

The undersigned, approved by the Doctoral Faculty Council, have examined the dissertation entitled

AUTONOMY, PROACTIVENESS, AND FIRM PERFORMANCE IN THE
ENTREPRENEURIAL SMALL AND MEDIUM-SIZED ENTERPRISES OF THE UNITED
STATES

presented by Dexi Zheng

a candidate for the degree of Doctor of Business Administration

and hereby certify that in their opinion it is worthy of acceptance.

Andy Yu, Ph.D.
Associate Professor of Management
Committee Chair

SIGNATURE: _____

K. Praveen Parboteeah, Ph.D.
Professor of Management
Second Committee Member

SIGNATURE: _____

Maxwell K. Hsu, Ph.D.
Professor of Marketing
Reader

SIGNATURE: _____

AUTONOMY, PROACTIVENESS, AND FIRM PERFORMANCE IN THE
ENTREPRENEURIAL SMALL AND MEDIUM-SIZED ENTERPRISES OF THE UNITED
STATES

A Dissertation

Presented to

The Graduate Faculty of

The University of Wisconsin -- Whitewater

In Partial Fulfillment

Of the Requirements for the Degree

Doctor of Business Administration

By

DEXI ZHENG

Dr. Andy Yu, Dissertation Chair

DECEMBER 2018

ACKNOWLEDGEMENTS

A sincere thank you to the members of my dissertation committee, Dr. Andy Yu (Chair), Dr. K. Praveen Parboteeah, and Dr. Maxwell K. Hsu (Reader), for their guidance, knowledge, support, and a countless number of meetings, phone calls, and late-night email exchanges throughout the dissertation process. I would not have completed this process without your guidance, and all of you have helped me grow as a researcher and as a person. I am grateful to have the privilege of working with three outstanding scholars during this process and in the future.

I also would like to thank the faculty and staff at the University of Wisconsin – Whitewater that have been involved with the Doctorate of Business Administration program. Additionally, I want to thank my fellow cohort members for their friendship, support, and inspiration. It is an honor to be a member of this wonderful cohort.

Finally, I want to thank my family—my wife, Lingsu, my two kids, Hector and Lexi, as well as two sets of unconditionally supportive parents (Guo Ying Zheng and Mei Qin Lin; Jing Kui Zheng and Gui Fang Zheng) and my extended family (Dezhuang Zheng, Long Bin Quan, Hang Cheng Zheng, and Jill Zheng). Thank you for the sacrifices that each of you made to make my dream come true. I am forever grateful.

AUTONOMY, PROACTIVENESS, AND FIRM PERFORMANCE IN THE ENTREPRENEURIAL SMALL AND MEDIUM-SIZED ENTERPRISES OF THE UNITED STATES

DEXI ZHENG

Dr. Andy Yu, Dissertation Chair

ABSTRACT

How and in what situations do autonomy and proactiveness influence the financial performance of entrepreneurial small and medium-sized enterprises (SMEs)? This dissertation includes two studies to answer such inquiries by testing the research models with the approach of computer-aided text analysis. With the resource orchestration perspective and a configurational model, Study 1 examines whether the relationship between autonomy and firm performance depends on potential slack and environmental dynamism in a sample of 359 firm-year observations between 2009 and 2015. I theorized the alignment of autonomy, environmental dynamism, and potential slack results in superior firm performance. Study 2 looks at how proactiveness, acting as a mechanism of opportunity creation, interacts with market orientation to influence firm performance in a sample of 2,059 firm-year observations between 2009 and 2015. I theorized how the three sub-dimensions of market orientation respectively moderate the

proactiveness-performance relationship to provide a more nuanced understanding of their effects. Findings suggested that autonomy has the most impact in situations of high environmental dynamism coupled with high potential slack, while proactiveness interacts with the competitor orientation dimension of market orientation to positively impact firm performance.

Keywords: autonomy, proactiveness, small and medium-sized enterprises, opportunity

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	i
ABSTRACT	ii
LIST OF TABLES	vi
LIST OF FIGURES	vii
INTRODUCTION	1
AUTONOMY, POTENTIAL SLACK, ENVIRONMENTAL DYNAMISM, AND FINANCIAL PERFORMANCE OF THE ENTREPRENEURIAL SMALL- AND MEDIUM-SIZED ENTERPRISES: A CONFIGURATIONAL APPROACH.....	3
ABSTRACT	3
INTRODUCTION	3
THEORY AND HYPOTHESES	11
METHODS	28
RESULTS	39
DISCUSSION	51
CONCLUSION	59
REFERENCES	60
PROACTIVENESS AND ENTREPRENEURIAL SME PERFORMANCE: UNPACKING THE EFFECT OF MARKET ORIENTATION.....	76
ABSTRACT	76
INTRODUCTION	77
THEORY AND HYPOTHESES	90

TABLE OF CONTENTS (CONT.)

METHODS 103

RESULTS 111

DISCUSSION..... 124

CONCLUSION..... 130

REFERENCES 131

LIST OF TABLES

Table	Page
1. Contingency and Configuration Approaches Compared	23
2. Word Lists for Entrepreneurial Orientation	35
3. Definition Table	38
4. Descriptive Statistics and Correlations	40
5. Moderated Hierarchical Regression Analyses	41
6. Summary of Study Hypotheses.....	47
7. Slope Difference Tests	49
1. Entrepreneurial Orientation and Market Orientation Literature Review	80
2. Word List for Market Orientation.....	109
3. Descriptive Statistics and Correlations	112
4. Moderated Hierarchical Regression Analyses	114
5. Summary of Study Hypotheses.....	116
6. Additional Analyses	123

LIST OF FIGURES

Figure	Page
1. Interaction plot: Autonomy and potential slack.....	43
2. Three-way interaction plot.....	45
1. Competitor orientation moderation plot.....	118
2. Interfunctional coordination moderation plot.....	119

Autonomy, Proactiveness, and Firm Performance in the Entrepreneurial Small and Medium-Sized Enterprises of the United States

This dissertation, titled *Autonomy, Proactiveness, and Firm Performance in the Entrepreneurial Small and Medium-Sized Enterprises of the United States*, includes two studies on small and medium-sized enterprises (SME) and firm performance. The purpose of this dissertation is to understand the unique influences of autonomy on firm performance while taking into consideration environmental and resource factors and how proactiveness can affect SME firm performance through opportunity creation when interacting with each of the sub-dimensions of market orientation (MO).

The first study sheds light on the firm performance implication of autonomy (a dimension of entrepreneurial orientation) in SME firms. Examining through resource orchestration perspective and utilizing a configurational approach, this study attempted to understand how internal attributes and external conditions, potential slack and environmental dynamism, respectively influence business performance when interacting with autonomy. In this study, I proposed three research inquiries. First, in the publicly-listed SME context, is there a relationship between autonomy and firm performance? Second, how, if at all, is the autonomy-performance relationship affected by a firm's internal potential slack and external environmental dynamism? Third, how do these factors fit together to explain firm performance? Using computer-aided text analysis, with a combined dataset derived from shareholder letters and archival financial data from the Russell MicroCap-listed SMEs, this study concluded that firms with high autonomy and high potential slack are best positioned to capitalize on opportunities in

highly dynamic environments, resulting in the best firm performance. However, inability to capitalize on opportunities in a dynamic environment due to lack of resources results in firms being out-performed and left behind by competitors who can capitalize on said opportunities.

The second study in this dissertation advances knowledge of the relationships between proactiveness (a dimension of entrepreneurial orientation) and MO. Contrary to past MO studies, this study unpacked the three sub-dimensions of MO and attempted to understand how proactiveness and the three dimensions of market orientation interact to influence firm performance when examining from an entrepreneurial opportunity creation perspective rather than the traditional opportunity discovery assumption of MO. There were two research questions in this study. First, how does SME proactiveness influence firm performance? Second, does market orientation moderate this proactiveness-performance relationship and if so, in what way? This study concluded that for the three sub-dimensions of MO, a high level of competitor orientation complements proactiveness in improving SME firm performance, customer orientation has no significant impact, and a high level of inter-functional coordination has a negative impact on SME firm performance.

In conclusion, the two studies in this dissertation series make different contributions to both entrepreneurial orientation and MO literature and may be beneficial to researchers seeking to understand the nuances of entrepreneurial SMEs and offers guidance to practitioners on implementing autonomy and proactiveness in entrepreneurial SMEs.

AUTONOMY, POTENTIAL SLACK, ENVIRONMENTAL DYNAMISM, AND FINANCIAL
PERFORMANCE OF THE ENTREPRENEURIAL SMALL- AND MEDIUM-SIZED
ENTERPRISES: A CONFIGURATIONAL APPROACH

ABSTRACT

Autonomy is theorized as a dimension of entrepreneurial orientation, but performance impact of this dimension has been under-researched. Autonomy is generally associated with large organizations with sufficient resources, but it ignores the fact that small entrepreneurial firms can uniquely benefit from a combination of autonomy and resources. This study examines, through resource orchestration perspective and configurational approach, the effect of autonomy combined with potential slack and environmental dynamism on firm performance. Based on a sample of 359 entrepreneurial small and medium-sized enterprises (SME) from the Russell MicroCap index, combining archival financial data and computer-aided text analysis of shareholder letters, this study showed that the firms with high autonomy and high potential slack are best positioned to exploit opportunities in highly dynamic environments, resulting in firm performance enhancement.

Keywords: autonomy, resource, small and medium-sized enterprises, dynamism

AUTONOMY, POTENTIAL SLACK, ENVIRONMENTAL DYNAMISM, AND FINANCIAL
PERFORMANCE OF THE ENTREPRENEURIAL SMALL- AND MEDIUM-SIZED
ENTERPRISES: A CONFIGURATIONAL APPROACH

Past research has generally confirmed the positive effect of autonomy on firm performance (Lumpkin, Cogliser, & Schneider, 2009). As pointed out by Lumpkin et al. (2009), autonomy in strategic entrepreneurship enables advantage-seeking behaviors by allowing exploration of opportunities (Stevenson & Jarillo, 1990) and redeploying of resources (Zahra, 1993). Autonomy is typically considered in large firms with complex organizational structures and large resource bases. However, prior studies (e.g., Covin & Slevin, 1989; Man, Lau, & Chan, 2002; Moreno & Casillas, 2008) have neglected the heterogeneity of small and medium-sized enterprises (SMEs) in terms of entrepreneurial, salary-substitute (type of firm that aims to replace salary of the owner's previous job, such as physicians and dentists), and lifestyle firms (type of firm that aims to sustain a certain lifestyle and skill, such as a surfing instruction school). The impact of autonomy has rarely been examined in the context of entrepreneurial SMEs such as publicly-listed firms where opportunities and resources may be more vital for survival and growth than the other two types of firms. Heterogeneity of SMEs should be considered. Salary-substitute firms are operated as a form of self-employment (Reynolds, 2000) that is an alternative to direct employment, whereas lifestyle firms pursue a hobby or interest (Morris, Schindehutte, & Allen, 2005) while being compensated. These firms' growth and performance are limited by their principals' lack of intention to pursue high growth and performance. Since growth and performance are not their key purposes, the importance of autonomy, resources, and opportunities may not be reflected in lifestyle and salary-substitute

SMEs (Shane, 2009; Zellweger, Kellermanns, Chrisman, & Chua, 2012). Accordingly, they were excluded from the boundary conditions for this study.

SMEs are vital to the U.S. economy, and their performance has a significant impact. Consider the following statistics: small businesses make up 99.7% of U.S. employer firms, 63% of net new private-sector jobs, 48.5% of private-sector employment, and 42% of private-sector payroll (Fairlie, 2012). They account for 63% of the net new jobs created between 1993 and mid-2014, totaling 14.3 million new jobs (Fairlie, 2012). Understanding the factors that improve SMEs' firm performance would benefit the economy in general because SMEs have a significant impact on the economy.

Resources are critical to all firms for their competitive advantage (Barney, 1991), especially to entrepreneurial SMEs. SMEs have typically been characterized as resource-constrained yet quick to benefit from entrepreneurial activities (Hewitt-Dundas, 2006; Lee, Lim, & Tan, 1999; Moreno & Casillas, 2007). However, research on the effect of resource constraint on business performance has been inconclusive, with some studies indicating a positive relationship (Hoegl, Gibbert, & Mazursky, 2008) and others negative (Damanpour, 1991; Mishina, Pollock, & Porac, 2004). Those following the more is more logic (i.e., more resources are more beneficial to advantages) have indicated rich resources are critical for growth because they give the firm more flexibility in experimenting with entrepreneurial ideas (Damanpour, 1991) and adopting an entrepreneurial posture. Studies emphasizing less is more logic have indicated that thriftiness results in better utilization of resources in achieving better performance (Mishina et al., 2004). An entrepreneurial SME transitioning from a resource-constraint environment to the availability of slack seems to be positioned to capitalize on opportunities if

the business possesses high entrepreneurial orientation (EO), specifically the autonomy dimension.

Firm's EO refers to the processes, practices, and decision-making activities that lead to new entry (Lumpkin & Dess, 1996) and represents not only a singular act but an overall strategic posture (Covin & Lumpkin, 2011). While the consequence of innovativeness, proactiveness, and risk-taking sub-dimensions of EO and their impact on performance have been heavily studied and validated (Covin & Lumpkin, 2011; Covin & Wales, 2012; Lumpkin & Dess, 1996; Rauch, Wiklund, Lumpkin, & Frese, 2009; Wales, 2015), of the remaining two dimensions (i.e., autonomy and competitive aggressiveness) and their impacts, as theorized by Lumpkin and Dess (1996), autonomy remains inconclusive on firm performance. Some researchers have argued that autonomy is an antecedent of EO rather than one of its essential components, and Lumpkin et al. (2009) stated as much while indicating the main reason autonomy has been ignored may be due to the fact that no appropriate measurement scale could be used along with the original Covin and Slevin (1991) nine-item measurement. A systematic review of past EO research indicates as much, with only six articles exploring autonomy (Wales, Gupta, & Mousa, 2013). With the mixed empirical results from limited autonomy research, main-effect-only model and contingency approach (a two-way interaction) may not capture the complexity of EO and the performance relationship (Wiklund & Shepherd, 2005). Greater insight may be gained if firm and environmental characteristics are taken into consideration simultaneously using a configurational approach (a three-way interaction; Wiklund & Shepherd, 2005).

