developing survey items for use with leaders from firms of all sizes to ascertain the antecedents of competitive behavior.

This paper makes four principal contributions to the literature. First, in contrast to most EO studies which do not typically consider the reasons why firms are emboldened to take entrepreneurial action, we address the mechanisms that drive competitive behavior. This research paves the way for a deeper understanding of the dimensions of EO. Second, CD researchers have developed the framework that awareness, motivation, and capability (AMC) underlie a firm's competitive behavior (Chen, 1996, 2011). CD research involving AMC typically uses external proxies such as relative firm size and rivals' geographic proximity to measure AMC. This paper develops internal, perceptual measures of awareness, motivation, and capability as well as CA measures using an EO approach. Moreover, prior EO researchers have developed only a few techniques for measuring CA (e.g., Lumpkin and Dess, 2001); this study suggests additional EO-related scale items, which may also ease the measurement challenges for CD CA research. Third, building on prior entrepreneurship research (Covin and Covin, 1990; Lumpkin and Dess, 1996), the paper analyzes CA as an avenue for entrepreneurial success and elucidates its importance for

strong performance. The findings suggest that, in industries typically characterized by the presence of credible rivals and constrained levels of innovativeness and proactiveness, CA is an important component of an entrepreneurial posture. To make these discoveries, we relied on two moderators that have rarely been used in studies of the EO—performance relationship: margin and competitive density. Fourth, this research helps build a bridge between the strategy process-based research that is foundational to EO and the action-based competitive dynamics research.

This paper develops the relatively underdeveloped EO CA construct and then investigates its relationship with performance in the traditionally conservative community banking industry. First, we review literature related to CA and the AMC framework. Next, the paper hypothesizes about the relationship of CA to the AMC framework and to performance, as well as likely moderators of that relationship. The paper then reports results of the hypotheses tests, and concludes with a discussion of implications, limitations, and future research.

Theoretical Background

Combining insights from the competitive dynamics and EO literatures, this section sets forth the study's theoretical reasoning. In short, we suggest awareness, motivation, and capability act as antecedents to a firm's overall competitive posture (EO CA). That posture relates to consequent firm competitive behavior, which is then related to firm performance.

Competitive Aggressiveness and Entrepreneurial Orientation

EO, which is: "a strategic construct that captures a firm's strategy-making practices, management philosophies, and firm-level behaviors" (Anderson *et al*. 2009: 220) is a leading construct bridging strategy and entrepreneurship (Covin and Lumpkin, 2011; Wales *et al*. 2013) and has been used extensively to verify the relationship between acting entrepreneurially and firm performance (Rauch *et al.,* 2009). EO refers to the firm postures, decision-making

processes, and internal practices that form the foundation for a firm's entrepreneurial behavior (Covin and Slevin, 1989; Lumpkin and Dess, 1996; Miller 1983). Highlighting prior research (Venkatraman, 1989) and the 'beating competitors to the punch' aspect of Miller's (1983) pivotal definition of an entrepreneurial firm, Lumpkin and Dess (1996) integrated CA into EO to complement the innovativeness, risk-taking and proactiveness dimensions proposed by Miller (1983). EO CA refers to a firm's efforts to outperform industry rivals (Lumpkin and Dess, 1996, 2001) and is especially important in situations where, to achieve superior performance, firms have to match their innovativeness and proactiveness gestures in the marketplace with aggressive actions toward rivals (Stalk and Lechenauer, 2004).

The competitive dynamics literature has taken an alternative view of CA by focusing on specific actions. While EO CA considers internal firm postures and routines, CD CA highlights the volume, complexity, and heterogeneity of competitive actions and their relationship to firm performance (Chen and Miller, 2012; Hughes-Morgan *et al*., 2018). Based upon prior theorizing that 'an aggressive competitive orientation' is an essential component of an entrepreneurial strategic posture and a likely predictor of effective performance (Covin and Slevin, 1989: 79), this paper suggests that EO CA (internal competitive routines) leads to competitive actions which in turn affect performance. CD CA researchers have attempted to look inside the firm at issues such as executive cognition or temporal orientations (Marcel *et al*., 2011; Nadkarni *et al*., 2016); by contrast, CD CA studies use external, polished proxies (e.g. shareholder letters) rather than looking to the source: firm routines and postures.

The AMC framework

Helpfully, Chen (1996) has identified three factors as drivers of competitive behavior—awareness, motivation, and capability (AMC)—and notes that they are 'essential antecedents that affect a firm's competitive activity' (Chen, 2009:11). Accordingly, some CD CA researchers

have experimented with the AMC framework (e.g., Bennett and Pierce, 2016; Chen and Miller, 2012; Chen *et al*., 2007; Gao *et al*., 2017) using external proxies such as the proximity of competitors for motivation, multi-market contact for awareness, and slack resources for capability (Chen and Miller, 2012). For example, Chen *et al*., 2007 found that relative size (a proxy for awareness) helped to predict the level of perceived competitive tension between firms.

Consistent with EO, this study employs the AMC framework as antecedents of competitive behavior and does so from a perspective internal to the firm. *Awareness* is the extent to which a firm knows its competitors and the general competitive environment and is cognizant of the implications of taking action; *motivation* is the willingness and drive a firm has to take competitive actions; *capability* is the perceived ability to organize efforts and deploy resources to take competitive actions. The AMC framework elucidates the impetus for CA. Moreover, as Chen and others have indicated, it is the combination of these antecedents rather than any one of them in isolation that is needed to account for CA (Chen, 1996, 2009; Livengood and Reger, 2010; Smith *et al*., 1991).

Awareness. Awareness reflects the level of information a firm has concerning its rivals' actions, intentions, and capabilities. To gain awareness, firms engage in different types of competitive analysis such as collecting general information on competitors that then must be disseminated and analyzed to transform raw data into actionable information (Chen and Miller, 2012, Upson *et al*., 2012). Such efforts are aimed at knowing the rival's goals, strategies, key assumptions, strengths, and weaknesses. Aware firms also seek information that might signal future competitive action by scanning and monitoring their competitors, all in an attempt to gain early notice of competitive actions. Senior decision-makers assess such competitive information and use it to guide decisions about competitive actions (Chuang *et al*., 2018; Hseih *et al*., 2015).

Information gained through monitoring and competitive analysis helps firms' leadership gain awareness about rivals' strategies and their implementation plans.

Beyond simply knowing a competitor's actions, intentions, and capabilities, firms must evaluate whether such factors justify taking competitive action. Awareness involves deciphering the extent to which the information gathered suggests a significant threat to the focal firm (Chen *et al*., 2007, Kumar *et al*., 2017). Threat recognition may be accelerated in the face of stimuli, such as a competitive attack, the recognition of a competitive opportunity, or the emergence of a rival new entrant (Nadkarni *et al*., 2016). Increased awareness is likely to reduce the time required to detect a competitive attack and preclude undetected attacks (Montgomery *et al*., 2005). The processes involved in awareness require significant firm resources, particularly cognitive resources of senior managers (Marcel *et al*., 2011; Smith *et al*., 1991; Tsai *et al*., 2011). Firms with higher levels of awareness, which is those who have dedicated the resources necessary to know, analyze and monitor their competitors are likely to have an increased propensity to directly challenge competitors. Accordingly:

H1a: A firm's level of awareness is positively related with its EO CA.

Motivation. Schumpeter argues that entrepreneurship entails, 'the will to conquer: the impulse to fight, to prove oneself superior to others' (1983: 94). EO CA motivation requires an enthusiasm for attacking rivals and/or responding to their competitive threats, as well as the subjective assessment of proof of superiority. However, taking competitive actions involves risk and uncertain payoffs because the ways in which rivals and customers may respond are difficult to forecast accurately (Luoma *et al*., 2017; Montgomery *et al.,* 2005). For risky competitive decisions, it is a firm's beliefs about potential gains and losses that shape its competitive behavior (Fiegenbaum *et al*., 1996; Greve, 1998). The firm's reference point or aspiration level

affects that perception of gain or a loss. Therefore, a firm's motivation to attack or respond is linked to its aspired-to performance levels (Hsieh *et al*., 2015; Litz and Pollack, 2015; Payne *et al*., 2009).

Firms with higher levels of motivation have a greater propensity to take more competitive actions. First, they are likely to use their competitors' performance levels as their aspiration points (Hseih *et al*., 2015), and may attribute their own performance deficits to rivals' actions (Armstrong and Collopy, 1996; Chen and Miller, 2012; Kilduff *et al*., 2010; Konduk, 2018). They may even specifically target market leaders (Ferrier, *et al*., 1999). Even when highly motivated firms are already outperforming their rivals, they prefer to initiate competitive attacks (Stalk and Lachenauer, 2004). Therefore:

H1b: A firm's level of motivation is positively related with its EO CA.

Capability. Capability to take competitive action consists of two elements: organizational resources and operational ability (Chen, 1996; Chen *et al*., 2007). CD CA research has used tangible measures such as a firm's level of slack and resource portfolio to assess capability (e.g. Chen *et al*., 2007; Derfus *et al*., 2008; Uhlenbruck, *et al*., 2017), though others have addressed less tangible issues such as cognitive framing and top management team heterogeneity (e.g. Ferrier, 2001; Marcel *et al*., 2011). Managerial perceptions of a firm's resource availability, along with the perceived ability to translate those resources into effective competitive actions, also reflects a firm's capability (Livengood and Reger, 2010). The perception that a firm has sufficient means to take actions is likely affected by the priority it places on taking competitive action: Amidst competing demands on a firm's resources, firms that prioritize competitive actions are also likely to allocate the resources needed to process information and act swiftly.

Along with resources, capability involves the operational ability to take action. That is, beyond simply measuring a firm's stock of resources, it is a firm's ability to assess the effectiveness of its past competitive activities and focus on making do with the resources at hand (Baker and Nelson, 2005). This suggests that it is the effect managers perceive they can generate using the resources at their disposal that is central to a firm's competitive capability. Firms with identical stocks of resources could differ significantly in capability because they vary in their ability to see the possible attack options available with their current resource stocks (Read and Sarasvathy, 2005). Those with the ability to see more possible attack options with a given set of resources are more likely to embrace the taking of competitive actions (Baker and Nelson, 2005; Read and Sarasvathy, 2005). Accordingly:

H1c: A firm's level of capability is positively related with its EO CA.

Livengood and Reger state, 'the AMC perspective (see Chen *et al*., 2007) suggests the need to understand the *why* or the antecedents to competitive actions and reactions based on the subjective assessments and beliefs of managers' (2010: 50–51). Chen (1996) makes it clear it is *competitive* action that is driven by these three key antecedents. Awareness, motivation and capability thus provide a basis for understanding the incentives and activities underlying competitively aggressive behavior. Unlike strictly action-based approaches to understanding competitive behavior (e.g. Ferrier, 2001), our EO-based conceptualization emphasizes the propensity of a firm's key decision makers to take competitive action.

CA and Performance

Smith and colleagues argue the components of the AMC framework, 'are three implicit, yet essential organizational characteristics that influence strategic action' (2001: 320). By themselves, however, awareness, motivation and capability do no not account for why a

competitive posture or competitive processes and routines would contribute to stronger performance. Higher levels of the AMC dimensions, we have argued, improve a firm's ability to act aggressively and may influence their inclination to do so. But it is a firm's CA propensity and willingness to act that is linked to performance outcomes. Hughes and Morgan explain that, 'Aggressiveness can improve performance because the emphasis on out-doing and out-maneuvering competitors strengthens the firm's competitiveness at the expense of rivals' (2007: 654). Prior research that found a positive relationship between CA and performance concluded, 'A strong competitively aggressive stance gives a firm the ability to be a decisive player in a field of rivals and to act forcefully to secure or improve its position' (Lumpkin and Dess, 2001: 445).

CD CA research establishes that increased levels of competitive actions are often associated with stronger performance (e.g., Miller and Chen, 2012; Hughes-Morgan *et. al*., 2018). Because EO CA is the propensity to directly and intensely challenge competitors, it should lead to a firm taking more competitive actions. These actions are intended to draw customers away from rivals, shifting market share in favor of the more competitively aggressive firm (Ferrier, 2001; Ferrier *et al.,* 1999). In the banking industry, for example, lenders are typically able to increase market share by relaxing lending standards or offering lower loan interest rates. Indeed, relative market share may be the most salient performance indicator, making market share increases a primary goal of competitive actions (Greve, 2008; Ritz, 2008).

Newbert (2008) sees market share and profitability as different though related indicators of performance, with the former being a non-financial and more resource-based measure, while the latter is financial and tied to competitive advantages. CD CA research has found a weaker relationship between aggressive behavior and firm profitability (Ferrier, 2001; Ferrier *et al.,*

1999). Increasing market share may reduce firm profitability as the promotions' costs and price reductions outweigh the positive financial effects (Armstrong and Collopy, 1996; Derfus *et al.,* 2008). As such, the relationship between CA and performance can be subtly different across profitability and market share, meriting separate analyses.

H2a: The level of EO CA is positively related to firm profitability.

H2b: The level of EO CA is positively related to increases in market share

Moderators of the Competitive Aggressiveness—Firm Performance Relationship

Lumpkin and Dess (1996) asserted that contextual issues such as firm size, industry characteristics, and firm strategy could alter, or moderate, the EO—performance relationship as some contexts could result in better "fit" than others. A meta-analysis of research on this relationship (Rauch *et al*., 2009) confirmed the assertion that context (moderating variables) indeed affects the EO—performance relationship. Accordingly, an important component of practically developing EO CA is to understand the contexts in which it is likely to have a greater or lesser impact on performance. Limited data allowed Rauch *et al*. (2009) to confirm only industry type (high versus low tech) and firm size as moderators, though the large amount of unexplained variance indicates there are other, important moderators for the EO—performance relationship (Rauch *et al*., 2009; Wales, 2016). Given the single-industry nature of this study and use of firm size as a control variable, this study was able to focus on other, theory-driven moderators to the EO CA – performance relationship. This paper proposes that a firm's margin and the competitive density of the firm's market moderate the CA—performance relationship according to the following logic.

Margin. Margin is 'the difference between the total value and the collective cost of performing the value activities' (Porter, 1985: 38). Margin represents the end result of the value chain where firms with high margins—often associated with differentiation strategies—are

thought to have a competitive advantage (Newbert, 2008). However, a competitive advantage may also result from positioning that entails or requires lower margins (Cho *et al*., 1998; McMahon, 2001). Lower margins can drive faster asset turnover, increased sales, and enhanced customer loyalty. Thus, reduced margins may represent a type of cost leadership strategy wherein the competitive advantages come through increased volume. Accordingly, margin can reflect a firm's realized strategy (DeYoung *et al*., 2004), which Lumpkin and Dess (1996) identified as a key moderator of the EO—performance relationship.

Based on this reasoning, firms' margins are likely to moderate positively the relationship between CA and market share. Firms with below average margins are likely to see increased share as the most viable path for outperforming rivals. Conversely, firms with high margins may have found ways to generate competitive advantages through greater customer value and/or reduced costs (Kaltcheva *et al*., 2010). As a result, firms with high margin strategies would be less dependent on building market share to outperform their rivals (McMahon, 2001). Given that in most firms margin and profitability are likely correlated to a certain degree, margin's interaction with CA manifests itself primarily in market share impacts rather than profitability impacts. Therefore:

> *H3: Margin moderates the relationship between EO CA and increases in market share, such that positive relationship between EO CA and increases in market share is stronger when a firm's margin is lower.*

Competitive Density. Lumpkin and Dess (1996) identified industry characteristics, such as competitive density, as another possible moderator which should be studied to enable a more precise understanding of the EO CA—firm performance relationship. Competitive density, which reflects the number of firms in direct competition within a market (Carroll and Hannan, 2000), is another key factor that affects the relationship between competitive actions and firm

performance (Ferrier *et al*., 2002, Hughes-Morgan *et. al*., 2018), firms' competitive actions (Greve, 2000), and profitability (DeYoung *et al*., 2004). In part, low density environments are conducive to collusive or de-escalatory actions. Research indicates that firms tend to focus on a relatively small number of rivals (Kilduff *et al*., 2010). In markets with only a few competing firms, even firms with relatively low CA are likely to be able to detect and counter the actions if a rival becomes more competitive. As the number of firms that companies need to monitor to detect competitive actions increases, it is easier for actions to go unnoticed and thus unchecked. Exacerbating this, firms often do a poor job of determining which firms pose genuine threats as the competitive density increases (Baum and Lant, 2003, Clark, 2011). These errors result in competitively aggressive firms taking actions that are unnoticed by competitors.