This study examines the autonomy-performance link, along with the effects of potential slack (Bourgeois, 1981) and environmental dynamism (Dess & Beard, 1984), utilizing a configurational approach. To understand the fit among key variables such as environmental and

firm characteristics for obtaining optimal performance, contingency approach has been suggested and utilized in furthering the understanding of EO (Lumpkin & Dess, 1996). Further research in EO has noted a contingency model may not adequately address the complicated EO-performance relationship (Wales et al., 2013; Wiklund & Shepherd, 2005). Environmental factors as well as internal characteristics have both been shown to have an effect on firm performance (although rarely taken in consideration of their joint effect). EO studies have examined the environmental effect on the EO-performance relationship (Covin & Lumpkin, 2011), indicating that entrepreneurial type strategies can result in high performance when aligned with characteristics of the external environment (Wiklund & Shepard, 2005). High rate of change in market trends and industry innovation represents a dynamic environment (Dess & Beard, 1984), and Miller (1990) suggested that in such an environment, entrepreneurial strategies are more likely to be more successful. The abundant opportunities in a dynamic environment allow firms with a good fit, such as high level of autonomy, to achieve high performance. Internal conditions are similarly important, as EO is a resource-consuming strategic orientation (Covin & Slevin, 1991). Entrepreneurial strategies without the resources can be difficult, while firms with more resources have broader options (Wiklund & Shepard, 2005). SMEs deployed resources for organizational functions, the extracurricular and uncertain outcome nature of autonomy may require a resource that has not been allocated to operation, such as potential slack, in order to avoid negatively impacting the normal operations. SMEs that have a higher level of resources not pre-allocated to the operation, such as potential slack, have the discretion to implement autonomy to improve firm performance. As such, environmental dynamism and potential slack were examined in this study.

Past studies have examined EO's direct and moderating relationships among internal and external factors, and they have suggested a configurational model is perhaps more robust in exploring EO-performance relationship by concurrently assessing the joint implication of EO and both internal and external variables (Lumpkin & Dess, 1996; Wales et al., 2013; Wiklund & Shepherd, 2005). In this study examining the autonomy dimension of EO, I initially looked at the role of autonomy and its impact on financial performance to see if there was a direct impact. Secondly, I looked at the role of potential slack and environmental dynamism separately as boundary conditions and their respective impact on firm performance using a contingency approach. Finally, I examined the configurations of autonomy, potential slack, and environmental dynamism and their joint impact on firm performance. With that in mind, the following research questions arose:

- 1) Is there a relationship between autonomy and firm performance?
- 2) How, if at all, is the autonomy-performance relationship affected by a firm's internal potential slack and external environmental dynamism?
- 3) How do these factors fit together to explain firm performance?

My study contributes to the literature in three ways. First, I add to EO literature, particularly the autonomy dimension. The lack of research on autonomy dimension stems from the fact that autonomy was not one of EO's original dimensions. In addition, the role of autonomy as an essential component rather than an antecedent of EO, directly impacting performance, is also disputed (Lumpkin et al., 2009). I examined autonomy in publicly-listed SMEs to determine the role resources play in firm performance in a dynamic environment. Resource-based view (RBV) would look at the resources as an advantage that would result in higher performance (Barney, 1991), but others have criticized RBV's dominant focus on

characteristics of resources rather than how resources are used (Priem & Butler, 2001; Sirmon, Hitt, Ireland, & Gilbert, 2011). In examining the role of autonomy in firm performance, I intended to address the shortcomings of RBV by demonstrating that autonomy is essential in the proper orchestration of valuable resources. Autonomy is defined as “the independent action of an individual or a team to bring forth an idea or a vision and carry it through to completion” (Lumpkin & Dess, 1996, p. 140). This often involves allowing members of the organization to operate outside the existing norms and strategies where they can think and act more independently (Lumpkin et al., 2009). The underlying assumption of autonomy is that the more freedom and independence allowed, the more opportunity-seeking and advantage-seeking behaviors will be exhibited by members and result in superior firm performance (Ireland, Hitt, & Sirmon, 2003). It is assumed that autonomy will always have an impact on performance when it is present.

But does autonomy always positively impact performance (i.e., the more, the merrier)? Can it be that resources are being wasted on unrealistic opportunities in firms with high autonomy, or is autonomy having minimal impact when the firm is presented with opportunities but possesses insufficient resources? As Lumpkin et al. (2009) found, some researchers have claimed that while autonomy is an essential condition, it is still insufficient for developing the entrepreneurial initiative. This suggests that while autonomy is an essential component of EO, its impact could be diminished or amplified by conditions such as potential slack and environmental dynamism. While autonomy aids in identifying opportunities in a dynamic environment, scarcity of corporate resources could render opportunities moot with resource constraints. Conversely, slack would contribute to inefficient use of resources in a static environment where performance depends on the efficiency of operations.

Secondly, as called for in previous studies in EO and as the field progresses, there is an increasing need to utilize a configurational approach in studying EO and contingencies. Lumpkin and Dess (1996) indicated EO and performance might be moderated by multiple internal and external factors at the same time (i.e., a configurational approach indicates how multiple variables fit together to affect the dependent variable), rather than by any single moderator (i.e., a contingency approach means the relationship between the two variables depends on the third one). Previous studies have shown that configurations are generally tested through the simultaneous interaction of various factors (Baker & Cullen, 1993; Dess, Lumpkin, & Covin, 1997; Spriggs, Yu, Deeds, & Sorenson, 2013; Wiklund & Shepherd, 2005). The use of a configurational approach is needed to show how a firm's ability to align its attributes with its environments will impact its performance (Ketchen, Thomas, & Snow, 1993). This study intended to address this by researching how the configurations of autonomy, potential slack, and environmental dynamism impact performance. This adds to our understanding of the variables beyond the contingency effect. I hope this study will be useful to practitioners in determining what level of autonomy is the best fit for their organizations to improve firm performance. The primary discussion will involve entrepreneurial SMEs, considering the heterogeneity of SMEs.

Lastly, computer-aided text analysis (CATA) is a unique method used to study autonomy and performance. Access to chief executive officers (CEOs) is limited as evidenced by low response rates to surveys, but CATA offers a valid avenue to gain key insights into top managers' thinking and the choices they make (Short, Payne, Brigham, Lumpkin, & Broberg, 2009). In comparison with other techniques, CATA is a less intrusive technique, avoids recall biases, and is a highly utilized means of obtaining otherwise unavailable information with greater

reliability and replicability using commonly-used narrative texts (Short & Palmer, 2007; Short, Payne et al., 2009), such as shareholder letters, which were used in this study.

In this study, I examined the autonomy-performance relationship of publicly-listed entrepreneurial SMEs because it focused on firms whose focus is growth. The organizational structure of publicly-listed SMEs is more organic and flexible compared to larger firms, but it could benefit from autonomy, as a founder or CEO can't really manage every facet of the operation. In addition, publicly-listed firms are in the position of receiving equity funding by offering their stocks and are in a position where they have some level of slack, but not at the level of slack enjoyed by large firms. In this sense, the effective and efficient orchestration of their resources is of utmost importance.

This study proceeds as follows. First, the literature on autonomy and EO is introduced, and I hypothesize a universal effect model to explain autonomy's relationship with SME performance. Second, I incorporate potential slack and environmental dynamism separately as contingency models and then together utilizing configurations approach. Third, I describe my research methods, including sampling and CATA.

Theory and Hypotheses

Autonomy is a dimension of EO and refers to independent action undertaken by the entrepreneurial leader or teams directed at bringing about the new venture and seeing it to fruition (Rauch et al., 2009). One of the most researched constructs in entrepreneurship and management literature is EO (Covin & Wales, 2012). Miller (1983) first identified the entrepreneurial behaviors of risk-taking, innovation, and proactiveness, which were subsequently defined as EO (Covin & Slevin, 1989, 1991). Autonomy, along with competitive

aggressiveness, was also included later by Lumpkin and Dess (1996). Of the five EO dimensions, the original three proposed by Covin and Slevin (1991) have been studied the most, partly due to the fact they were published earlier and had appropriate measures. Scales to measure autonomy and competitive aggressiveness were relatively late to the scene (Wales, 2015), but the importance of these dimensions should not be understated. Autonomy, or the freedom to act independently of organizational limitations, enables exploring and realizing business opportunities that may otherwise be invisible (Lumpkin & Dess, 1996) and may prove to be more critical in how a firm orchestrates its resources and capitalizes on opportunities.

A recent stream of research on resource orchestration has focused on a firm's ability to deploy resources in achieving strategic objectives (Sirmon et al., 2011). Resource orchestration is the culmination of studies in resource management and asset orchestration and is focused on how managers affect resource-based competitive advantages (Sirmon et al., 2011). Competitive advantage of RBV is achieved with firm resources that are valuable, rare, inimitable, and non-substitutable (Barney, 1991). In critiquing the RBV theory, other scholars have suggested that RBV overly focuses on the characteristic of the resource but ignores how the resource is used to create competitive advantage (Priem & Butler, 2001; Sirmon et al., 2011). Resource orchestration theory addresses this shortcoming by focusing on structuring the portfolio of resources, bundling of resources to build capabilities, and leveraging capabilities to create value, with the focus on the importance of the fit of resource and strategy (Sirmon et al., 2011). Of particular importance are the mobilizing and coordinating aspects of leveraging capability. Mobilizing provides a plan or vision and coordination keeps assets in value creation alignment, effectively leveraging firm resources (Chirico, Sirmon, Sciascia, & Mazzola, 2011). This framework of resource orchestration suggests that smaller organizations' performances are

dependent on their ability to efficiently and effectively structure, bundle, and leverage their resources in pursuing a fit between their resources and external environments. Through the configurational approach and resource orchestration framework, we can look at how a manager (with autonomy) can affect performance through resources and opportunity. Literature has also suggested EO as an important mechanism in the resource orchestration process. The influence of resource orchestration is realized by the leveraging mechanism, and EO—the tendency toward product innovation, proactiveness, and risk-taking behaviors—provide the mobilizing vision to leverage valuable firm resources (Chirico et al., 2011; Sirmon, Hitt, & Ireland, 2007), and in this study I examined autonomy as the resource orchestration mechanism. The unique ability the SME possesses is its thriftiness in consuming resources, and when paired with potential slack as I proposed, I posited that the ability of SMEs to translate slack into heightened performance depends on the level of autonomy in which teams at their discretion can orchestrate resources to identify and capitalize opportunities.

Autonomy and Performance

The effect of autonomy on performance has been studied in prior management studies. It was shown that autonomy promotes positive motivation, performance, and satisfaction (Hackman & Oldham, 1975), while individual and team autonomy influences team performance (Langfred, 2005). Autonomy studies have primarily focused on large firms, with little emphasis on small firms, as it is assumed autonomy should only be relevant in the rigid structure of large firms. Synthesis of past autonomy studies as summarized by Langfred (2000), as well as Brock (2003), posits a positive influence on performance because of autonomy. It is important for the person or group in a firm to have the freedom unimpeded by organizational limitations, because autonomy increases perceived control over the work environment and enhances the employee's

motivation or willingness to engage in such behavior (Jong, Parker, Wennekers, & Wu, 2015). Autonomy as a dimension of EO, however, is different from the structural autonomy on which past studies have focused. As Lumpkin et al. (2009) pointed out, autonomy from an EO perspective is more of a strategic autonomy that occurs when a group not only has control over the means to achieve predetermined goals but has the ability to set goals and the means to achieve those goals by operating outside of normal organizational constraints.

While EO has been positively associated with firm performance (Rauch et al., 2009), the effect of autonomy on performance is less than certain (Lumpkin et al., 2009; Wales, 2015). Much of past research on EO has focused on the original three dimensions of innovativeness, risk-taking, and proactiveness (Wales, 2015). Innovation is regarded by many as central to entrepreneurship (Shane, 2003), and EO studies have focused on innovativeness as a central characteristic of an entrepreneurial organization, defining it as “a predisposition to engage in creativity and experimentation through the introduction of a new product” (Rauch et al., 2009, p. 763). Proactiveness represents an opportunity-seeking, forward-looking perspective, characterized by firms with high awareness of external trends and events that act in response (Jong et al., 2015; Rauch et al., 2009). Risk-taking behavior is venturing into the unknown, borrowing heavily, and committing significant resources to a venture of unknown result with potential loss of assets (Rauch et al., 2009). While these dimensions examine the different aspects of EO, their main assumptions revolve around external opportunities and corporate resources. Lumpkin et al. (2009) argued that organizations that rely on an EO to create new value and growth must make an extra effort to foster entrepreneurial behavior by freeing individuals or teams to operate more independently, or autonomously. Allowing a high level of autonomy could result in unique products or services that could create a new market for the firm

through skunkworks or side projects. In this context, autonomy is essential in orchestrating a firm's resources to capitalize on opportunities in achieving better firm performance by providing a vision for mobilization of firm resources. In SMEs, autonomy is even more important and should be the critical factor in adapting to fast-changing or dynamic environments to pursue growth, since SMEs are characterized by having a centralized structure and are heavily dependent on founder or owner for directions. SMEs that emphasize autonomy as a firm culture can cultivate it as a valuable resource. As SMEs grow, founder's or owner's directives may be the factors limiting the growth of the firm. Firms can orchestrate the valuable resource, autonomy, in allowing teams and the manager of SMEs to self-direct in the absence of top management directive to pursue better performance and growth rather than sitting idle. When a market opportunity is present, a high level of autonomy will enable SMEs to rapidly deploy resources towards exploitation. Therefore, I argue that:

H₁: In publicly-listed SMEs, autonomy is positively associated with firm performance.

Potential Slack

Organizational slack is that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures for adjustment or to external pressures for changes in policy, as well as to initiate changes in strategy with respect to the external environment (Bourgeois, 1981). It can be further broken down into three different types, the most common differentiations being available slack, recoverable slack, and potential slack (Bourgeois, 1981; Cheng, 1997; Palmer & Wiseman, 1999). Available slack is the type that is liquid in nature and ready for consumption, such as cash, whereas recoverable slack is less liquid, is absorbed, and is not so readily available but can be accessed or converted with some

effort to alternative use. Potential slack is a type that firms have available, such as unused borrowing capacity that is available to the firm (Bourgeois, 1981). As SMEs are more resource constrained, realistically there should not be a large amount of available slack because they would have utilized it already, and they have a flat structure as well as less bureaucracy, so it is likely they do not have a large amount of recoverable slack that exists within current operations. The slack that they most likely have access to is the loan or additional equity if they perceive the opportunity is worth it. Various Small Business Administration-backed loans and programs are achieving success in financing small business growth. Other avenues to acquire financial resources, such as venture capitalists and crowdfunding, are gaining momentum as an alternative source of financing (Shellehamer, 2011). Lack of financing or resources is a constraint to firm performance and can also limit entrepreneurial activities that influence performance. As firms grow larger and have better access to resources, firm behaviors such as autonomy become more critical in achieving better firm performance.