Maintaining awareness of more competitors is time-consuming and requires relatively greater attention (McMullen *et al*., 2009; Yu *et al*., 2015). As competitive density increases, the cognitive effort involved in monitoring increases, and only firms with higher levels of CA are likely to invest in these efforts. Thus, as competitive density increases so does the likelihood that less aggressive firms will come under attack from unmonitored rivals. A delayed response or even a total lack of response will be more conducive to aggressive firms reaping market share gains. Competitive attacks that are either undetected or insufficiently countered are also associated with increased profitability for the attacking firm (Boyd and Bresser, 2008; Lee, *et al.,* 2000). Therefore:

> *H4a: Competitive density moderates the relationship between EO CA and firm profitability, such that the positive relationship between EO CA and profitability is stronger in markets of higher competitive density.*
>
> *H4b: Competitive density moderates the relationship between EO CA and increases in market share, such that the positive relationship between EO CA and increases in market share is stronger in markets of higher competitive density.*

Figure 1 illustrates this paper's theoretical model:

---------- FIGURE 1 ABOUT HERE----------

Methods

Sample

This paper studied community banks headquartered in Texas, New Mexico, and Oklahoma. Community banking offers a rich competitive environment for the study, providing a sample with significant variation in the firms' competitive aggressiveness and organizations where senior leaders have an accurate perception of firm routines. Community banks tend to be smaller, more locally controlled, and operate in fewer markets than their regional and national competitors. A community banking sample also has objective, archival performance data. The community bankers' associations of Texas (which also has members in Oklahoma) and New Mexico supported the research by distributing the survey to their 590 member banks.

The community banking sample enabled us to access an industry with newfound competitive vigor. Deregulatory measures in the 1980s and 1990s transformed community banking into a far more competitive industry where leaders have significant competitive discretion (DeYoung *et al*., 2004; Hein *et al*., 2005). Major regional and national banks also entered markets previously dominated by community banks, increasing the competitive rivalry.

The study used a web-based survey instrument to collect data from bank senior decision-makers. Sufficiently complete responses were received from 182 banks in Spring 2008 (median bank age—62 years; median assets—$124 million), representing a 31 percent response rate. The survey randomized the question order within each section and also varied the order in which the sections were presented. The survey requested multiple responses from the bank senior decision-makers, defined as the president/CEO, CFO, or COO; 35 banks provided multiple responses.

Approximately half of the respondents (49 percent) were the CEO. Tests for response bias using bank age, size and location yielded no significant differences between the sample and larger population (Wilks' Lambda= 0.995; F=1.20; df=4, 939; p= 0.31).

Measures

The study developed measures for awareness, motivation, capability, and competitive aggressiveness using the process recommended by Hinkin (1998). Item generation relied on theoretical definitions and a deductive approach based on those construct definitions. The study also drew on existing items from EO (e.g. Lumpkin and Dess, 2001), market orientation (Jaworski and Kohli, 1993; Narver and Slater, 1990), and strategic orientation (Venkatraman 1989) research.

The study used a two-pronged strategy to assess content adequacy. First, two academics from outside the research team as well as five CEOs from Texas firms reviewed the items. Next, 115 upper-division business undergraduates were provided with construct definitions and then asked to match each item to the construct it best measured as per the quantitative content adequacy approach (Schriesheim *et al*., 1999). A few items did not cleanly load on the intended construct. After rewording the items based on these efforts, 18 Arizona banking executives pilot tested the survey. Their feedback led to minor wording changes to the items.

Competitive Aggressiveness and its AMC Dimensions. A six-point Likert-type scale (1=strongly disagree, 6=strongly agree) was used to measure competitive aggressiveness and the awareness, motivation, and capability dimensions. Item scores were summed to form composite scores for the regression analyses. The scales were adequately reliable, with Cronbach alphas of 0.76 (competitive aggressiveness), 0.80 (awareness), 0.71 (motivation), and 0.72 (capability).

For banks with multiple respondents, the study averaged respondents for the regression analysis after confirming adequate interrater agreement (median r_{wg} value was 0.90 – George, 1990).

Dependent Variables. All dependent variables were calculated using FDIC Call Report data. The study used three dependent variables—one profitability measure and two change-in-market-share measures. For profitability, the study used 2007 bank return on assets (ROA). For changes in market share, the study calculated the percentage change in a bank's deposits and loans from December 2005 to December 2007. Levels of deposits and loans are an indication of market share and future profitability in banking (Hein *et al*., 2005; Nagar and Rajan 2005). Six banks in the sample had been formed since 2005 making their change-in-market-share data unavailable. Hence, 176 banks were used for testing hypotheses 2-4.

Moderating Variables. In banking, net interest margin (NIM) is the difference between the interest rate a bank is able to earn from lending, and the interest the bank must pay depositors to provide the funds needed to make loans; it is analogous to gross margin (DeYoung, 2007). Higher NIMs are typically associated with successful relationship-based strategies that generate loyal customers. Banks with lower NIMs typically rely on more transactional strategies centered on low costs and high volume. The mean NIM for the sample was 4.5 percent (SD = 1.1 percent), which is in line with community banking norms and suggests sufficient variability.

The FDIC's Call Report defines bank markets using Metropolitan Statistical Area (MSA) boundaries. For banks outside an MSA, the county boundary defines the market. Following Greve (2000) and Ranger-Moore, Banaszak-Hall and Hannan (1991), this study used a more geographically-constrained measure of competitive density. After mapping each bank's headquarters, researchers counted how many other banks had deposit-taking locations within a 10-mile radius. (Average daily commute lengths in the Dallas/Fort Worth and Houston markets

are approximately 20 miles, so halving that distance conservatively represented a radius where customers of one bank would have convenient access to a competitor). For non-MSA markets, the study expanded the radius to 20 miles as low traffic reduces the travel time and rural businesses borrow from more distant lenders (Petersen and Rajan, 2002).

Control Variables. A dummy variable for Subchapter S banks controlled for their lower tax obligations and higher profits (Hein *et al*., 2005). Dummy variables for Oklahoma and New Mexico controlled for geographic effects. The study also calculated growth in market deposits from 2005 to 2007 to control for market growth. The 2005 loan portfolio size (deposit portfolio size for deposit growth models) controlled for bank size. Finally, the study included bank age as a control and ROA to control for financial performance in the market share change models.

Analysis

A confirmatory factor analysis (CFA) using LISREL 8.80 was used to finalize the scale development process. Structural equation modeling (SEM) was then used to test Hypotheses 1 and 2. Employing the two-step process (Anderson and Gerbing, 1988), the study fit the measurement model first. Hierarchical, moderated regression analyses were then employed to test Hypotheses 3 and 4.

Results

Table 1 shows the means, standard deviations, and correlation coefficients for the dependent, independent, and moderating variables for the sample's 176 banks. The values of the independent and moderating variables were mean-centered for the analysis.

---------- TABLE 1 ABOUT HERE----------

Following refinement of the measurement model, the study imposed the structural constraints consistent with the relationships indicated in Hypotheses 1 and 2. The fit for the loan growth model was good (χ^2=188.0; *df*=103; SRMR=0.050; RMSEA=0.060; CFI=0.96) and

representative of all models[1] (Hu and Bentler, 1999). Two capability items are similar in wording, and thus those error terms were allowed to correlate (Bollen, 1989).

As shown in Figure 2, Hypotheses 1a and 1b are supported. The factor loadings between CA and awareness and motivation are highly significant ($p < 0.001$) and positive for each dependent variable. The relationship between capability and competitive aggressiveness (H1c) received some support, with the relationship marginally significant for loans and deposits ($p < 0.10$) and insignificant for ROA.

Testing alternative, more parsimonious models indicated worse fit than the hypothesized model. Chi-square difference tests indicated the model depicted in Figure 1 exhibited significantly better fit ($p < 0.001$) than any model that combined any two of the three dimensions. Combining all three dimensions into a single dimension also fit significantly worse ($p < 0.001$). This finding highlights the unique contributions of each antecedent to CA.

---------- FIGURE 2 ABOUT HERE----------

As is reported in Figure 2, the analysis indicates a positive relationship between CA and changes in market share, indicating support for Hypothesis 2b. Increases in market share, both loans ($p < 0.05$) and deposits ($p < 0.01$), are associated with increasing levels of CA. Hypothesis 2a is not supported as the coefficient for ROA is not statistically significant.

----------TABLE 2 ABOUT HERE----------

As for potential issues in the regression analysis, the variance inflation factors peaked at only 2.2 (Neter *et al*., 1983). Plots of the regression residuals and studentized residuals, none of

[1] In the presence of missing data, LISREL 8.80 employs the EM algorithm to derive starting values for the FIML process. The amount of missing data was quite small (.25% for firm-level items), and the EM/FIML technique generates only limited fit statistics (χ^2 and RMSEA). To more comprehensively evaluate fit, we imputed values for the missing data using the recommended $\text{Mean}_{(\text{person})}$ technique (Roth *et al*., 1999) and then conducted another analysis. Probably due to the small amount of missing data, the differences in χ^2 and RMSEA between the two approaches were negligible, and the second analysis fit statistics are reported in the text.

which exceeded the recommended cutoff of 2.5, suggested no evidence of hetereoscedasticity. The highest observed Cook's D of 0.10 was well below the critical value of 0.89, suggesting a lack of outliers (Cohen *et al*., 2003).

The regression analysis reinforced the SEM results for Hypothesis 2—significant, positive relationships between EO CA and loans and deposits, but an insignificant relationship with ROA. Hypotheses 3 and 4 suggest that margin and competitive density have moderating effects on the CA—performance relationship. Models 4 through 6 (Table 2) indicate support for both. Hypothesis 3 received significant support, as the level of margin did affect the CA—market share relationship for both loan and deposit growth (both $p < 0.05$). As expected, there was no significant moderation by margin with respect to profitability (Model 4).

The results for the moderating effect of competitive density also received some support. Hypothesis 4a, which suggests that firms in a denser competitive environment will see increased profitability with increasing levels of competitive aggressiveness, received significant support (p <0 .05). There was no support for H4b (market share).

Supplemental Analysis

Two issues merited additional analysis, the first being the weaker relationship between capability and CA. The covariance between the motivation and capability constructs is relatively high (0.73), much higher than that between awareness and capability (0.41) and awareness and motivation (0.56). This observation suggests a considerable amount of shared variance. Eliminating the covariance path between motivation and capability yielded a strongly significant (p<0.001) relationship between capability and CA, though model fit obviously suffered. Removing capability from the model also yielded a poorer model fit than that of the hypothesized model. Thus, while the relationship between capability and competitive

aggressiveness is not as significant, that appears to be so primarily due to the relationship between capability and motivation.

A second issue is whether CA mediates any direct relationships between the AMC dimensions and the performance variables. Removing CA from the model and allowing direct paths between AMC and the performance variables is the first step in investigating possible mediation (MacKinnon, 2008). However, after removing CA neither awareness nor motivation had a significant direct relationship with the performance variables. Hence there is not a mediated relationship for those variables. Capability had a significant relationship ($p<0.05$) with loans and deposits. Adding CA back into the model, the next step for investigating mediation, caused the direct path between capability and loans/deposits to become insignificant, which would suggest some degree of mediation. However, because CA and capability do not have a significant direct relationship in the model, it does not technically meet the criteria for a mediated relationship. Further, allowing a direct path from the AMC dimensions to the performance variables did not improve model fit. This examination validates the hypothesized model; while the dimensions are important antecedents, it is the overall CA construct that has significant relationships with performance. It also supports the assertion that all three of the antecedents are needed to account for competitive aggressiveness in this research.

Discussion

This paper's results indicate that, even within the community banking industry, firms vary significantly in their level of competitive aggressiveness. As hypothesized, the dimensions awareness and motivation are significantly related to CA. The relationship between capability and CA is more nuanced but, as indicated by the supplemental analysis, nonetheless present and important to a clearer understanding. Further, the three-item CA measure was an effective and

parsimonious means to investigate the relationship with performance, while also developing three items to measure each AMC dimension. As hypothesized, CA is positively related to increases in market share. However, there was not a significant relationship between CA and profitability. Also, the CA measure related far more strongly to increases in market share than did any of the AMC dimensions. This additionally suggests that while AMC are indeed antecedents, it is the overall propensity to take competitive action that best relates to performance. The study also yielded a pattern similar to many CD CA studies in terms of CA's relationship to performance: a clear relationship with market share and a more nuanced relationship with ROA.

The study's results indicate that firms with larger margins, which may be indicative of a differentiation or relationship strategy, are less likely to grow market share when acting aggressively (Figure 4). By contrast, firms tending toward lower margins, which may be representative of a cost leadership strategy, significantly grow market share as they become more competitively aggressive. This suggests the likely performance outcomes of a firm's competitive behavior look differently for firms employing different fundamental strategies.

The paper proposed the positive relationship between CA and performance would be stronger as competitive density, a key competitive factor in banking, rose. That was the case for profitability but not increases in market share. That could be because, just as rivals in denser settings are not as able to detect aggressive firms' actions, customers also are not as aware of banks' efforts to lure them away from their current banks. Marketing research finds that, in highly contested arenas, advertising clutter leads to lower recall of advertising and less brand recognition (Hammer *et al*., 2009; Zanjani *et al*., 2011). Hence, while increased competitive

density may make it easier to mask attacks from a competitor, it may also make those attacks less effective because of the clutter effect.

The effect of increasing density adds to the general discussion about whether increases in market share and higher profitability are necessarily coincident. The findings suggest that as density increases, CA may not lead to market share growth while still relating to higher profitability (Figure 3). This finding about density may offer an explanation for why previous CD CA research has more consistently found a positive relationship to market share gains than improved profitability. Given that this sample is composed of relatively small firms, this finding complements existing multi-market research based on investigations of much larger firms (Yu and Cannella, 2013).

----------FIGURES 3 and 4 ABOUT HERE----------

Limitations and Future Research

This study has several limitations. First, more nuanced relationships between CA and profitability could emerge using a longitudinal analysis (Luoma *et al*., 2017). However, the world-wide credit crisis began to affect banks after the data were collected in the second half of 2008 (DeYoung *et al*., 2015), and these exogenous shocks curtailed the opportunity for valid longitudinal data. Second, although the sample included multiple respondents for almost 20 percent of the participating banks and a 31 percent response rate, the study would likely have benefitted from more banks with multiple respondents and a higher level of participation. Third, having a relatively homogeneous sample minimizes some of the potential confounding effects of the environment and managerial logics that could vary across industries. However, generalizing the findings beyond the banking industry is subjective. Nevertheless, if CA exhibits the

relationships identified in this study within the community banking industry, then in industries with even more competitive variance these relationships might be even more pronounced.

Fourth, net interest margin is an imperfect proxy of firm positioning decisions. It is possible firms seek to increase market share due to lagging performance rather than conscious low cost positioning (Ferrier *et al*., 2002). Indeed, a post-hoc analysis indicated that firm profitability moderated the relationship between EO CA and market share growth, with the relationship being more positive for less profitable firms. That said, regressing competitive aggressiveness and the control variables against changes in banks' margins from 2005 to 2007 yielded an insignificant result, indicating margin changes were not associated with the CA level. Future research could employ better measures of firm positioning strategy to further investigate the relationship.

Finally, as with most research studying the EO—performance relationship, this study has not measured specific performance-enhancing behaviors—that is, in this case, actual competitive actions—but the propensity toward that behavior which is evidenced by past, generalized competitive behavior. This creates a promising research question: to what extent does EO CA correspond with actual competitive behavior, both in volume and type, as measured in CD CA studies.

Although the empirical results indicate the overall measures of CA were far more influential on performance than were the individual dimensions, there are perhaps important relationships between each dimension and variables of interest. For example, Miller and Chen (1996) found that simplicity in a competitive repertoire degrades performance. However, with superior awareness, is it possible a firm may understand its rival's posture so well it can use a limited competitive repertoire and still keep the rival off balance by doing the unexpected?

Further, is motivation more salient in areas of low competitive density simply because the performance of rivals in these situations is so easily known?

Contributions and Conclusion

This research has taken the underdeveloped CA construct and, by integrating insights from the AMC framework, has more-fully explicated the firm routines and practices that fuel competitive behavior. The research has developed new measures for CA and its dimensions, making the study of competitiveness easier, particularly in firms not tracked in the press. The research established similar relationships between CA and performance as those established between competitive behavior and performance in CD CA research, which underscores the utility of using these CA measures.