As discussed in H_1 , the effect of autonomy on firm performance hinges on resource structuring, bundling, and leveraging. The goal for utilization of potential slack is to have access to it when needed without it being inefficiently absorbed into the organization. The allocation of slack in the form of available and recoverable slack can be the result of orchestrating potential slack. If the firm's decision is in creating a novel product and in creating an opportunity, its decision could be allocating potential slack to recoverable slack by allowing employees to work on extracurricular projects that do not impact current operations but could result in a breakthrough product for the firm. On the other hand, if firms decide the best way to improve firm performance is to rapidly react to market changes, they may decide to hold potential slack in an available form such as cash that may be rapidly deployed to react to market changes.

Autonomous action in developing new products or rapid response hinges on the characteristics of slack and the structuring and bundling of said slack. Therefore, in this study about autonomy, it is beneficial to characterize organizational slack as the potential slack.

The Interaction of Autonomy and Potential Slack

An organization's resources have been addressed in previous research in its function of growth (Penrose, 1959; Wiklund, 1998) and performance (Barney, 1991; Wernerfelt, 1984) as the central focus of the RBV. The findings have indicated that firms need resources to conduct research and development (R&D) and other activities in order to grow (March, 1991), but there is also some evidence that firms which have a resource disadvantage can outmaneuver their better-endowed competitors by better utilizing existing resources (Ganz, 2000). Organizational slack has gathered a considerable amount of research (Bourgeois, 1981; Cyert & March, 1992), with some arguing slack itself is inefficient (Jensen, 1986; Mishina et al., 2004), or there is an optimal amount of slack for an organization where the diminishing return would occur (George, 2005; Tan & Peng, 2003), and organizational slack is needed to support innovation and growth (Camisón-Zornoza, Lapiedra-Alcamí, Segarra-Ciprés, & Boronat-Navarro, 2004; Damanpour, 1991). Proponents of the positive effect of slack have suggested that managers need slack to increase the firm size and innovate (Cyert & March, 1992; Penrose, 1959), while those who have proposed a negative relationship have indicated slack is inefficient and would encourage the non-efficient use of the resource in harming performance (Cyert & March, 1992; Jensen, 1986). Bourgeois (1981) offered a middle ground for both views, suggesting performance is enhanced with a certain amount of slack and hampered if outside said range. Bourgeois (1981) further stated that firms should have surplus resources sufficient to address the potential threats or opportunities. Characteristics of potential slack bode well for Bourgeois' argument because

potential slack can offer the resources needed to address potential threats or opportunities and yet it does not harm efficiency when not utilized.

Autonomy allows teams and individuals to champion an idea and carry it to completion, potentially by bending the rules and bypassing procedures and budgets. But that also means autonomous champions need resources outside of the normal budget as the means to carry ideas to completion. Without siphoning resources from existing operations, potential slack could determine the extent to which ideas can result in exploitable opportunities, thereby determining the impact of autonomy on firm performance. In the SME's context, where past literature has indicated a lack of resources for the SME to take advantage of opportunities (Hewitt-Dundas, 2006; Moreno & Casilla, 2008), the role of slack resources became even more important. As entrepreneurial SMEs are in the growth stage, firms that improperly manage their resources at this stage often fail (Gilbert, McDougall, & Audretsch, 2006). As firms grow, there is the need to internalize and grow certain functions such as human resources and marketing, as well as entering new markets or developing new products, and doing so requires a substantial sum of resource to fuel the growth. Firms at this growth stage often require an accumulation of debt and equity to sustain growth (Sirmon et al., 2011). In the resource orchestration perspective, autonomy provides the vision or direction by allowing the autonomous exploration outside of the normal procedure and budgets, and the abundance of slack can allow for a higher level of autonomy as it provides resources that are not encumbered for current operations. In addition, as exploration for new products and markets naturally might not bear fruit, there is an inherent risk for failed ventures impacting current operation, and slack can buffer such risk. Once an opportunity becomes available, slack can be rapidly deployed to adapt to changes and capitalize on such opportunities, enhancing firm performance. As opportunities may not be available

indefinitely, the first mover would logically gain the most benefit from it. For SMEs, a high level of autonomy enables the firm to move rapidly in the presence of opportunity in achieving first movers' advantage if the unencumbered resource is available for opportunity exploitation, leading to the following hypothesis:

H₂: In publicly-listed SMEs, potential slack positively moderates (accentuates) the positive relationship between autonomy and firm performance.

Environmental Dynamism

Dess and Beard (1984) proposed the framework of environmental munificence, dynamism, and complexity. Munificence refers to the extent to which the environment can support sustained growth, dynamism deals with stability-instability and turbulence of the environment, and complexity refers to homogeneity-heterogeneity and concentration-dispersion (Dess & Beard, 1984). While it could be argued that environmental munificence provides greater opportunities and resources for the firm to generate growth (Cyert & March, 1992), SMEs are typically less capable of taking advantage of munificence due to the deficiency of size and economy of scale in comparison to large firms. In addition, as SMEs are more focused on creating new markets or relying on niche markets, the overall environment may not yet be munificent for such niche markets. Rather, SMEs can capitalize on opportunities in a dynamic environment where large firms often focus on their current products and are unable to shift their focus to capitalize new opportunities, leaving room for SMEs that are less unwieldy to take advantage of the dynamic environment (Agarwal & Audretsch, 2001). For SMEs, environmental dynamism is comparatively more critical than environmental munificence as a source of fertile land because fast-changing environments break the equilibrium of supply-demand often to create

new opportunities as an external condition for the autonomous actions of a firm. Miller (1983) indicated environmental dynamism is associated with the unpredictability of customer tastes, aggressive competitor actions, product or service shifts, and high rates of changes in markets and industry innovation. Furthermore, firms with more EO are more likely to succeed if they can enhance customer satisfaction by providing an innovative and unique product (Miller, 1987). Past research has linked this to firm operating performance (Keats & Hitt, 1988) as well as increased utilization of innovative strategies (Paine & Anderson, 1977). For the purpose of this study, I followed the lead of previous studies (e.g., Miller, 1987; Wiklund & Shepherd, 2005) in assessing the environmental dynamism as the changes in the firm's external environment in growth opportunities, production or service technology, and the rate of innovation, as well as R&D activities.

The Interaction of Autonomy and Environmental Dynamism

While it is important to the individual or team within a firm to have autonomy to pursue opportunities without organizational limitations, the firm's external environment is critical in determining the quantity and quality of opportunities that are worth pursuing. Environmental dynamism can be defined by the rate of change and magnitude of instability within the environment (Dess & Beard, 1984). It can also be described as external resources that the firm could orchestrate. Some SMEs operate in stable environments where changes are smaller and there is greater certainty for firms (Milliken, 1987). Lack of or smaller changes in the environment produce fewer opportunities and external resources for firms to orchestrate to improve performance, and firms would direct more of their efforts within the organization to develop efficient gains of their existing operations (Fredrickson & Mitchell, 1984; Thompson,

1967). The impact of autonomy in this environment would be less fruitful than in a highly dynamic environment, with individuals' efforts best utilized when a systematic structure is used.

Dynamic environments present opportunities due to asymmetry in knowledge and risk perception among firms (Eckhardt, 2003; Zahra, 1993). Dynamic environments are found where customers put a premium on innovation and unique services. The higher level of uncertainty in this dynamic environment requires greater flexibility and greater tolerance for missteps with experimentation. This experimentation is particularly essential in adapting to highly dynamic environments (Sharfman, Wolf, Chase, & Tansik, 1988). Some studies have shown EO and performance might not fare well in a dynamic environment (Wiklund & Shepherd, 2005), stating that in a dynamic environment with abundant opportunities, SME's ability to find or create opportunities may be of little help to gain advantages. Rather it is in a static environment where SMEs can differentiate. While this can be a plausible potential impact of environmental dynamism, this study takes a different view of role of environmental dynamism. From the resource orchestration perspective, as autonomous exploration for opportunity provides a vision for effective leveraging of firm resources, the presence of a highly dynamic environment can make such exploration more fruitful in the identification and the subsequent exploitation. This argument is built on the logic of fit between an organic, flexible structure and a fast-changing environment (Grégoire, Barr, & Shepherd, 2010). Miller (1990) also argued that entrepreneurial types of strategies are likely to be successful when addressing these customers' needs (Wiklund & Shepherd, 2005). As SMEs tend to be more focused on creating markets with innovation and unique services that typically characterize a dynamic environment (Wiklund & Shepherd, 2005), the presence of entrepreneurial strategy such as autonomy should enhance firm performance.

*H*₃: In publicly-listed SMEs, environmental dynamism positively moderates (accentuates) the positive relationship between autonomy and firm performance.

The Configurational Approach to the Autonomy-Performance Relationship

The contingency approach expands on the universalistic approach by stating that there is no one best way to organize in achieving maximum organizational performance. Wiklund and Shepherd (2005) suggested that a configurational approach demonstrates greater insights into performance than a contingency approach utilizing a two-way interaction of variables. Rather than understanding EO-performance by analyzing internal or external characteristics as many of the past contingency approach studies, additional insight can be gained by concurrently assessing the joint effect of internal and external characteristics using a configurational approach. Table 1 sums up the distinctions of contingency versus configuration.

Table 1

Contingency and Configuration Approaches Compared^a

<i>Underlying Assumptions</i>	<i>Contingency Theory</i>	<i>Configuration Theory</i>
<i>Dominant mode of inquiry</i>	Reductionistic analysis	Holistic synthesis
<i>Relationships among attributes</i>	Unidirectional and linear	Reciprocal and nonlinear
<i>Equilibrium assumptions</i>	Quasi stationary equilibrium	Punctuated equilibrium
<i>Primary mode of change</i>	Incremental change	Frame-breaking change
<i>Temporal distribution of change</i>	Continuous progressions	Episodic bursts
<i>Effectiveness assumption</i>	Determined by situational context	Equifinality

^a This table is adapted from “Configurational Approaches to Organizational Analysis” by Meyer, Tsui, and Hinings (1993).

In a large sample of firms, a small number of configurations will arise where key structure, strategy, process, and environmental variables are aligned (Short, Payne, & Ketchen, 2008; Wiklund & Shepherd, 2005). Configurational research has offered a description of organizations that resemble each other along important dimensions such as autonomy, slack, and environmental dynamism. The underlying assumption is that by uncovering relationships that hold across all organizations in each configuration, their successes and failures can be better understood and explained, allowing for better prediction for their future performance (Ketchen et al., 1993, p. 1278). It also means that there are several ways to influence the same outcome, or equifinality (Kulins, Leonardy, & Weber, 2016). For entrepreneurial SMEs, different combinations of autonomy, slack, and environmental dynamism can lead to high firm performance. In this section, I explain that the effects of potential slack (internal contingency) and environmental dynamism (external contingency) are interacting with autonomy as a whole, not independently, explaining their impact on performance and how multiple variables fit together to predict performance.

The Configuration of Autonomy, Potential Slack, and Environmental Dynamism

As potential slack and environmental dynamism both demonstrate their respective influences on the autonomy-performance link, they allude to the fact that the effect of autonomy is a function not only of resource orchestration but also of the environment in which the firm operates. Dynamic environments are associated with technological change, globalization, Information Technology, and regulation, among other factors (Zahra, 1993). The rapidly changing nature of this environment creates opportunities that, if exploited, could result in superior firm performance. Firms with more autonomy are more likely to be successful because the autonomous action of a manager or team can better explore and capitalize on such

opportunities. However, autonomy is a resource-consuming orientation that requires the organization to have sufficient resource to be effective (Lumpkin & Dess, 1996; Moreno & Casillas, 2007). Considering the interrelated nature of environmental dynamism, autonomy, and potential slack, these three factors should be considered together and their intricacies examined in a configurational approach.

In the SMEs context, as firms with high autonomy, the abundance of potential slack can be beneficial for firms in the fast-changing environments. Financial slacks such as financial capital are particularly beneficial and useful in dynamic environments where opportunities are abundant but would require some degree of trial and error (Hoegl et al., 2008). Sharfman et al. (1988) proposed that higher discretionary financial slack will be needed in highly dynamic industries. High autonomy to carry out new projects would allow teams or individuals to best align organizational resources with environmentally generated opportunities to improve firm performance. From a resource orchestration perspective, this not only provides the vision to orchestrate resource but also the coordination needed to keep resources in value-creating alignment. Studies on potential slack have suggested that a main function of slack allows companies to engage in strategic behaviors such as skunkworks, and Chiu and Liaw (2009) showed that slack provides firms with sufficient resource for exploiting external opportunities. Bourgeois (1981) suggested that slack supports companies making changes and adapting to changes as excess resource allows a firm to experiment more safely with new strategies since slack could buffer any potential risk. The result of the presence of slack is that firms can take more risk in capitalizing opportunities (Singh, 1986), and they can respond more aggressively to shifting environmental demands that require action (Cheng, 1997). Similarly, Tan (2003) showed that slack is beneficial during the time of environmental turbulence and uncertainty. In

firms with high autonomy, alignment of slack and environmental dynamism encourages aggressive response to environmental risk and opportunities; while the negative effect of failed actions can be minimized due to slack, successful endeavors can be magnified, leading to the next hypothesis:

H₄: In SMEs with high potential slack, the configuration in which the firm has high autonomy in high environmental dynamism will have the highest firm performance.