In 2007, then Bank of America CEO Ken Lewis said, 'This is the time I think we could go for the jugular, really be disruptive and take market share.' This study's results suggest competitively aggressive firms talk a lot about their rivals (awareness), seek to take competitive actions to improve performance (motivation), and believe they have the means to take competitive action (capability). Using evidence from the community banking industry in three US Southwestern states, the assertion of BoA's former CEO is confirmed: increased market share follows increased CA.

References

Anderson, B.S., Covin, J. and Slevin, D. (2009), "Understanding the relationship between entrepreneurial orientation and strategic learning capability: An empirical investigation", *Strategic Entrepreneurship Journal*, Vol. 3, pp. 218-240.

Anderson, J.C. and Gerbing, D.W. (1988), "Structural equation modeling in practice: a review and recommended two-step approach", *Psychological Bulletin*, Vol. 103 No. 3, pp. 411-423.

Armstrong, J.S. and Collopy, F. (1996), "Competitor orientation: effects of objectives and information on managerial decisions and profitability", *Journal of Marketing Research*, Vol. 33, pp. 188-199.

Baker, T. and Nelson, R.E. (2005), "Creating something from nothing: resource construction through entrepreneurial bricolage", *Administrative Science Quarterly*, Vol. 50, pp. 329-366.

Baum, J.A.C. and Lant, T.K. (2003), "Hits and misses: managers' (mis) categorization of competitors in the Manhattan hotel industry", in *Geography and Strategy (Advances in Strategic Management)* Ed. J.B. Sorenson. Emerald Group Publishing, pp. 119-156.

Bennett, V. M. and Pierce, L (2016), "Motivation matters: corporate scope and competition in complementary product markets", *Strategic Management Journal*, Vol. 37 No. 7, pp. 1304-1315.

Bollen, K.A. (1989), *Structural equations with latent variables*, John Wiley & Sons, New York.

Boyd, J.L. and Bresser, R.K.F. (2008), "Performance implications of delayed competitive responses: evidence from the U.S. retail industry" *Strategic Management Journal*, Vol. 29 No. 10, pp. 1077-1096.

Carroll, G.R. and Hannan, M.T. (2000), *The Demography of corporations and industries*. Princeton University Press, Princeton, NJ.

Chang, S-C., Lin, R-J. Chang, F-J. and Chen, R-H. (2007), "Achieving Manufacturing Flexibility through Entrepreneurial Orientation", *Industrial Management & Data Systems*, Vol. 107 No. 7, pp. 997-1017.

Chen, M-J. (1996), "Competitor analysis and interfirm rivalry: toward a theoretical integration", *Academy of Management Review,* Vol. 21 No. 1, pp. 100-134.

Chen, M-J. (2009), "Competitive dynamics research: an insiders odyssey", Asia *Pacific Journal of Management,* Vol. 26 No. 1, pp. 5-25.

Chen, M-J. and Miller, D. (2012), "Competitive dynamics: themes, trends, and a prospective research platform", *The Academy of Management Annals*, Vol. 6 No. 1, pp. 135-210.

Chen, M-J., Su, K. and Tsai, W. (2007), "Competitive tension: the awareness-motivation-capability perspective", *Academy of Management Journal*, Vol. 50 No. 1, pp. 101-118.

Cho, D-S., Kim, D-J. and Rhee, D.K. (1998), "Latecomer strategies: evidence from the semiconductor industry in Japan and Korea", *Organization Science*, Vol. 9 No. 4, pp. 489-505.

Chuang, Y-T., Dahlin, K. B., Thomson, K. Lai, Y-C. and Yang, C-C. (2018), "Multimarket contact, strategic alliances, and firm performance", *Journal of Management*, Vol. No. 4, pp. 1551-1572.

Clark, B.H. (2011), "Managerial identification of competitors: accuracy and performance consequences", *Journal of Strategic Marketing*, Vol. 19 No. 3, pp. 209-227.

Cohen, J., Cohen, P., West, S.G. and Aiken, L.S. (2003), *Applied Multiple Regression /Correlation Analysis for the Behavioral Sciences,* Lawrence Erlbaum Associates, Mahwah, NJ.

Covin, J.G. and Covin, T.J. (1990), "Competitive aggressiveness, environmental context, and small firm performance", *Entrepreneurship Theory and Practice*, Vol. 2 No. 1, pp. 35-50.

Covin J.G. and Slevin D.P. (1989), "Strategic management of small firms in hostile and benign environments", *Strategic Management Journal,* Vol 10 No 1. Pp. 75-87.

Covin, J.G. and Lumpkin, G.T. (2011), "Entrepreneurial orientation theory and research: reflections on a needed construct", *Entrepreneurship Theory & Practice*, Vol. 35 No. 5, pp. 55-872.

Derfus, P.J., Maggitti, P.G., Grimm, C.M. and Smith, K.G. (2008), "The red queen effect: competitive actions and firm performance", *Academy of Management Journal*, Vol. 51 No. 1, pp. 61-80.

DeYoung, R. (2007), "Safety, soundness, and the evolution of the U.S. banking industry", *Economic Review*, Vol. 92 No. 1/2, pp. 41-66.

DeYoung, R., Gron, A., Torna, G. and Winton, A. (2015), "Risk overhang and loan portfolio decisions: small business loan supply before and during the financial crisis", *The Journal of Finance*, Vol. 70 No. 6, pp. 2451-2488.

DeYoung, R., Hunter, W.C. and Udell, G.F. (2004), "The past, present, and probably future for community banks", *Journal of Financial Services Research*, Vol. 25 No. 2/3, pp. 85-133.

Ferrier, W.J. (2001), "Navigating the competitive landscape: the drivers and consequences of competitive aggressiveness", *Academy of Management Journal*, Vol. 44 No. 4, pp. 858-877.

Ferrier, W.J. and Lee, H. (2002), "Strategic Aggressiveness, Variation, And Surprise: How The Sequential Pattern Of Competitive Rivalry Influences Stock Market Returns", *Journal of Managerial Issues*, Vol. 14 No. 2, pp. 62-180.

Ferrier, W.J., Fhionnlaoich, C.M., Smith, K.G. and Grimm, C.M. (2002), "The impact of performance distress on aggressive competitive behavior: a reconciliation of conflicting views", *Managerial and Decision Economics*, Vol. 23 No. 4-5, pp. 301-316.

Ferrier, W.J., Smith, K.G. and Grimm, C.M. (1999), "The role of competitive action in market share erosion and industry dethronement: a study of industry leaders and challengers", *Academy of Management Journal*, Vol. 42 No. 4, pp. 372-388.

Fiegenbaum A, Hart, S. and Schendel, D. (1996), "Strategic reference point theory", *Strategic Management Journal* Vol. 17 No. 3, pp. 219-235.

Gao, H, Yu, T. and Cannella, A. A. (2017), "Understanding word responses in competitive dynamics", *Academy of Management Review*, Vol. 42 No. 1, pp. 129-144.

George, J. (1990), "Personality, affect, and behavior in groups", *Journal of Applied Psychology*, Vol. 75 No. 2, pp. 107-116.

Greve, H. (1998). "Performance, aspirations, and risky organizational change," *Administrative Science Quarterly*, Vol. 43 No.1, pp 58-86.

Greve, H. (2000), "Marketing niche entry decisions: competition, learning, and strategy in Tokyo banking, 1894-1936", *Academy of Management Journal*, Vol. 43 No. 5, pp. 816-836.

Greve, H. (2008), "A behavioral theory of firm growth: sequential attention to size and performance goals", *Academy of Management Journal*, Vol. 51 No. 3, pp. 476-494.

Hammer, P., Riebe, E. and Kennedy, R. (2009). "How clutter affects advertising effectiveness," *Journal of Advertising Research*, Vol. 49 No. 2, pp 159-163.

Hein, S.E., Koch, T.W. and MacDonald, S.S. (2005), "On the uniqueness of community banks", *Economic Review - Federal Reserve Bank of Atlanta*, Vol. 90 No. 1, pp. 15-36.

Hinkin, T.R. (1998), "A brief tutorial on the development of measures for use in survey questionnaires", *Organizational Research Methods*, Vol. 1 No. 1, pp 104-121.

Hsieh, K-Y, Tsai, W. and Chen, M-J. (2015), "If they can do it, why not us? Competitors as reference points for justifying escalation of commitment", *Academy of Management Journal*, Vol. 58 No. 1, pp. 38-58.

Hu, L-T. and Bentler, P.M. (1999), "Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives", *Structural Equation Modeling*, Vol. 6 No. 1, pp. 1-55.

Hughes, M. and Morgan, R.E. (2007), "Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth", *Industrial Marketing Management*, Vol. 36, pp. 651-661.

Hughes-Morgan, M., Kolev, K. and Mcnamara, G. (2018), "A meta-analytic review of competitive aggressiveness research", *Journal of Business Research*, Vol. 85, pp. 73-82.

Jaworski, B.J. and Kohli, A.K. (1993), "Market orientation: antecedents and consequences", *Journal of Marketing*, Vol. 57, pp. 53-70.

Kaltcheva, V.D., Winsor, R.D. and Parasuraman, A. (2010),"The impact of customers' relational models on price-based defection", *Journal of Marketing Theory & Practice*, Vol. 18 No. 1, pp. 5-22.

Ketchen, D., Snow, C. and Hoover, D. (2004), "Research on competitive dynamics: recent accomplishments and future challenges", *Journal of Management*, Vol. 30, pp. 779-804.

Kilduff, G. J., Elfenbein, H. A. and Staw, B. M. (2010), "The psychology of rivalry: a relationally dependent analysis of competition", *Academy of Management Journal*, Vol. 53 No. 5, pp. 943-969.

Konduk, B.C. (2018), "The elephant in the room of mutual forbearance: how a multi-market firm develops the motivation for forbearance", *Journal of Strategy and Management*, Vol. 11 No. 2, pp. 257-279.

Kumar, A., Cantor, D.E., Grimm, C.M. and Hofer, C. (2017), "Environmental management rivalry and firm performance", *Journal of Strategy and Management*, Vol. 10 No. 2, pp. 227-247.

Lechner, C. and Gudmundsson, S.V. (2014), "Entrepreneurial orientation, firm strategy and small firm performance", *International Small Business Journal*, Vol. 32 No. 1, pp. 36-60.

Lee, H., Smith, K.G., Grimm, C.M. and Schomburg, A. (2000), "Timing, order and durability of new product advantages with imitation", *Strategic Management Journal*, Vol. 21 No. 1, pp. 23-30.

Litz, R. A. and Pollack, J. M. (2015), "Interfirm rivalry between small hardware stores and "big box" retailers: market commonality and product mix similarity as antecedents to competitive response", *Journal of Small Business Management*, Vol. 53 No. 2, pp. 436-449.

Livengood, R.S. and Reger, R.K. (2010), "That's our turf! Identity domains and competitive dynamics", *Academy of Management Review*, Vol. 35 No. 1, pp. 48-66.

Lumpkin, G.T. and Dess, G. (1996), "Clarifying the entrepreneurial orientation construct and linking it to firm performance", *Academy of Management Review*, Vol. 21 No. 1, pp. 135-172.

Lumpkin, G.T., and Dess, G. (2001), "Linking two dimensions of entrepreneurial orientation to firm performance: the moderating role of environment and industry life cycle", *Journal of Business Venturing*, Vol. 16, pp. 429-451.

Luoma, J., Ruutu, S., King, A.W. and Tikkanen, H. (2017), "Time delays, competitive interdependence, and firm performance", *Strategic Management Journal*, Vol. 38 No. 3, pp. 506-525.

Marcel, J. J., Barr, P. S. and Duhaime, I. M. (2011), "The influence of executive cognition on competitive dynamics", *Strategic Management Journal*, Vol. 32, No. 2, pp. 115-138.

MacKinnon D. P. (2008), *Introduction to statistical mediation analysis*, Taylor & Francis, New York.

McMahon, R.G.P. (2001), "Growth and financial profiles from amongst manufacturing SMEs from Australia's business longitudinal survey", *Entrepreneurship Theory & Practice*, Vol. 26 No. 4, pp. 51-61.

McMullen, J.S., Shepherd, D.A. and Patzelt, H. (2009), "Managerial (in)attention to competitive threats", *Journal of Management Studies*, Vol. 46 No. 2, pp. 157-181.

Miller, D. (1983), "The correlates of entrepreneurship in three types of firms", *Management Science*, Vol. 29 No. 7, pp. 770-791.

Miller, D. and Chen, M-J. (1996), "The simplicity of competitive repertoires: an empirical analysis", *Strategic Management Journal*, Vol. 17 No. 6, pp. 419-439.

Montgomery, D.B., Moore, M.C. and Urbany, J.E. (2005), "Reasoning about competitive reactions: evidence from executives", *Marketing Science*, Vol. 24 No. 1, pp. 138-149.

Nadkarni, S., Chen, T. and Chen, J. (2016), "The clock is ticking! Executive temporal depth, industry velocity, and competitive aggressiveness", *Strategic Management Journal*, Vol. 37 No. 6, pp. 1132-1153.

Nagar, V. and Rajan, M.V. (2005), "Measuring customer relationships: the case of the retail banking industry", *Management Science*, Vol. 51 No. 6, pp. 904-919.

Narver, J.C. and Slater, S.F. (1990), "The effect of a market orientation on business profitability", *Journal of Marketing*, Vol. 54 No. 4, pp. 20-35.

Newbert, S.L. (2008), "Value, rareness, competitive advantage and performance: a conceptual-level empirical investigation of the resource-based view of the firm", *Strategic Management Journal*, Vol. 29 No. 7, pp. 745-768.

Neter, J., Wasserman, W. and Kutner, M. (1983), *Applied Linear Regression Models,* Richard D. Irwin, Inc., Homewood, IL.

Payne, G. T., Kennedy, K. H. and Davis, J. L. (2009), "Competitive dynamics among service SMEs", *Journal of Small Business Management*, Vol. 47 No. 4, pp. 421-442.

Petersen, M.A. and Rajan, R.G. (2002), "Does distance still matter? The information revolution in small business", *Journal of Finance*, Vol. 57 No. 6, pp. 2533-2570.

Porter, M.E. (1985), *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York.

Ranger-Moore, J., Banaszak-Hoil, J. and Hannan, M.T. (1991), "Density-dependent dynamics in regulated industries: founding rates of banks and life insurance companies", *Administrative Science Quarterly*, Vol. 36 No. 1, pp. 36-65.

Rauch, A., Wiklund, J., Lumpkin G.T. and Frese, M. (2009), "Entrepreneurial orientation and business performance: an assessment of past research and suggestions for the future", *Entrepreneurship Theory & Practice*, Vol. 33 No. 3, pp. 761-787.

Read, S., and Sarasvathy, S.D. (2005), "Knowing what to do and doing what you know: effectuation as a form of entrepreneurial expertise", *Journal of Private Equity*, Vol. 9 No. 1, pp. 45-62.

Ritz, R.A. (2008), "Strategic incentives for market share", *International Journal of Industrial Organization*, Vol. 26, pp. 586-597.

Roth, P.L., Switzer, F.S.I. and Switzer, D.M. (1999), "Missing data in multiple item scales: a Monte Carlo analysis of missing data techniques", *Organizational Research Methods*, Vol. 2 No. 3, pp. 211-232.

Schriesheim, C.A., Cogliser, C.C., Scandura, T.A., Lankau, M.J. and Powers, K.J. (1999), "An empirical comparison of approaches for quantitatively assessing the content adequacy of paper-and-pencil measurement instruments", *Organizational Research Methods*, Vol. 2 No. 2, pp. 140-156.

Schumpeter, J. (1983), *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle,* Transaction Books New Brunswick, N.J.

Short, J.C., Brigham, K.H., Broberg, J.C., Payne, G.T. and Lumpkin, G.T. (2009), "Family firms and entrepreneurial orientation in publicly traded firms: a comparative analysis of the S&P 500", *Family Business Review*, Vol. 22 No. 1, pp. 9-24.

Sirmon, D.G., Hitt, M.A. and Ireland, R.D. (2007), "Managing Firm Resources in Dynamic Environments to Create Value: Looking Inside the Black Box", *Academy of Management Review*, Vol. 32 No. 1, pp. 273-292.

Smith, K.G., Ferrier, W.J. and Ndofor, H. (2001), “Competitive Dynamics Research: Critique and Future Directions”, in *Handbook of Strategic Management*. Ed. M.A. Hitt, R.E. Freeman, and J. Harrison. Oxford: Blackwell Publishing, pp. 315-361.

Smith, K.G., Grimm, C.M., Gannon, M.J. and Chen, M-J. (1991), "Organizational information processing, competitive responses, and performance in the U.S. domestic airline industry", *Academy of Management Journal*, Vol. 34 No. 1, pp. 60-85.