Conversely, high levels of autonomy may negatively impact SMEs with high potential slack in a static environment or an environment with few opportunities. Slack itself is inefficient due to its very nature as an excess of what the organization needs to operate. It implies an inefficient use of the resource, as opponents of potential slack argue, and without orchestrating these resources to capitalize on external opportunities, it has a negative impact on firm performance as firms are not forced to leverage and stretch their resources (George, 2005). From a resource orchestration perspective, a static environment limits the vision that autonomy could provide for leveraging resource and such lack of alignment or coordination exposes the negative effects of autonomy and slack. In SMEs, where resources are vital, such negative effects can be detrimental to firm performance. High levels of slack may bring up agency problems such as inefficiencies and inhibiting performance within the organization by managers behaving in a way unbeneficial to the organization, such as serving their own goals or interests (Chiu & Liaw, 2009) and moral hazard. Tan and Peng (2003) showed such behaviors are not aligned with company objectives and result in inferior outcomes for the company. Further studies have suggested that suboptimal behaviors arise due to less scrutiny and are carried out due to the sense that security slack provides (Bradley, Wiklund, & Shepherd, 2011; Gral, 2013), leading to high rates of failure and inferior firm performance. High autonomy within an SME would exacerbate

this negative influence due to the individual or team putting the firm resources towards funding poor performing projects (Nohria & Gulati, 1996). In addition, few opportunities may intensify the rivalry and competition in a static environment, making independent actions difficult or depleting rich slack quickly, thus damaging firm performance. A counter-argument could be made that lack of potential slack could also have an adverse effect on performance, but as research in bricolage, effectuation, and other resource constraint topics has shown, lack of resources could be overcome by other means. Effectuation theory indicates that in highly uncertain and dynamic environments, instead of focusing on goals, firms can focus on the set of means or resources over which they have control in identifying new goals from the environment (Sarasvathy, 2001), minimizing the effect of lack of resources on capitalizing opportunities. Similarly, bricolage suggests making do by applying a combination of resources at hand to new problems and opportunities (Baker & Nelson, 2005), offering an alternative way to overcome a lack of resources. As shown in effectuation and bricolage literature, while it could present a problem, lack of resource could be overcome by innovative and autonomous approaches, but as those alternative approaches have shown, the focus on business performance should derive from the opportunities. The pursuit of opportunity should focus on the external environment rather than internal optimization of resources (Brown, Davidsson, & Wiklund, 2001), but in a stable environment where there are not many opportunities, internal optimization of resources would perform best in a systematic environment where efficiency would reign, and the very concept of the slack would contradict said ideal. With the presence of high slack, stable environment, and high autonomy the negative effect of slack would show up, predicting inferior performance. Hence, I expect:

*H*₅: As SMEs with high potential slack, the configuration in which the firm has high autonomy in low environmental dynamism will have the lowest firm performance.

Methods

Sample

My sample was drawn from the Russell MicroCap Index. This is an index of 2,000 small market capitalization, or small-cap, and micro-cap stocks (FTSE Russell, 2017). Russell 3000 is a broad index, of which 1,000 largest companies are included in the Russell 1000 index, and the remainder are included in the Russell 2000 index (FTSE Russell, 2017). Russell MicroCap is the smallest 1,000 companies in the Russell 2000, plus 1,000 other smaller United States-based listed stocks, and it is designed to present an unbiased collection of the smallest tradable securities that still meet exchange listing requirements (Investopedia, n.d.). It represents the smaller growing entrepreneurial firms that my study aimed to identify. Those listed companies represent less than 3% of the value of the U.S. equity market. While the Russell 2000 is the most commonly quoted small-cap index, it includes a significant portion of companies that are well established. The Russell MicroCap Index, on the other hand, is a valuable tool for investors examining trends in smaller and growing companies (Investopedia, n.d.).

In investigating the effect of autonomy on firm performance in smaller firms, the Russell MicroCap offers a population that fits the profile of smaller and growing firms. Other potential sources exist for SME research, such as surveying small businesses sampled from chambers of commerce or the U.S. Small Business Administration directories, as well as trade associations, but the MicroCap index uniquely fits the purpose of this study. As previously stated, my study focused on entrepreneurial SMEs, excluding lifestyle and salary-substitute SMEs, because

growth is the key difference. Using other samples may not isolate this set of entrepreneurial firms from the salary-substitute and lifestyle firms. An entrepreneurial firm is “one that engages in product market innovation, undertakes somewhat risky ventures, and is first to come up with ‘proactive’ innovation, beating competitors to the punch” (Miller, 1983, p. 771), and my sample fits this profile. Prior study has shown that Russell 2000 indexed firms, which encapsulates part of the MicroCap, show higher growth than Standard & Poor’s (S&P) 500 firms, indicating they may be engaging in growth-generating activities such as entrepreneurship (Short, Payne et al., 2009). These listed firms do not fit the traditional view of a small business such as a small grocery store or plumbing warehouse that has just started or is a salary-substitute firm. Instead, they are modest-sized companies that have gone through the initial startup and survival stage. They are in a prime position to grow and therefore are offering their stock ownership as a form of funding for growth, in order to increase the level of resources in their organization. Furthermore, MicroCap-listed companies are publicly traded and must meet exchange listing requirements. Firms are offered incentives to convey values, beliefs, and strategic orientation to shareholders in organizational narratives such as shareholder letters (Zachary, McKenny, Short, & Payne, 2011), management discussion and analysis, as well as reliable financial data in their reporting. The availability of reliable financial data as well as shareholder letters from MicroCap firms provides advantages over other sources. Objective financial data provides a more accurate and verifiable picture of a firm’s performance, while access to top management cognitions through shareholder letters is an effective way to remedy the typical low response rate for top management surveys. For these advantages, my sample was drawn from the MicroCap Index.

I collected shareholder letters for MicroCap-listed firms for the years 2009 through 2015 for a total of 3,054 shareholder letters. However, the total number of letters was less than

expected due to the volatility of membership in MicroCap, as many firms were bought out, merged, discontinued operations, or have outgrown the MicroCap size limitation. In addition, some firms do not have shareholder letters because it is not required by the U.S. Securities and Exchange Commission (SEC) as part of their annual report filing.

In addition to textual data from shareholder letters, firm-specific financial information (Tobin's Q, potential slack, etc.) was obtained from the COMPUSTAT database, while industry revenue information per five-digit North American Industry Classification (NAICS) industry codes were obtained from the IBISWorld database to calculate environmental dynamism. Financial and utilities firms are commonly excluded as high leverage is the norm in those industries, whereas in other industries this would reflect distress (Fama & French, 1992), and in this study, examining potential slack, the inclusion of financial and utility firms would obscure the results of the analysis. In examining autonomy, the size of firms included in the sample was limited to more than 500 employees for a couple of reasons. First was the need to distinguish entrepreneurial SMEs from firms that are not operating companies (those firms that show large sales compared to a very small number of employees). These firms may engage in administrative duties rather than being truly entrepreneurial. Second, autonomy implies a certain degree of structure. As firms grow, previously outsourced functions are internalized, and to sustain the growth, firms adopt the internal structures and functional specialization to accommodate the growth (Gilbert et al., 2006). In this study of publicly-listed SMEs that have passed the survival stage, these firms would be more likely to have this internal structure and these constraints. Autonomy has been theorized to overcome these constraints (Lumpkin et al., 2009), but may be irrelevant when the venture is very small because operations are too small to sustain functional specialization. As most studies of SMEs limit the size to 500 employees or

less, SMEs with a size of more than 500 employees may represent the context that better reflects the relationship between entrepreneurial SMEs and autonomy. In calculating environmental dynamism as the rate of change in the environment (Bourgeois, 1981), revenue data was collected from IBISWorld based on each firm's five-digit NAICS industry code for the three preceding years. For firms missing any of the variables used in analyses, list-wise deletion was employed. After eliminating firms per the aforementioned steps, the final sample consisted of 175 companies and 359 firm-year observations from 2009 through 2015.

Computer-Aided Text Analysis

Content analysis is a qualitative research method that uses a set of procedures to classify or otherwise categorize communications (Short, Payne et al., 2009; Weber, 1990), and in this case, narrative texts. As indicated by Short et al. (2009), strategic management scholars typically rely on archival data to aid in the analysis of corporate strategies (Bowman, 1978), new product development (Simon & Houghton, 2003), organizational resources (Mishina et al., 2004), and elements of cognition (Barr, Stimpert, & Huff, 1992). Short et al. (2009) identified several benefits of the content analysis of narrative texts.

First, CATA can be used to identify differences among communicators (Weber, 1990) and has been used to highlight key strategic decision-making processes (Short & Palmer, 2003). It is less intrusive than an interview to capture managerial cognitions (Phillips, 1994), while avoiding recall bias (Barr et al., 1992). It is a highly utilized means of obtaining otherwise unavailable information (Kabanoff, Waldersee, & Cohen, 1995), as in my case, corporate strategic orientations due to low response rate are common in management field surveys (Bartholomew & Smith, 2006; Dennis, 2003).

Gathering data through narrative texts such as shareholder letters has been characterized as having high reliability and replicability (Hambrick, 1994). Relying on text to study cognition assumes that insights about the author's mental state can be detected using CATA (D'Aveni & MacMillan, 1990; Short, Broberg, Cogliser, & Brigham, 2010), and in the case of shareholder letters, there is widespread agreement that executives are heavily involved in their preparation (Barr et al., 1992). Therefore, these letters offer key insights into managerial thoughts and actions (Short et al., 2010). CATA has been indicated as a promising method to study autonomy (Covin & Lumpkin, 2011; Zachary et al., 2011). In this study, I utilized CATA for the autonomy variable and considered this is a quality combination of qualitative and quantitative data to test my research models.

I used shareholder letters as the main source of corporate narrative text. Shareholder letters are cover letters on the public firm's annual report to shareholders, explaining events and perceptions from the CEO's and chairman's points of view. While the firm's 10-K filings are audited and filed with the SEC, shareholder letters are not. Rather they are normally found on the firm's website under investor relations, and sometimes a third-party organization can provide a small collection. In my data collection, I obtained annual reports and shareholder letters from multiple sources, including annual report aggregation sites such as annualreports.com, publicregisteronline.com, and orderannualreports.com. These sites aggregate annual reports from various companies and make them available online. Given the volatility of MicroCap firms, these sites sometimes provided annual reports for firms that no longer exist. Finally, companies' websites, particularly the investor relations sections, were used as well to collect annual reports.

Dependent Variable

Firm performance is operationalized by Tobin's Q (Uotila, Maula, Keil, & Zahra, 2009). I used market value divided by book value (Uotila et al., 2009) using archival information obtained from the COMPUSTAT database. Entrepreneurial firms are more focused on value creation, and to appropriately capture that aspect, a market-based performance measure may be more appropriate. Because entrepreneurial strategies may not immediately manifest themselves to operationalize firm performance, I used Tobin's Q, a measure that assesses the degree to which investors evaluate a firm's value relative to its replacement cost (Dyer & Whetten, 2006; Short et al., 2010; Uotila et al., 2009). This study used a one-year lag for Tobin's Q as a performance measure similar to past CATA studies (Uotila et al., 2009), and it is the most commonly used temporal comparison for EO-performance studies (Gupta & Wales, 2017).

Independent Variable

I adopted the definition of autonomy as "independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion" (Lumpkin & Dess, 1996, p. 140). For working with CATA, I needed a valid dictionary of autonomy or to create and validate such a dictionary. In this case, EO construct, including the five dimensions per Lumpkin and Dess (1996), has been validated using CATA by Short et al. (2010) in demonstrating the construct validation process; the results of their study showed high validity and reliability. Custom dictionaries from that study were also generously shared in their study, and this study adopted the dictionary for autonomy (which included words such as independent or self-directed; see Table 2 for the complete dictionary) and other EO dimensions. For this study, manual coding was done for the validity of CATA scores.

For the process of CATA, measures must be validated. Shorts et al. (2010) provided an excellent example of how to validate a construct. A word list generated by using a thesaurus such as the Synonym Finder (Rodale, 1978) is applied to construct definitions to develop an exhaustive list of words to capture the constructs of each dimension (Short, McKelvie, Ketchen, & Chandler, 2009). By using the Synonym Finder (Rodale, 1978), synonym and variants of the word can be included in the word list. For example, the dimension of innovativeness would include words such as innovation and invention (Short, Payne et al., 2009). Letters to the shareholders are then analyzed by computer software such as DICTION (Hart, 2000) to show the presence or absence of a certain concept by examining the usage frequency of words in the word list previously validated (Short et al., 2010). DICTION has been used by scholars for CATA studies (e.g., Short, Payne et al., 2009, Short et al., 2010) for a number of reasons. First it relies on word counts based on linguistic theory. Second, it has the ability to accommodate different lengths of documents analyzed (500 words versus 5,000 words in shareholder letters) and produce results that are consistent. Lastly, DICTION can apply norms to texts by designating text as speech, poetry, business report, or others with their built-in database consisting of their previous analyzed tests (Hart, 2000). With the same EO dictionaries (Short et al., 2010), I manually content-analyzed 30 shareholder letters to determine if each CATA score matched the output of DICTION. Agreement, or kappa (Cohen, 1960), was calculated using SPSS from DICTION and manual coding outputs, and results showed a high level of agreement, with kappa values of 1.00, 1.00, .889, .959, and .940 for EO dimensions of autonomy, competitive aggressiveness, innovativeness, proactiveness, and risk-taking, respectively. Word lists are displayed in Table 2.

Table 2

Word Lists for Entrepreneurial Orientation

Entrepreneurial Orientation Dimension	Content Analysis Words With Expert Validation
Autonomy	At-liberty, authority, authorization, autonomic, autonomous, autonomy, decontrol, deregulation, distinct, do-it-yourself, emancipation, free, freedom, freethinking, independence, independent, liberty, license, on-one's-own, prerogative, self-directed, self-directing, self-direction, self-rule, self-ruling, separate, sovereign, sovereignty, unaffiliated, unattached, unconfined, unconnected, unfettered, unforced, ungoverned, unregulated
Innovativeness	Ad-lib, adroit, adroitness, bright-idea, change, clever, cleverness, conceive, concoct, concoction, concoctive, conjure-up, create, creation, creative, creativity, creator, discover, discoverer, discovery, dream, dream-up, envisage, envision, expert, form, formulation, frame, framer, freethinker, genesis, genius, gifted, hit-upon, imagination, imaginative, imagine, improvise, ingenious, ingenuity, initiative, initiator, innovate, innovation, inspiration, inspired, invent, invented, invention, inventive, inventiveness, inventor, make-up, mastermind, master-stroke, metamorphose, metamorphosis, neoteric, neoterism, neoterize, new, new-wrinkle, innovation, novel, novelty, original, originality, originate, origination, originative, originator, patent, radical, recast, recasting, resourceful, resourcefulness, restyle, restyling, revolutionize, seethings, think-up, trademark, vision, visionary, visualize
Proactiveness	Anticipate, envision, expect, exploration, exploratory, explore, forecast, foreglimpse, foreknow, foresee, foretell, forward-looking, inquire, inquiry, investigate, investigation, look-into, opportunity-seeking, proactive, probe, prospect, research, scrutinization, scrutiny, search, study, survey
Competitive Aggressiveness	Achievement, aggressive, ambitious, antagonist, antagonistic, aspirant, battle, battler, capitalize, challenge, challenger, combat, combative, compete, competeer, competing, competition, competitive, competitor, competitory, conflicting, contend, contender, contentious, contest, contestant, cutthroat, defend, dog-eat-dog, enemy, engage, entrant, exploit, fierce, fight, fighter, foe, intense, intensified, intensive, jockey-for-position, joust, jouster, lock-horns, opponent, oppose, opposing, opposition, play-against, ready-to-fight, rival, spar, strive, striving, struggle, tussle, vying, wrestle
Risk Taking	Adventuresome, adventurous, audacious, bet, bold, bold-spirited, brash, brave, chance, chancy, courageous, danger, dangerous, dare, daredevil, daring, dauntless, dicey, enterprising, fearless, gamble, gutsy, headlong, incautious, intrepid, plunge, precarious, rash, reckless, risk, risky, stake, temerity, uncertain, venture, venturesome, wager

Word list adopted from Short et al. (2010)

Moderating Variables

Potential slack was one of the two moderating variables in this study. For this construct, I followed the potential slack definition from Cheng (1997), who operationalized potential slack as the extent to which equity is available after debt. Firm financials were collected through the COMPUSTAT database.