Stalk, G. and Lachenauer, R. (2004), "Hard ball: five killer strategies for trouncing the competition", *Harvard Business Review*, Vol. 82 No. 4, pp. 62-71.

Tsai, W., Su, K-H. and Chen, M-J. (2011), "Seeing through the eyes of a rival: competitor acumen based on rival-centric perceptions", *Academy of Management Journal*, Vol. 54 No. 4, pp. 761-778.

Uhlenbruck, K, Hughes-Morgan, M., Hitt, M.A., Ferrier, W.J. and Brymer, R. (2017), "Rivals' reactions to mergers and acquisitions", *Strategic Organization*, Vol. 15 No. 1, pp. 40-66.

Upson, J.W., Ketchen, D.J., Connelly, B.L. and Ranft, A.L. (2012), "Competitor analysis and foothold moves", *Academy of Management Journal*, Vol. 55 No. 1, pp. 93-110.

Venkatraman, N. (1989), "Strategic orientation of business enterprises: the construct, dimensionality, and measurement", *Management Science,* Vol. 35 No. 8, pp. 942-962.

Wales, W.J., (2016), "Entrepreneurial orientation: A review an synthesis of promising research directions", *International Small Business Journal*, Vol. 34 No. 1, pp. 3-15.

Wales, W.J., Gupta, V.K. and Mousa, F-T. (2013), "Empirical research on entrepreneurial orientation: an assessment and suggestions for future research", *International Small Business Journal*, Vol. 31 No. 4, pp. 357-383.

Yu, C-L., Wang, F. and Brouthers, K. D. (2015), "Domestic and foreign competitor identification and firm performance", *European Journal of International Management*, Vol. 9 No. 4, pp. 463-483.

Yu, T., and Cannella, A.A. (2007), "Rivalry between multinational enterprises: an event history approach", *Academy of Management Journal*, Vol. 50 No. 3, pp. 665-686.

Yu, T., and Cannella, A.A. (2013), "A comprehensive review of multimarket competition research", *Journal of Management*, Vol. 39 No. 1, pp. 76-109.

Zanjani, S., Diamond, W.D. and Chan, K. (2011), "Does ad-context congruity help surfers and information seekers remember ads in cluttered magazines?", *Journal of Advertising*, Vol. 40 No. 4, pp. 67-83.

Table 1

Means, Standard Deviations and Correlation Coefficients for Key Variables

	Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Awareness	11.41	3.04															
2	Motivation	11.28	2.76	0.41														
3	Capability	12.77	2.60	0.30	0.43													
4	Competitive Aggr.	10.92	3.00	0.55	0.66	0.52												
5	ROA	0.011	0.01	-0.18	0.08	0.06	-0.10											
6	Loans[a]	210.6	661.9	0.18	0.02	0.16	0.17	-0.01										
7	Deposits[a]	291.7	926.1	0.18	0.02	0.14	0.14	0.00	0.99									
8	Change in Loans	0.17	0.17	0.08	0.11	0.13	0.18	-0.26	0.12	0.11								
9	Change in Deposits	0.15	0.15	0.09	0.08	0.12	0.21	-0.31	0.03	0.01	0.74							
10	Margin	0.05	0.01	-0.16	-0.05	-0.04	-0.13	0.47	-0.06	-0.08	-0.22	-0.22						
11	Density	13.73	16.44	0.09	-0.02	0.09	0.13	-0.33	0.31	0.29	0.18	0.21	0.02					
12	Age	61.86	38.47	-0.08	0.11	0.08	-0.06	0.34	0.02	0.04	-0.13	-0.11	-0.03	-0.42				
13	Corporate Status	0.52	0.50	-0.11	-0.40	0.00	-0.11	0.39	-0.17	-0.17	-0.02	0.00	0.08	-0.11	0.22			
14	New Mexico	0.16	0.36	0.04	0.08	0.00	0.02	0.29	0.12	-0.03	-0.05	-0.04	-0.09	0.23	-0.13	-0.16		
15	Oklahoma	0.09	0.28	-0.18	-0.02	-0.13	-0.10	0.09	-0.07	-0.07	-0.08	-0.12	-0.06	-0.11	0.08	0.06	-0.13	
16	Market Growth	0.18	0.11	-0.18	-0.01	-0.12	0.02	-0.01	0.03	0.04	0.09	0.16	0.04	0.26	0.00	0.03	-0.29	0.07

$ Million[a]

Correlation coefficients .14 and greater are significant at $p < .05$ level. For this table n = 176.

Table 2

Relationship between Competitive Aggressiveness and Performance with Margin and Density Interactions

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	ROA	Loan Change	Deposit Change	ROA	Loan Change	Deposit Change
Age	0.10	- 0.12	- 0.10	0.10	- 0.10	- 0.06
Loans (Deposits)	0.07	0.12	0.01	0.11	0.08	- 0.04
Corporate status	0.46***	0.20*	0.24**	0.45***	0.18*	0.21*
NM	0.09	- 0.04	- 0.08	- 0.03	- 0.01	- 0.05
OK	0.06	- 0.04	- 0.10	0.06	- 0.05	- 0.09
Market growth	- 0.03	0.06	0.12^{+}	- 0.05	0.08	0.13^{+}
ROA		- 0.32***	- 0.39***		- 0.23*	- 0.30**
Competitive Aggressiveness	0.04	0.18*	0.22**	- 0.05	0.18^{+}	0.28**
Margin				0.47***	- 0.17*	- 0.15^{+}
Density				- 0.16*	0.09	0.14^{+}
Competitive Aggressiveness X Margin				- 0.04	- 0.19*	- .017*
Competitive Aggressiveness X Density				0.19*	- 0.04	- 0.12
Adjusted R^2	0.21	0.11	0.19	0.44	0.15	0.23
Change in Adjusted R^2				0.23	0.04	0.04

Numbers depicted are standardized coefficients. For all models n=176.

$^{+}$ $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Figure 1
Research Model

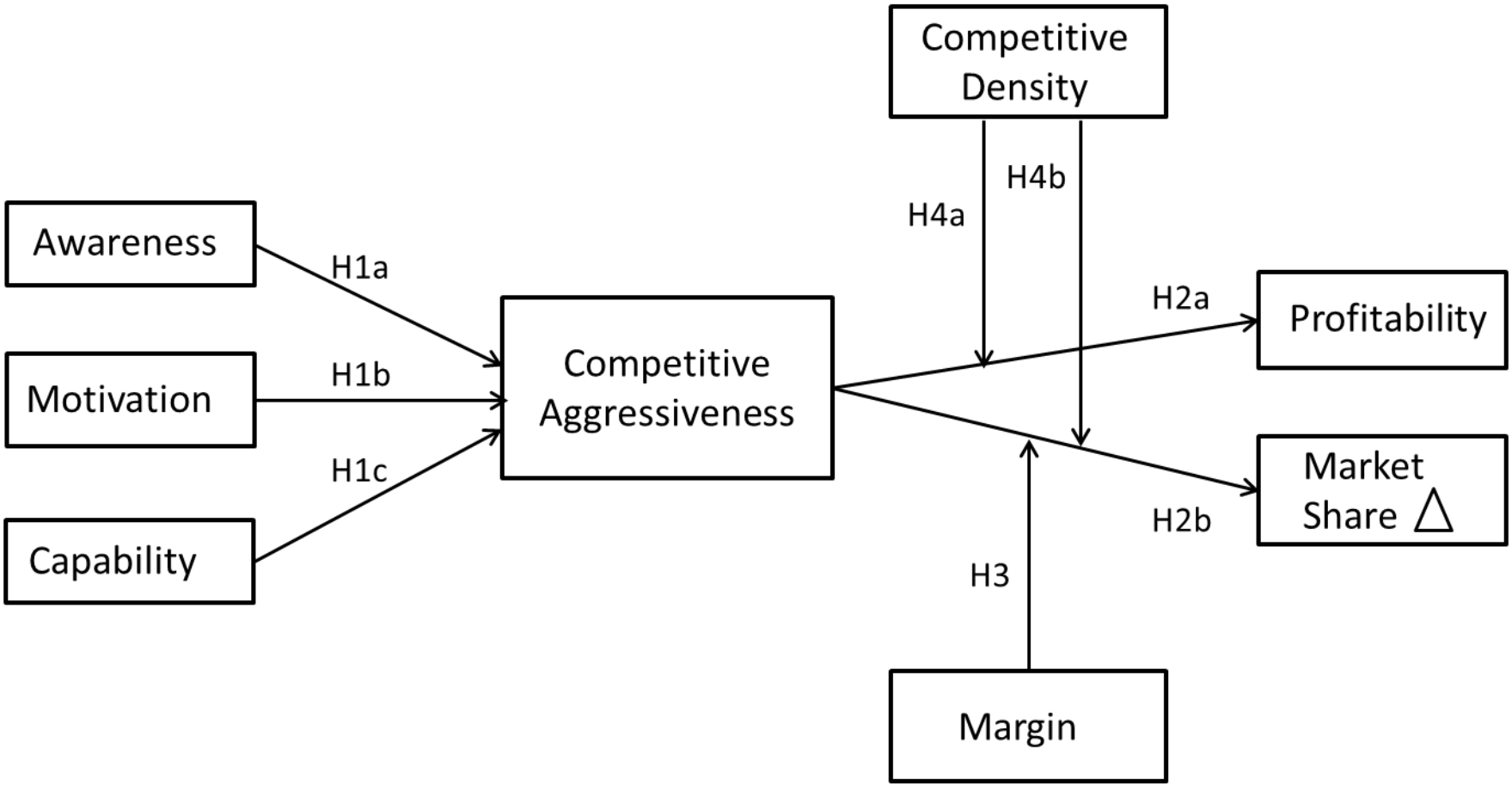
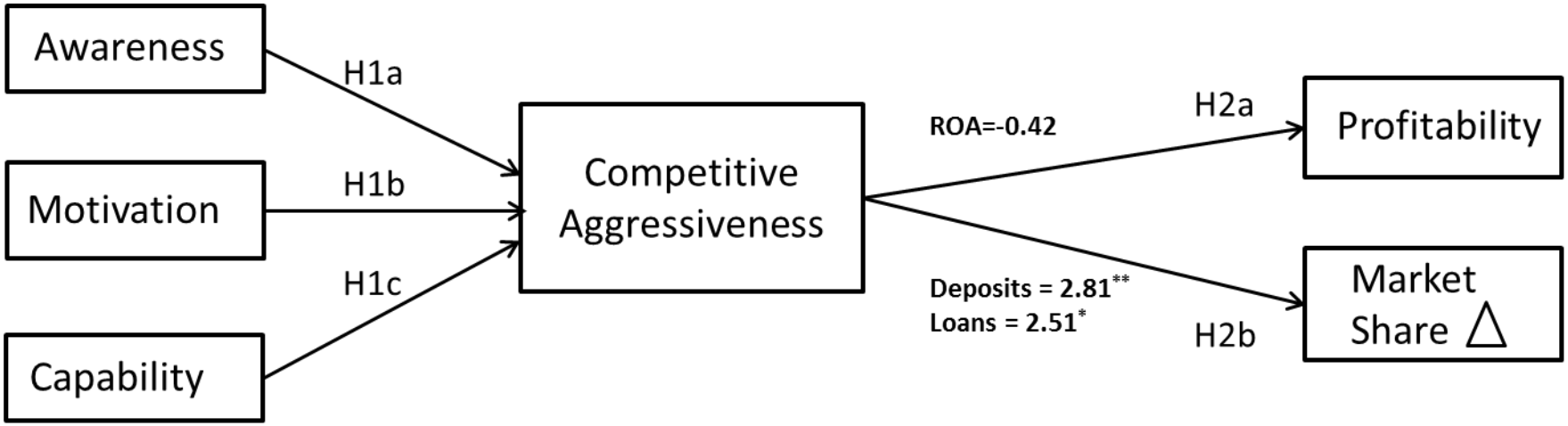


Figure 2
Results Model



T-Values	ROA	Loans	Deposits
H1a	3.79***	3.77***	3.79***
H1b	5.40***	5.37***	5.32***
H1c	1.61	1.70+	1.74+

MODEL FIT	X^2	df	RMSEA	CFI	SRMR
ROA	196.8	103	0.063	0.96	0.051
Loans	188.0	103	0.060	0.96	0.050
Deposits	190.1	103	0.060	0.96	0.050

+*p*<.10
**p*<.05
***p*<.01
****p*<.001

Figure 3
Moderating Effect of Density on ROA

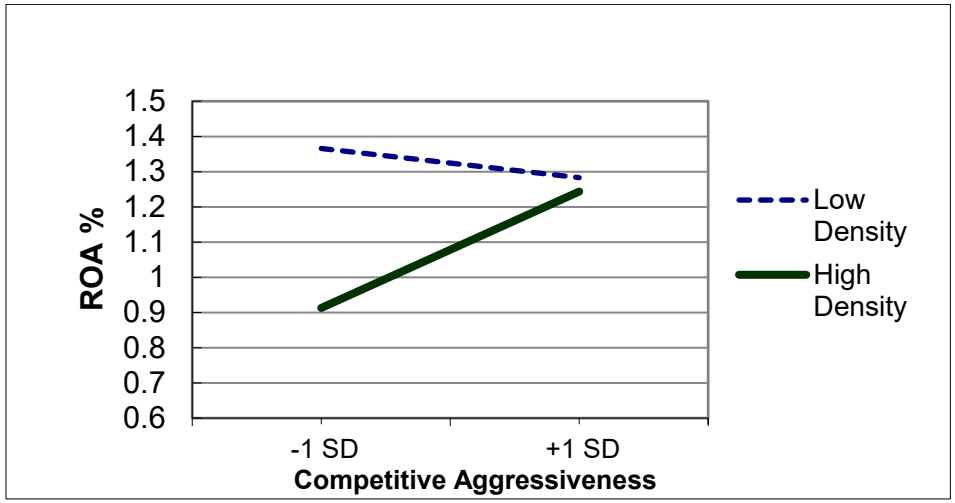
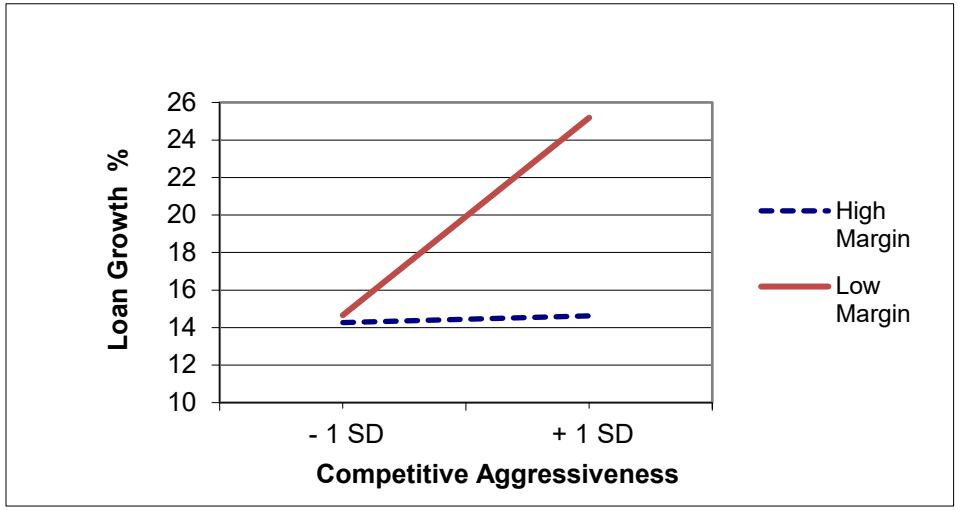


Figure 4
Moderating Impact of Margin on Loan Growth



APPENDIX

Measured Construct	Item
Competitive Aggressiveness	My bank takes aggressive actions against our rivals
	My bank seeks to take business away from our rivals
	My bank directly challenges competitors as we pursue our objectives
Awareness	People in my bank talk a lot about our rivals' strategies and tactics
	Monitoring our competitors is important in my bank
	People in my bank talk a lot about what our rivals might do in the future
Motivation	When a rival outperforms my bank, it is an indication we need to take more competitive actions
	We prefer to initiate competitive actions in our market
	My bank sees taking competitive actions as a useful way to improve our performance
Capability	My bank has the resources it needs to initiate or respond to competitive actions
	My bank would still have sufficient resources to take competitive actions even if the firm's level of resources dropped by ten percent
	My bank can devise many ways to engage in competitive actions using the resources available to the firm