Environmental dynamism was the second moderating variable in this study. It was operationalized using archival data following Keats and Hitt (1988). This measure was consistent with Dess and Beard's (1984) definition of environmental dynamism, and it captured true discontinuities in the task environment and allowed similar scores for task environments that present similar patterns, but at different base levels of magnitude (Keats & Hitt, 1988). The measure of environmental dynamism is the antilog of the standard error of each regression slope coefficient from the growth equation, reflecting three-year patterns of dynamism in the dominant industry as defined by five-digit NAICS codes (Dess & Beard, 1984; Keats & Hitt, 1988). Three previous years of industry sales data per each five-digit NAICS code presented in my sample was obtained from the IBISWorld database for calculating this measure.

Control Variables

The firm's main line of business, such as technology or healthcare, was collected as a control since certain industries or business types would naturally prohibit autonomy (i.e., franchising systems that depend on uniformity). Firm age and firm size were controlled as well, since older or larger firms may be more resource-endowed and rigid. In addition, EO dimensions of innovativeness, proactiveness, risk-taking, and competitive aggressiveness were

collected to address the effect of EO on performance. As previously discussed, there were concerns that autonomy was really an antecedent of EO, and by controlling effects of the other four dimensions, I hoped to demonstrate the effect of the autonomy dimension. Furthermore, I used EO dimensions data as a comparison to previous studies in controlling for bias as previously discussed. Environmental munificence was controlled for its ability to support sustained growth and its ability to influence the strategy-performance relationship (McArthur & Nystrom, 1991). Summary of variable and operationalization is displayed in Table 3.

Table 3

Definition Table

Category	Variable	Construct Definition	Operationalization	Level	Measurement	Justification
Dependent Variable	Firm Performance	Small business performance is assessed as the degree to which the stock market values a firm relative to its replacement cost (Short et al., 2010).	Tobin's Q	Firm	Market Value / Book Value	Accounting returns may not adequately nor quickly reflect the performance implication of autonomy, whereas market measure can better represent the impact of autonomy.
Independent Variable	Autonomy	Autonomy refers to the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion (Lumpkin & Dess, 1996).	Perceived level of structural and strategic autonomy that exists within a firm.	Firm	Computer-aided text analysis of shareholder letters (Short et al., 2010).	None of the extant scales adequately assessed autonomy from an entrepreneurial orientation (EO) perspective. CATA allows for an alternative measure of autonomy and EO.
Moderator	Potential Slack	Organizational slack is that cushion of actual or potential resources which allows an organization to adapt successfully to internal pressures or to external pressures (Bourgeois, 1981).	Potential slack represents the unused borrowing capacity of the firm (Cheng, 1997).	Firm	(Total Equity – Total Debt) / Total Equity	As SMEs are more resource constraint and efficient, it does not make much sense to have available and recoverable slack. Potential slack may better represent the financial position of these firms as well as the slack to which they have access.
Moderator	Environmental Dynamism	Environmental dynamism is the stability-instability and turbulence of the organizational task environment in which the firm operates (Dess & Beard, 1984).	Growth opportunity, technology, innovation, and research & development for the firm and competitors.	Firm	Antilogs of the standard error of each regression slope coefficient (Keats & Hitt, 1988).	With autonomy, the focus is on the opportunities in the external environment. An archival measure of this variable best supported the focus of the study.

Results

Table 4 reports the mean, standard deviation, and correlations of the unstandardized variables. There were 175 firms and 359 firm-year observations from 2009 through 2015 included in this sample. Firms were on average 20 years old, and observations were from seven industry types. Before testing the hypothesis, I conducted analyses to increase the validity of model testing. As the dataset contained data from multiple sources, missing values were a concern, and I utilized list-wise deletion in the regression tests to eliminate firm-year observations that contained missing data. To test for discriminant validity, I compared the coefficient correlation between autonomy, environmental dynamism, and potential slack, following the method presented by Wang et al. (2005). The results showed that all coefficients related to the dependent variable were different and showed variable distinctiveness (see Table 3). To test multicollinearity, a calculation of variance inflation factor of the first-order variable found individual figures below 4.0, below the critical value, ensuring multicollinearity was not an issue (Hair, Black, Babin, & Anderson, 2010).

Table 4

Descriptive Statistics and Correlations

	Min	Max	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Tobin's Q	.154	166.6	2.42	8.81										
2. Asset (log)	3.866	10.221	5.967	.856	-.088 *									
3. Munificence	.821	1.37	1.011	.068	.030	-.066								
4. Firm Age	0	79.0	21.65	13.34	-.076	-.047	.018							
5. Comp. Aggressiveness	0	10.55	.8083	1.1498	-.037	.038	.001	-.030						
6. Proactiveness	0	6.59	.7774	1.0255	-.040	.010	.009	-.122 **	.018					
7. Innovativeness	0	14.29	3.232	2.4623	-.004	-.102	-.060	.003	.089	.122				
8. Risk Taking	0	4.17	.2057	.51298	-.005	.134	.070	-.067	-.097 *	.043 *	-.139			
9. Autonomy	0	5.43	.2984	.58078	.037	.031	-.043	-.031	-.050 *	-.026	-.073 *	-.016		
10. Env Dynamism	1.01	2.05	1.071	.10617	-.046	-.044	.402 ***	.065	-.021	-.081	-.051	-.063	-.111 *	
11. Potential Slack	-24.06	6.251	.1276	3.0090	-.355 ***	-.204 ***	-.032	.106 *	.013	.053	.071	-.127 **	-.071	.010

Note. $N = 359$, variables are unstandardized. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Industry dummies are not displayed due to space constraint, Env = Environmental, SD = Standard Deviation

Table 5

Moderated Hierarchical Regression Analyses

	Model 1	Model 2	Model 3
Step 1: Control Variables	$R^2 = .040$	$R^2 = .040$	$R^2 = .040$
Constant	5.803	5.803	5.803
Asset (log)	-0.876	-0.876	-0.876
Munificence	3.416	3.416	3.416
Firm Age	-0.052	-0.052	-0.052
Industry_D1 Energy	-0.193	-0.193	-0.193
Industry_D2 Material and Processing	0.707	0.707	0.707
Industry_D3 Health Care	0.723	0.723	0.723
Industry_D4 Consumer Discretionary	-0.044	-0.044	-0.044
Industry_D5 Technology	4.072*	4.072*	4.072*
Industry_D6 Producer Durables	-0.299	-0.299	-0.299
Industry_D7 Consumer Staples	-0.071	-0.071	-0.071
Competitive Aggressiveness	-0.355	-0.355	-0.355
Proactiveness	-0.480	-0.480	-0.480
Innovativeness	-0.070	-0.070	-0.070
Risk Taking	-0.115	-0.115	-0.115
Step 2: Predictor Variable	$\Delta R^2 = .002$	$\Delta R^2 = .002$	$\Delta R^2 = .002$
Autonomy	0.547	0.547	0.547
Step 3: Moderator Variables	$\Delta R^2 = .002$	$\Delta R^2 = .138^{***}$	$\Delta R^2 = .14^{***}$
Environmental Dynamism	-4.308		-4.199
Potential Slack		-1.134***	-1.134***
Step 4: Interaction Terms	$\Delta R^2 = .01$	$\Delta R^2 = .010^*$	$\Delta R^2 = .09^{***}$
Autonomy \times Environmental Dynamism	-9.861		-11.657
Autonomy \times Potential Slack		0.68*	1.607**
Potential Slack \times Environmental Dynamism			21.117***
Step 5: Three-way Interaction Term			$\Delta R^2 = .02^{**}$
Autonomy \times Environmental Dynamism \times Potential Slack			25.90**
R^2	0.045	0.19*	0.298**
Adjusted R^2	-0.003	0.149	0.254
F	0.937	4.7***	6.814***

Note. $N = 359$, coefficients are unstandardized. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

To test the hypotheses, I first added the control variables. Table 5 reports the results of the hierarchical regression analysis used to test all hypotheses. The control variables explained 4% of the variation in firm performance. The result of control variables is displayed in Step 1 of Table 5. The dummy variable for technology industry was significant ($\beta = 4.072$; $p < .05$). The next step was to test the main effects. The results for main effects are displayed in Step 2 (for autonomy) and Step 3 (for environmental dynamism and potential slack) of Table 5 after control variables were entered into each regression equation. H_1 , which predicted that autonomy would be positively related to firm performance, was not supported. Even though the model result indicated a positive relationship for autonomy and firm performance, it was not significant.

I next tested the moderating-effect hypotheses. These results are displayed in Step 4 of Table 5; this took place after the control variables, the predictor variable, and moderating variables were entered into each regression equation. H_2 , which predicted that potential slack would positively moderate the relationship between autonomy and firm performance, was supported ($\beta = .68$; $p < .05$). H_3 , which predicted environmental dynamism would positively moderate the relationship between autonomy and performance, was not supported. Interaction effect of autonomy and potential slack is plotted in Figure 1.

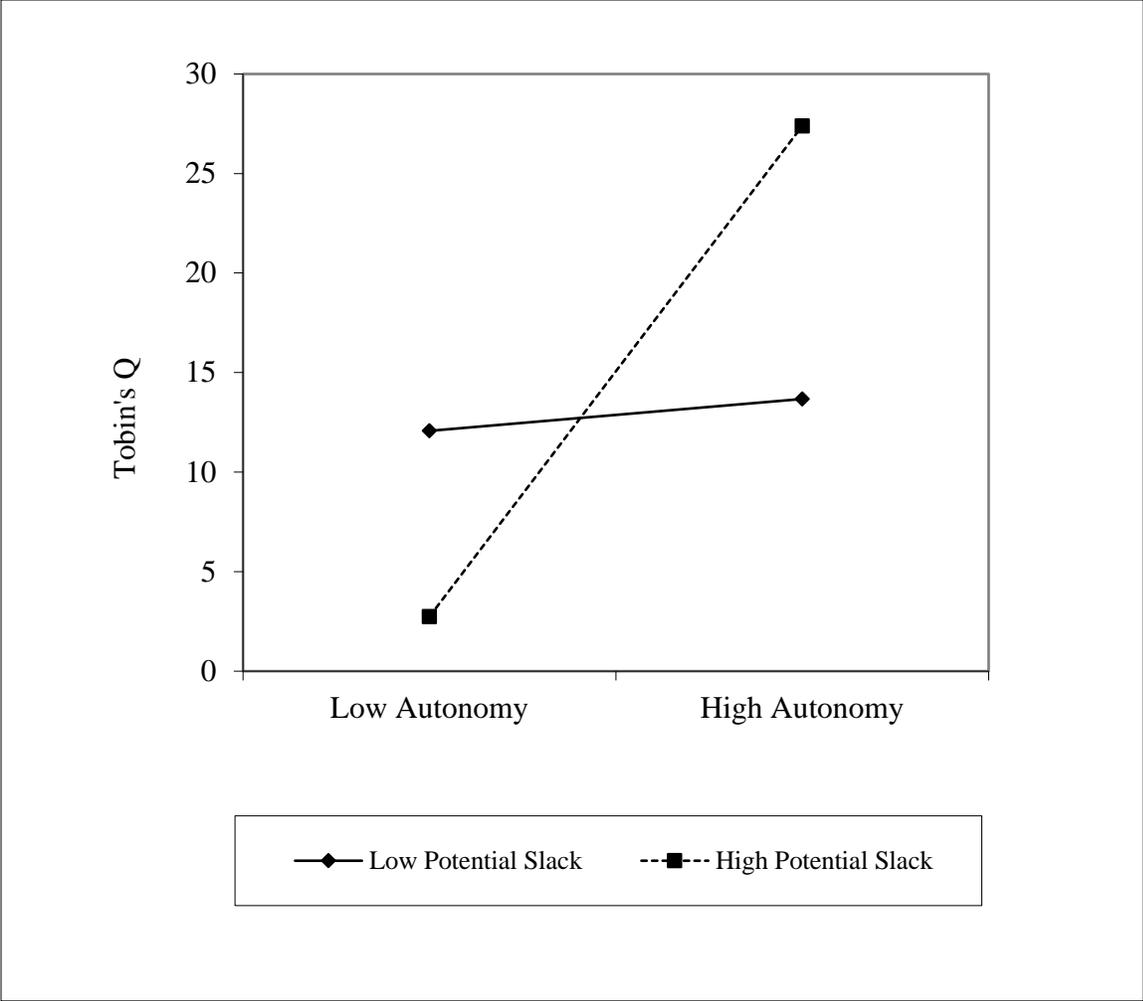


Figure 1. Interaction plot: Autonomy and potential slack.

The last step was to test the configurational hypotheses. These results are displayed in Step 5 of Table 5. Main effects and the interaction terms must be considered jointly to determine the nature of the interaction (Cohen & Cohen, 1983; Cronbach, 1987), and all lower order interactions and main effects must be considered for higher-order interactions (Aiken & West, 1991). H_4 and H_5 posited a configurational approach (autonomy x environmental dynamism x potential slack). The configuration model significantly increased the amount of variance explained from 4.5% to 29.8% over the contingency model of environmental dynamism, and from 19% to 29.8% over the contingency model of potential slack. The three-way interaction term ($\beta = 25.9; p < .01$) was statistically significant. Based on the regression result from my analysis, I plotted the effect of autonomy on performance considering three main effects, three two-way interactions, and one three-way interaction term for the given value of autonomy, potential slack, and environmental dynamism, resulting in four different plots. Following Aiken and West (1991), each moderator was set at one standard deviation above and below the mean, and the configuration plot is displayed in Figure 2.

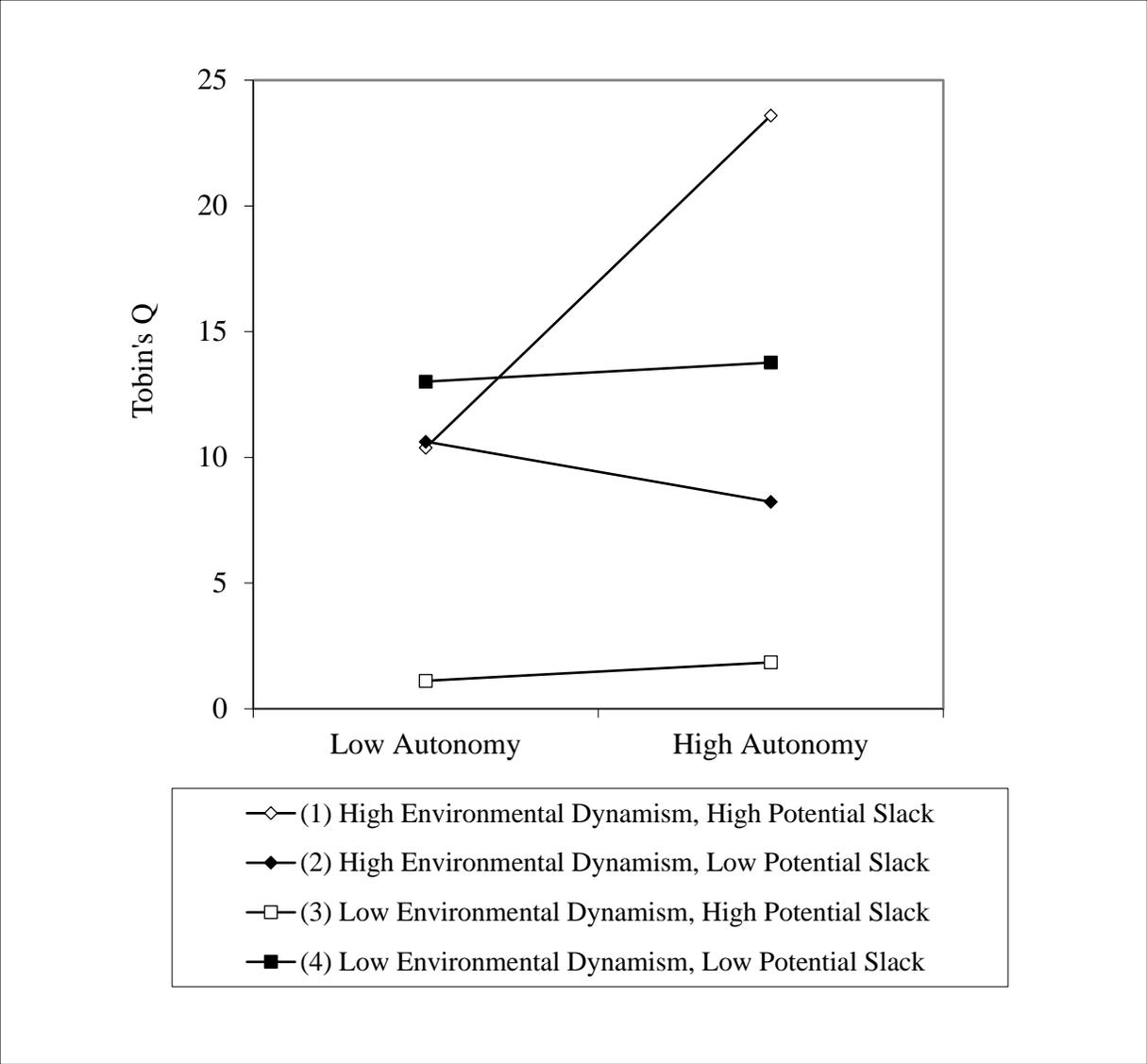


Figure 2. Three-way interaction plot.

Analysis of the interaction indicated that change in the level of autonomy has a significant impact on SME firm performance. Three lines slope upward while one slopes downwards, with Line 1 (high environmental dynamism and high potential slack) having the steepest slope and highest firm performance when the level of autonomy is high, therefore supporting H_4 , which predicts the highest performance configuration of high levels of autonomy, potential slack, and environmental dynamism. Line 3 (low environment dynamism and high potential slack) has a lower rate of increase than Line 1 (high environmental dynamism and high potential slack) and results in lowest firm performance when comparing to Lines 1, 2, and 4. Therefore, H_5 , which predicted the worst performance configuration of high autonomy, high potential slack, but with low environmental dynamism, was supported. A summary of the hypotheses and results is displayed in Table 6.

Table 6

Summary of Study Hypotheses

Hypothesis	Result
<i>H₁: In publicly-listed SMEs, autonomy is positively associated with firm performance.</i>	Not Supported
<i>H₂: In publicly-listed SMEs, potential slack positively moderates (accentuates) the positive relationship between autonomy and firm performance.</i>	Supported
<i>H₃: In publicly-listed SMEs, environmental dynamism positively moderates (accentuates) the positive relationship between autonomy and firm performance.</i>	Not Supported
<i>H₄: In SMEs with high potential slack, the configuration in which the firm has high autonomy in high environmental dynamism will have the highest firm performance.</i>	Supported
<i>H₅: As SMEs with high potential slack, the configuration in which the firm has high autonomy in low environmental dynamism will have the lowest firm performance.</i>	Supported

Following the procedure of Dawson and Richter (2006), the interaction effects of autonomy, environmental dynamism, and potential slack on SME firm performance were examined further by the slope difference tests (i.e., a test to probe whether any pairs of slopes produced the significant three-way interaction effect). In these tests, five pairs of slopes were found to be statistically and significantly different, and the results of the slope tests are displayed in Table 7.

Table 7

Slope Difference Tests

Pair of slopes	<i>t</i> -value for slope difference	<i>p</i> -value for slope difference
(1) and (2)	4.412	0.000
(1) and (3)	2.431	0.016
(1) and (4)	3.300	0.001
(2) and (3)	-4.275	0.000
(2) and (4)	-3.134	0.002
(3) and (4)	-0.015	0.988

There are four lines in Figure 2: Line 1 represents high environmental dynamism and high potential slack; Line 2 indicates high environmental dynamism and low potential slack; Line 3 represents low environmental dynamism and high potential slack; Line 4 indicates low environmental dynamism and low potential slack. The first significant pair was Line 1 and Line 2 ($t = 4.412, p < .001$). Results indicated that increasing autonomy in situations of high environmental dynamism for firms with high levels of potential slack yielded an incremental and positive performance outcome. Increasing autonomy in situations of high environmental dynamism for firms with low levels of potential slack yielded a decreasing and negative performance outcome (i.e., a negative impact on performance). Comparing Line 1 and Line 4 ($t = 3.300, p < .01$), increasing autonomy in situations of low environmental dynamism for firms with low levels of potential slack yielded a decreasing and negative performance outcome. When comparing Line 1 and Line 3 ($t = 2.431, p < .05$), increasing autonomy in situations of low environmental dynamism for firms with high levels of potential slack yielded an incremental and positive performance outcome, but to a lesser degree than Line 1. As Line 1 is significantly different from Line 3, these three slope difference tests further supported H_4 and H_5 .

Robustness and Additional Analyses

To further validate the results, robustness analyses were performed. First, the technology industry control was significant, suggesting further examination into industry effects such as R&D because of its ability to influence firms to implement autonomy and resource allocation since intensive R&D may favor well-defined structure and requires significant resources (Short, Payne et al., 2009). Businesses operating in industries where technology and customer preferences change are more likely to benefit from entrepreneurial initiatives (Rauch et al., 2009). I tested whether the industry research and development requirements impacted firms'

performance by incorporating industry R&D intensity into regression models as a predictor variable. While the impact of industry R&D intensity was significant and increased the variance explained, it did not alter the outcome of this study. Furthermore, firm R&D intensity was incorporated into the regression model to account for the impact of different levels of spending on R&D for each firm. Firm R&D intensity was significant in regression models but did not materially alter the outcome of this study.

Second, as researchers have argued for distinguishing between effectiveness and efficiency measures of firms' performance (Auh & Menguc, 2005; Wales et al., 2013), I tested whether the effectiveness measure used in this study, Tobin's Q, was impacted by market valuing the efficiency of the firms' performance. Return on assets (ROA), a measure of how efficiently firms are using their assets, was incorporated in regression models as a control. As there was a one-year lag in performance measures, I also lagged ROA for one year in a separate regression. Neither measures of ROA resulted in a statistically significant impact.

Lastly, firm size is of importance when studying SMEs. As firm size was controlled by using firm's total assets of firms with more than 500 employees, I incorporated the natural log of the number of employees as size control, as well as removed outliers that had large employee counts. Neither approach changed the outcome of this study.

Discussion

Using archival data from 175 SME firms and a total of 359 firm-year observations spanning from 2009 through 2015, this study investigated the impact of autonomy on firm performance and examined the moderating influence of potential slack and environmental dynamism, through the configurational approach, in order to answer the research questions.

Based on the resource orchestration perspective and research on EO and autonomy, I hypothesized that there would be a positive linkage between autonomy and firm performance. In addition, as theory and past research suggested, the internal and external contingencies may moderate this autonomy-firm performance relationship. I also hypothesized the moderating effects of potential slack, environmental dynamism, and internal and external contingencies. Finally, I hypothesized two configurations in an attempt to predict the best and worst firm performances. All hypotheses were tested, and overall results from the moderating-effects and configurations offered some insight into answering the research questions.

The first research question was, “Is there a relationship between autonomy and firm performance?” No support was found for H_1 , which, at first glance, may suggest that autonomy may have a small effect size on SMEs’ performance. This is a similar finding to studies by Short et al. (2010) or Hughes and Morgan (2007). Although I did not find a significant main effect of autonomy on performance, the coefficient was positive. Another potential reason may be attributed to my small sample size. This study, despite my best efforts, had a small sample size of 359 observations, similar to 205 and 450 observations used by Short et al. (2010) and 211 observations used by Hughes et al. (2007). Autonomy should be a fundamental component in entrepreneurship behavior as it enables leveraging of a firm’s strength and capitalizes on opportunity (Lumpkin et al., 2009), but its impact may not be as obvious as other dimensions of EO and may only be magnified with a large sample. This may be evidenced by the dearth of autonomy research (Rauch et al., 2009), and utilizing archival data could be an effective way of overcoming difficulties in collecting a large amount of survey data from firm managements. The impact autonomy can also be examined with moderating variables, because relying solely on the

main effect model does not provide a complete understanding of the impact of autonomy on small business performance.

The second research question was, “How, if at all, is the autonomy-performance relationship affected by a firm’s internal potential slack and external environmental dynamism?” The main effect of potential slack showed that it is negatively impacting firm performance by itself, supporting the inefficient nature of slack if not properly utilized. When using a contingency approach (two-way interaction), autonomy, coupled with a high level of potential slack, has a positive impact on firm performance. This affirms the prediction in H_2 for autonomy providing a vision to orchestrate firm resources. Interestingly, neither in main-effect nor contingency models does the role of environmental dynamism appear significant, which is inconsistent with the theorization of H_3 as well as previous studies that have suggested dynamic environments can improve performance (Chandler & Hanks, 1994). Rather, it is more in line with Wiklund and Shephard’s (2005) finding of EO in combination with minimal financial resource and non-dynamic environment that produces higher performance, even though autonomy was not part of their unidimensional EO. This suggests that dynamism can have both positive and negative impacts on firm performance. As posited in H_3 , SMEs, from a resource orchestration perspective, are using autonomy as a leveraging mechanism to provide a vision to orchestrate resources to achieve better performance. One plausible explanation may be that the environment can be too dynamic for SMEs and overwhelm their ability to successfully navigate it, resulting in unsuccessful ventures. As a static environment does not provide sufficient vision or guidance, an overly dynamic environment can provide too much guidance and confuses the strategic efforts, suggesting environmental dynamism in an SME context may deserve more exploration. As the contingency model did not sufficiently explain the relationship as suggested

by scholars (Dess et al., 1997; Short et al., 2008), the impact of autonomy on firm performance needs a more in-depth method, such as configuration. Indeed, when utilizing the configurational approach, the effect of environmental dynamism surfaces.

Research question three was, “How do these factors fit together to explain firm performance?” When utilizing the configurational approach, H_4 predicted the highest performing configuration of high autonomy, high potential slack, and high environmental dynamism, and results supported this configuration. This affirmed the resource orchestration argument that to effectively orchestrate resources, there needs to be critical elements of mobilizing and coordinating. As a mechanism for resource orchestration, autonomy provided the vision for mobilizing valuable resources. There needs to be a coordinating effort to align the vision with opportunities presented by the dynamic environment to maximize the potential of the valuable resources. Similarly, the uncoordinated orchestration of resource would be detrimental to the firm’s performance as illustrated in Figure 2. Firms that have high potential slack and low environmental dynamism, or low potential slack with high environmental dynamism, were the two lowest performing configurations. As results supported H_5 , its prediction of lowest performing configuration exhibits the misalignment of environmental, internal conditions, and firm strategy. When there is a static environment, the potential for high levels of autonomy in finding and exploiting opportunities are slim, resulting in inefficient use of a firm’s resources. Additionally, as the configuration with low levels of autonomy, potential slack, and environmental dynamism resulted in second highest firm performance, perhaps firms in static environments should decrease levels of autonomy and potential slack to better survive. This outcome perhaps reinforces the importance of fit, and the importance of managing and

orchestrating valuable resources, as firms that do not or cannot capitalize on opportunities will get left behind.

One interesting finding of this configuration model lay within the pair of Line 3 and Line 4 in table 1. As their slopes seemed to indicate when transitioning from low autonomy to high autonomy for firms in static environments, the level of potential slack did not alter the outcome trajectory. Contrast this with Line 1 and Line 2, which indicated when transitioning from low autonomy to high autonomy for firms in dynamic environments, the level of potential slack not only dictated the strength of impact on performance but turned a positive impact (high potential slack) into a negative impact (low potential slack). This suggests that perhaps the moderating effect of potential slack on the autonomy-performance relationship was moderated by environmental dynamism and could be further explored to understand the nuanced relationships.

The present study makes three unique contributions to literature. First, it tests autonomy as a resource orchestration mechanism in pursuing entrepreneurial actions for firms and in doing so contributes to the notion that autonomy is an essential component of EO. The autonomy dimension of EO is more of a strategic autonomy than a structural autonomy (Lumpkin et al., 2009), and in this study, I examined the strategic fit of autonomy with firms' internal and external contingencies and showed that the right strategic fit is critical to unleashing the impact of autonomy. Additionally, context matters in an attempt to deploy autonomy as in this study, impact of autonomy was found in an entrepreneurial SME context.

Second, by examining autonomy using a configurational approach, this study heeded the call for more studies that show the alignment of firms' attributes with environments that will impact performance (Ketchen et al., 1993; Short et al., 2008; Wiklund & Shepherd, 2005) and

offers practitioners a guide in implementing autonomy in their organizations. Scholars may need to pay more attention to the joint impact of predictors rather than relying on the main effect and contingency models. Even though three-way interaction was utilized in this study and it showed some intricacies that were not previously discovered, based on main effect (to conclude autonomy does not impact performance) or contingency models (to conclude dynamism does not moderate the autonomy-performance link), there is still a need to incorporate multivariate configurations, such as cluster analysis, to uncover more nuanced effects (Miller & Friesen, 1983). In practice, this study suggests that SME practitioners need to consider the alignment of their firms' attributes and environment before deploying autonomy. A static environment does not offer the opportunity to differentiate their products or services, but in overly dynamic environments it may be confusing for firms to pursue opportunities. A high level of potential slack would exacerbate the positive impact, but it is implementing the right type of autonomy under the right condition that should maximize the impact. As SMEs grow, it is inevitable there will be structures and norms that develop. Giving teams and managers the strategic autonomy (not structural autonomy) in determining goals and how to accomplish such goals can be very beneficial in a dynamic environment when the firm is financially sound. However, autonomy should not be blindly implemented by itself. Performance impact may not be clearly evident, and autonomy will hamper performance when the market is dynamic and firm is resource constrained. Practitioners obviously are aware of their own financial standing, and this study suggests that firms should employ some type of environment monitoring mechanism to gauge the dynamism as well as competitor capabilities in addition to autonomy.

Finally, by utilizing CATA, this study gained key insights into top managers' thinking in examining the impact of autonomy on firm performance. Studying top managers' mindsets

using survey instrument faces issues such as low response rate, making a large sample difficult. By using CATA, communications from firms (not only shareholder letters) can be used to gain insight into top manager mindsets by screening published communication for language indicative of a firm's EO level (Covin & Lumpkin, 2011). It can remedy the low response rate of the survey method in obtaining a larger sample that is needed to study the nuanced relationships between EO and performance. Combined with financial data, CATA is another potential avenue for studying the firm's strategy.

Limitations

This study has limitations, as do all studies. One limitation is survivor bias. As SMEs are notorious for failed ventures, even the firms that have made it past the survival stage still experience high volatility as evidenced by the memberships of MicroCap, as firms go out of business, drop out of the index, or merge with another firm. Included firms in this study are the surviving firms. It would be reasonable to argue that a high level of autonomy can be associated with more failures due to risk and inefficiency. Future research could address whether those characteristics that lead to higher performance among the surviving businesses are also associated with a higher chance of failure. Future studies can compare MicroCap memberships between years and determine how many firms have dropped out and attempt to collect survey data from the firms (if still in operation but no longer in MicroCap or publicly-listed) or individuals (if out of business or merged with another firm) pertaining to their business entities. Another way is to identify when these firms failed and obtain archival data for the preceding years immediately prior to the failure to analyze reasons for failure. Analysis of this group of firms would provide insight into failed businesses and if misapplication of entrepreneurial initiatives may be of the source of failure.

This study is cross-sectional in design; perhaps future studies can look at the long-term impact of autonomy on firm performance. This study lags the predictor and outcome variables by one year. Part of the concern was the issue of missing data if a longer lag period was used with the high volatility of MicroCap firms. As previous research has shown, the association between EO and performance was stronger with a two-year lag than with a one-year lag (Wiklund, 1999; Zahra, 1991). Perhaps with a larger sample, future studies can examine the model with a two-year or three-year lag to increase the model's explanatory power. Another possibility is to use longitudinal design.

The firms used in this study are public SMEs located within the United States, and there is a concern about the generalizability of resources to other countries. Cultures have varying degrees of power distance, individualism, and uncertainty avoidance (Hofstede, 1993; House, 2004), which may impact how willing firms are in allowing autonomy, as well as how receptive individuals are to autonomous exploration. Future research could examine another culture context and further explore the role of autonomy and its impact on firm performance.

Finally, all methods have their advantages and disadvantages, and CATA is no different. Various imperfections, such as not all firms publishing a letter to shareholders, missing financial data, merger and acquisition actions, and others contributed to this small sample size. Future studies could examine another source document that may be more available for CATA, such as a firm's Management Discussion and Analysis section in the 10K. The sampling frame can also be expanded to include more firm-year observations. A longitudinal design will be beneficial as well. In this dictionary approach of CATA, while using validated dictionaries, technology advancements can improve the accuracy and effectiveness of the CATA method.

Conclusion

Small businesses are vital to the U.S. economy, so the investigation into their firm performance is a worthwhile effort. This study showed that autonomy impacts SME firm performance. In addition, this study highlighted the fact that relying solely on main effect and contingency models may not uncover the deeper relationships, and a configuration approach may offer a more well-rounded understanding. This study showed, through CATA, that there needs to be an alignment of a firm's strategy, its internal contingencies, and its external contingencies to effectively orchestrate a firm's resources to its value-maximizing potential.

References

- Agarwal, R., & Audretsch, D. B. (2001). Does entry size matter? The impact of the life cycle and technology on firm survival. *Journal of Industrial Economics*, 49(1), 21–43. Retrieved from <https://www.jstor.org/stable/3569744>
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage Publications, Inc.
- Andrews, A. O. & Welbourne, T. M. (2000). The people / performance balance in IPO firms: The effect of chief executive officer financial orientation. *Entrepreneurship Theory and Practice*, 25(1), 93–106. doi:10.1177/104225870002500108
- Auh, S., & Menguc, B. (2005). Balancing exploration and exploitation: The moderating role of competitive intensity. *Journal of Business Research*, 58(12), 1652–1661. doi:10.1016/j.jbusres.2004.11.007
- Baker, D. D., & Cullen, J. B. (1993). Administrative reorganization and configurational context: The contingent effects of age, size, and change in size. *Academy of Management Journal*, 36(6), 1251–1277. doi:10.2307/256811
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329–366. doi:10.2189/asqu.2005.50.3.329
- Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99–120. doi:10.1177/014920639101700108

- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, *13*(S1), 15–36.
doi:10.1002/smj.4250131004
- Bartholomew, S., & Smith, A. D. (2006). Improving survey response rates from chief executive officers in small firms: The importance of social networks. *Entrepreneurship Theory and Practice*, *30*(1), 83–96. doi:10.1111/j.1540-6520.2006.00111.x
- Bourgeois, L. J. (1981). On the measurement of organizational slack. *Academy of Management Review*, *6*(1), 29–39. doi:10.5465/AMR.1981.4287985
- Bowman, E. H. (1978). Strategy, annual reports, and alchemy. *California Management Review*, *20*(3), 64–71. doi:10.2307/41165283
- Bradley, S. W., Wiklund, J., & Shepherd, D. A. (2011). Swinging a double-edged sword: The effect of slack on entrepreneurial management and growth. *Journal of Business Venturing*, *26*(5), 537–554. doi:10.1016/j.jbusvent.2010.03.002
- Brock, D. M. (2003). Autonomy of individuals and organizations: Towards a strategy research agenda. *International Journal of Business and Economics*, *2*(1), 57–73. Retrieved from <https://ideas.repec.org/a/ijb/journal/v2y2003i1p57-73.html>
- Brown, T. E., Davidsson, P., & Wiklund, J. (2001). An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity-based firm behavior. *Strategic Management Journal*, *22*(10), 953–968. doi:10.1002/smj.190
- Camisón-Zornoza, C., Lapiedra-Alcamí, R., Segarra-Ciprés, M., & Boronat-Navarro, M. (2004). A meta-analysis of innovation and organizational size. *Organization Studies*, *25*(3), 331–361. doi:10.1177/0170840604040039

- Chandler, G. N., & Hanks, H. S. (1994). Founder competence, the environment, and venture performance. *Entrepreneurship Theory and Practice*, 18(3), 77–89.
doi:10.1177/104225879401800306
- Cheng, J. L.C. (1997). Organizational slack and response to environmental shifts: The impact of resource allocation patterns. *Journal of Management*, 23(1), 1–18.
doi:10.1177/014920639702300101
- Chirico, F., Sirmon, D. G., Sciascia, S., & Mazzola, P. (2011). Resource orchestration in family firms: Investigating how entrepreneurial orientation, generational involvement, and participative strategy affect performance. *Strategic Entrepreneurship Journal*, 5(4), 307–326. doi:10.1002/sej.121
- Chiu, Y.-C., & Liaw, Y.-C. (2009). Organizational slack: Is more or less better? *Journal of Organizational Change Management*, 22(3), 321–342. doi:10.1108/09534810910951104
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37–46. doi:10.1177/001316446002000104
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression/correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: L. Erlbaum Associates.
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice*, 35(5), 855–872. doi:10.1111/j.1540-6520.2011.00482.x
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75–87.
doi:10.1002/smj.4250100107

- Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Theory & Practice*, 16(1), 7–25. doi:10.1177/104225879101600102
- Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, 36(4), 677–702. doi:10.1111/j.1540-6520.2010.00432.x
- Cronbach, L. J. (1987). Statistical tests for moderator variables: Flaws in analyses recently proposed. *Psychological Bulletin*, 102(3), 414–417.
- Cyert, R. M., & March, J. G. (1992). *A behavioral theory of the firm* (2nd ed.). Cambridge, MA: Blackwell Business.
- Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal*, 34(3), 555–590. doi:10.2307/256406
- D'Aveni, R. A., & MacMillan, I. C. (1990). Crisis and the content of managerial communications: A study of the focus of attention of top managers in surviving and failing firms. *Administrative Science Quarterly*, 35(4), 634–657. doi:10.2307/2393512
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *The Journal of Applied Psychology*, 91(4), 917–926. doi:10.1037/0021-9010.91.4.917
- Dennis, W. J. (2003). Raising response rates in mail surveys of small business owners: Results of an experiment. *Journal of Small Business Management*, 41(3), 278–295. doi:10.1111/1540-627X.00082
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29(1), 52–73. doi:10.2307/2393080

- Dess, G. G., Lumpkin, G. T., & Covin, J. G. (1997). Entrepreneurial strategy making and firm performance: Tests of contingency and configurational models. *Strategic Management Journal*, 18(9), 677–695. doi:10.1002/(SICI)1097-0266(199710)18:9<677::AID-SMJ905>3.0.CO;2-Q
- Donaldson, L. (2001). *The contingency theory of organizations. Foundations for organizational science*. Thousand Oaks, CA: Sage Publications, Inc.
- Dyer, W. G., & Whetten, D. A. (2006). Family firms and social responsibility: Preliminary evidence from the S&P 500. *Entrepreneurship Theory and Practice*, 30(6), 785–802. doi:10.1111/j.1540-6520.2006.00151.x
- Eckhardt, J. (2003). Opportunities and entrepreneurship. *Journal of Management*, 29(3), 333–349. doi:10.1016/S0149-2063(02)00225-8
- Fairlie, R. (2012). Immigrant entrepreneurs and small business owners and their access to financial capital (Contract No. SBAHQ-10-R-0009). Report prepared for the Small Business Association Office of Advocacy. Retrieved from <https://www.microbiz.org/wp-content/uploads/2013/07/Immigrant-Entrepreneurs-and-Small-Business-Owners-and-their-Access-to-Financial-Capital.pdf>
- Fama, E., & French, K. (1992). The cross-section of expected stock returns. *Journal of Finance*, 47(2), 427–465. doi:10.1111/j.1540-6261.1992.tb04398.x
- Fredrickson, J. W., & Mitchell, T. R. (1984). Strategic decision processes: Comprehensiveness and performance in an industry with an unstable environment. *Academy of Management Journal*, 27(2), 399–423. doi:10.2307/255932
- FTSE Russell. (2017). *Russell U.S. equity indexes: Construction and methodology*. Retrieved from <https://www.ftse.com/products/downloads/Russell-US-indexes.pdf>

- Ganz, M. (2000). Resources and resourcefulness: Strategic capacity in the unionization of California agriculture, 1959–1966. *American Journal of Sociology*, *105*(4), 1003–1062. doi:10.1086/210398
- George, G. (2005). Slack resources and the performance of privately held firms. *Academy of Management Journal*, *48*(4), 661–676. doi:10.5465/amj.2005.17843944
- Gilbert, B. A., McDougall, P. P., & Audretsch, D. B. (2016). New venture growth: A review and extension. *Journal of Management*, *32*(6), 926–950. doi:10.1177/0149206306293860
- Gral, B. (2013). *How financial slack affects corporate performance: An examination in an uncertain and resource scarce environment*. Retrieved from https://ia800206.us.archive.org/33/items/springer_10.1007-978-3-658-04552-4/10.1007-978-3-658-04552-4.pdf
- Grégoire, D. A., Barr, P. S., Shepherd, D. A. (2010): Cognitive processes of opportunity recognition: The role of structural alignment. *Organization Science*, *21*(2), 413–431. doi:10.1287/orsc.1090.0462
- Gupta, V. K., & Wales, W. J. (2017). Assessing organisational performance within entrepreneurial orientation research: Where have we been and where can we go from here? *The Journal of Entrepreneurship*, *26*(1), 51–76. doi:10.1177/0971355716677389
- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied Psychology*, *60*(2), 159–170. doi:10.1037/h0076546
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Upper Saddle River, NJ: Pearson.
- Hambrick, D. C. (1994). CEOs. In G. L. Cooper (ed.), *Wiley Encyclopedia of Management*. doi:10.1002/9781118785317.weom110089

- Hart, R. (2000). *Diction 5.0: The text-analysis program*. Retrieved from <https://www.jou.ufl.edu/assets/researchlab/dictionmanual.pdf>
- Hewitt-Dundas, N. (2006). Resource and capability constraints to innovation in small and large plants. *Small Business Economics*, 26(3), 257–277. doi:10.1007/s11187-005-2140-3
- Hoegl, M., Gibbert, M., & Mazursky, D. (2008). Financial constraints in innovation projects: When is less more? *Research Policy*, 37(8), 1382–1391. doi:10.1016/j.respol.2008.04.018
- Hofstede, G. (1993). Cultural constraints in management theories. *Academy of Management Perspectives*, 7(1), 81–94. doi:10.5465/ame.1993.9409142061
- House, R. J. (2004). *Culture, leadership, and organizations: The GLOBE study of 62 societies*. Thousand Oaks, CA: Sage Publications, Inc .
- Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management*, 36(5), 651–661. doi:10.1016/j.indmarman.2006.04.003
- Investopedia. (n.d). *Russell Microcap Index*. Retrieved from <http://www.investopedia.com/terms/r/russell-microcap-index.asp>
- Ireland, R. D., Hitt, M. A., & Sirmon, D. G. (2003). A model of strategic entrepreneurship: The construct and its dimensions. *Journal of Management*, 29(6), 963–989. doi:10.1016/S0149-2063_03_00086-2
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76(2), 323–329. doi:10.2139/ssrn.99580

- de Jong, J. P. J., Parker, S. K., Wennekers, S., & Wu, C.-H. (2015). Entrepreneurial behavior in organizations: Does job design matter? *Entrepreneurship Theory and Practice*, 39(4), 981–995. doi:10.1111/etap.12084
- Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused values and organizational change themes. *Academy of Management Journal*, 38(4), 1075–1104.
doi:10.1177/031289620202701S10
- Keats, B. W., & Hitt, M. A. (1988). A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal*, 31(3), 570–598. doi:10.2307/256460
- Ketchen, D. J., Thomas, J., & Snow, C. (1993). Organizational configurations and performance: A comparison of theoretical approaches. *Academy of Management Journal*, 36(6), 1278–1313. doi:10.2307/256812
- Kulins, C., Leonardy, H., & Weber, C. (2016). A configurational approach in business model design. *Journal of Business Research*, 69(4), 1437–1441.
doi:10.1016/j.jbusres.2015.10.121
- Langfred, C. W. (2000). The paradox of self-management: Individual and group autonomy in work groups. *Journal of Organizational Behavior*, 21(5), 563–585. doi:10.1002/1099-1379(200008)21:5<563::AID-JOB31>3.0.CO;2-H
- Langfred, C. W. (2005). Autonomy and performance in teams: The multilevel moderating effect of task interdependence. *Journal of Management*, 31(4), 513–529.
doi:10.1177/0149206304272190

- Lee, K. S., Lim, G. H., & Tan, S. J. (1999). Dealing with resource disadvantage: Generic strategies for SMEs. *Small Business Economics*, *12*(4), 299–311.
doi:10.1023/A:1008085310245
- Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and measuring autonomy: An entrepreneurial orientation perspective. *Entrepreneurship Theory and Practice*, *33*(1), 47–69. doi:10.1111/j.1540-6520.2008.00280.x
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, *21*(1), 135–172.
doi:10.5465/AMR.1996.9602161568
- Man, T. W. Y., Lau, T., & Chan, K. F. (2002). The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies. *Journal of Business Venturing*, *17*(2), 123–142. doi:10.1016/S0883-9026(00)00058-6
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*(1), 71–87. doi:10.1287/orsc.2.1.71
- McArthur, A. & Nystrom, P. (1991). Environmental dynamism, complexity, and munificence as moderators of strategy-performance relationships. *Journal of Business Research*, *23*(4), 349–361. doi:10.1016/0148-2963(91)90020-X
- Meyer, A. D., Tsui, A. S., & Hinings, C. R. (1993). Configurational approaches to organizational analysis. *Academy of Management Journal*, *36*(6), 1175–1195. doi:10.2307/256809
- Miller, D. (1987). Strategy making and structure: Analysis and implications for performance. *Academy of Management Journal*, *30*(1), 7–32. doi:10.2307/255893
- Miller, D. (1981). Toward a new contingency approach: The search for organizational gestalts. *Journal of Management Studies*, *18*(1), 1–26. doi:10.1111/j.1467-6486.1981.tb00088.x

- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–791. doi:10.1287/mnsc.29.7.770
- Miller, D. (1990). Organizational configurations: Cohesion, change, and prediction. *Human Relations*, 43(8), 771–789. doi:10.1111/j.1467-6486.1981.tb00088.x
- Miller, D., & Friesen, P. H. (1983). Strategy-making and environment: The third link. *Strategic Management Journal*, 4(3), 221–235. doi:10.1002/smj.4250040304
- Milliken, F. J. (1987). Three types of perceived uncertainty about the environment: State, effect, and response uncertainty. *Academy of Management Review*, 12(1), 133–143.
doi:10.5465/amr.1987.4306502
- Mintzberg, H., & Lampel, J. (1999). Reflecting on the strategy process. *Sloan Management Review*, 40(3), 21–30. Retrieved from <https://sloanreview.mit.edu/article/reflecting-on-the-strategy-process/>
- Mishina, Y., Pollock, T. G., & Porac, J. F. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal*, 25(12), 1179–1197. doi:10.1002/smj.424
- Moreno, A. M., & Casillas, J. C. (2007). High-growth SMEs versus non-high-growth SMEs: A discriminant analysis. *Entrepreneurship & Regional Development*, 19(1), 69–88.
doi:10.1080/08985620601002162
- Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal model. *Entrepreneurship: Theory & Practice*, 32(3), 507–528. doi:10.1111/j.1540-6520.2008.00238.x

- Morris, M., Schindehutte, M., & Allen, J. (2005). The entrepreneur's business model: Toward a unified perspective. *Journal of Business Research*, 58(6), 726–735.
doi:10.1016/j.jbusres.2003.11.001
- Nohria, N., & Gulati, R. (1996). Is slack good or bad for innovation? *Academy of Management Journal*, 39(5), 1245–1264. doi:10.2307/256998
- Paine, F. T., & Anderson, C. R. (1977). Contingencies affecting strategy formulation and effectiveness: An empirical study. *Journal of Management Studies*, 14(2), 147–158.
doi:10.1111/j.1467-6486.1977.tb00357.x
- Palmer, T. B., & Wiseman, R. M. (1999). Decoupling risk taking from income stream uncertainty: A holistic model of risk. *Strategic Management Journal*, 20(11), 1037–1062.
doi:10.1002/(SICI)1097-0266(199911)20:11<1037::AID-SMJ67>3.0.CO;2-2
- Penrose, E. T. (1959). *The theory of the growth of the firm* (4th ed., Rev. ed.). Oxford, England: Oxford University Press.
- Phillips, M. E. (1994). Industry mindsets: Exploring the cultures of two macro-organizational settings. *Organization Science*, 5(3), 384–402. doi:10.1287/orsc.5.3.384
- Priem, R. L., & Butler, J. E. (2001). Is the resource-based “view” a useful perspective for strategic management research? *Academy of Management Review*, 26(1), 22–40.
doi:10.2307/259392
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761–787. doi:10.1111/j.1540-6520.2009.00308.x

- Reynolds, P. D. (2001). National panel study of US business startups: Background and methodology. In J. Katz & A. C. Corbett (eds.) *Advances in Entrepreneurship, Firm Emergence and Growth* (Vol. 4, pp. 153–227). Boston, MA: Emerald Group Publishing Limited.
- Rodale, J. I. (1978). *The synonym finder* (Warner Books ed.). New York, NY: Warner Books.
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–288. doi:10.2307/259121
- Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Cheltenham, UK: Edward Elgar Publishing.
- Shane, S. D. (2009). Why encouraging more people to become entrepreneurs is bad public policy. *Small Business Economics*, 33(2), 141–149. doi:10.1007/s11187-009-9215-5
- Sharfman, M. P., Wolf, G., Chase, R. B., & Tansik, D. A. (1988). Antecedents of organizational slack. *Academy of Management Review*, 13(4), 601–614. doi:10.5465/AMR.1988.4307484
- Shellehamer, G. (2011). The small business agenda: growing America's small business to win the future. Report prepared for The National Economic Council and The U.S. Small Business Administration. Retrieved from <https://www.sba.gov/document/report--small-business-agenda>.
- Short, J. C., Broberg, J. C., Coglisier, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA): An illustration using entrepreneurial orientation. *Organizational Research Methods*, 13(2), 320–347. doi:10.1177/1094428109335949

- Short, J. C., McKelvie, A., Ketchen, D. J., & Chandler, G. N. (2009). Firm and industry effects on firm performance: A generalization and extension for new ventures. *Strategic Entrepreneurship Journal*, 3(1), 47–65. doi:10.1002/sej.53
- Short, J. C., & Palmer, T. B. (2003). Organizational performance referents: An empirical examination of their content and influences. *Organizational Behavior and Human Decision Processes*, 90(2), 209–224. doi:10.1016/S0749-5978(02)00530-7
- Short, J. C., & Palmer, T. B. (2007). The application of DICTION to content analysis research in strategic management. *Organizational Research Methods*, 11(4), 727–752. doi:10.1177/1094428107304534
- Short, J. C., Payne, G. T., Brigham, K. H., Lumpkin, G. T., & Broberg, J. C. (2009). Family firms and entrepreneurial orientation in publicly traded firms: A comparative analysis of the S&P 500. *Family Business Review*, 22(1), 9–24. doi:10.1177/0894486508327823
- Short, J. C., Payne, G. T., & Ketchen, D. J. (2008). Research on organizational configurations: Past accomplishments and future challenges. *Journal of Management*, 34(6), 1053–1079. doi:10.1177/0149206308324324
- Simon, M., & Houghton, S. M. (2003). The relationship between overconfidence and the introduction of risky products: Evidence from a field study. *Academy of Management Journal*, 46(2), 139–149. doi:10.2307/30040610
- Singh, J. V. (1986). Performance, slack, and risk taking in organizational decision making. *Academy of Management Journal*, 29(3), 562–585. doi:10.2307/256224
- Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review*, 32(1), 273–292. doi:10.5465/AMR.2007.23466005

- Sirmon, D. G., Hitt, M. A., Ireland, R. D., & Gilbert, B. A. (2011). Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects. *Journal of Management*, 37(5), 1390–1412. doi:10.1177/0149206310385695
- Spriggs, M., Yu, A., Deeds, D., & Sorenson, R. L. (2013). Too many cooks in the kitchen: Innovative capacity, collaborative network orientation, and performance in small family businesses. *Family Business Review*, 26(1), 32–50. doi:10.1177/0894486512468600
- Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal*, 11(5), 17–27. doi:10.1007/978-3-540-48543-8_7
- Tan, J. (2003). Curvilinear relationship between organizational slack and firm performance. *European Management Journal*, 21(6), 740–749. doi:10.1016/j.emj.2003.09.010
- Tan, J., & Peng, M. W. (2003). Organizational slack and firm performance during economic transitions: Two studies from an emerging economy. *Strategic Management Journal*, 24(13), 1249–1263. doi:10.1002/smj.351
- Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*. New York : McGraw-Hill.
- Uotila, J., Maula, M., Keil, T., & Zahra, S. A. (2009). Exploration, exploitation, and financial performance: Analysis of S&P 500 corporations. *Strategic Management Journal*, 30(2), 221–231. doi:10.1002/smj.738
- U.S. Small Business Administration. (2016). *Table of small business size standards*. Retrieved from <https://www.sba.gov/contracting/getting-started-contractor/make-sure-you-meet-sba-size-standards/table-small-business-size-standards>

- Wales, W. J. (2015). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal*, 34(1), 3–15.
doi:10.1177/0266242615613840
- Wales, W. J., Gupta, V. K., & Mousa, F.-T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, 31(4), 357–383. doi:10.1177/0266242611418261
- Wales, W. J., Parida, V., & Patel, P. C. (2013). Too much of a good thing? Absorptive capacity, firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal*, 34(5), 622–633. doi:10.1002/smj.2026
- Wang, H., Law, K. S., Hackett, R. D., Wang, D., & Chen, Z. X. (2005). Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal*, 48(3), 420–432. doi:10.5465/AMJ.2005.17407908
- Ward, S. (2017). *What are SMEs? It depends on where you are*. Retrieved from <https://www.thebalance.com/sme-small-to-medium-enterprise-definition-2947962>
- Weber, R. P. (1990). *Basic content analysis*. Thousand Oaks, CA: SAGE Publications, Inc.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180. doi:10.1002/smj.4250050207
- Wiklund, J. (1998). *Small firm growth and performance: Entrepreneurship and beyond* (Dissertation). Retrieved from <http://www.diva-portal.org/smash/get/diva2:3910/FULLTEXT02>

- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation—performance relationship. *Entrepreneurship Theory and Practice*, 24(1), 37–48.
doi:10.1177/104225879902400103
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, 20(1), 71–91.
doi:10.1016/j.jbusvent.2004.01.001
- Zachary, M. A., McKenny, A., Short, J. C., & Payne, G. T. (2011). Family business and market orientation. *Family Business Review*, 24(3), 233–251. doi:10.1177/0894486510396871
- Zahra, S. A. (1991). Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6(4), 259–285. doi:10.1016/0883-9026(91)90019-A
- Zahra, S. A. (1993). A conceptual model of entrepreneurship as firm behavior: A critique and extension. *Entrepreneurship: Theory & Practice*, 17(4), 5–21.
doi:10.1177/104225879301700401
- Zellweger, T. M., Kellermanns, F. W., Chrisman, J. J., & Chua, J. H. (2012). Family control and family firm valuation by family CEOs: The importance of intentions for transgenerational control. *Organization Science*, 23(3), 851–868. doi:10.1287/orsc.1110.0665

PROACTIVENESS AND ENTREPRENEURIAL SMALL AND MEDIUM-SIZED
ENTERPRISE PERFORMANCE: UNPACKING THE EFFECT OF MARKET
ORIENTATION

ABSTRACT

The purpose of this study is to investigate the effect of small-and-medium-enterprise (SME) proactiveness (an important dimension of entrepreneurial orientation [EO]) on firm performance and the contingency effect of market orientation (MO). A literature review of past marketing studies indicated the market-driven or opportunity-discovery nature of MO (Schindehutte, Morris, & Kocak, 2008). Yet MO's impact in an opportunity-creation or market-driven context remains unexplained. Specifically, from the perspectives of opportunity creation and opportunity discovery, I theorized that proactiveness, as an EO dimension, was the driving force because it is a creation mode of opportunity, and MO was in a complementary role as a discovery mode of opportunity. Therefore, I hypothesized that proactiveness should have a more prominent impact on firm performance with MO as the moderator. I unpacked MO into three sub-dimensions (customer orientation, competitor orientation, and interfunctional coordination) and provided more nuanced arguments and tests of the three moderators respectively. Utilizing an archival dataset compiled from computer-aided-text-analysis of publicly-listed MicroCap firms' shareholder letters and financial data obtained from COMPUSTAT, results showed that for entrepreneurial SMEs, customer orientation is most relevant when interacting with proactiveness to influence firm performance.

Keywords: Market orientation, proactiveness, opportunity, creation

PROACTIVENESS AND ENTREPRENEURIAL SMALL AND MEDIUM-SIZED
ENTERPRISE PERFORMANCE: UNPACKING THE EFFECT OF MARKET
ORIENTATION

Small and medium-sized enterprises (SMEs) have formed a unique context in which to study the effect of entrepreneurial orientation (EO) on firm performance. Entrepreneurial SME firms have more organic and flexible characteristics compared to larger bureaucratic organizations (Raju, Lonial, & Crum, 2011), and this internal flexibility provides an excellent environment to foster EO (Moreno & Casillas, 2008). EO studies have looked at SMEs and generally found a positive direct effect between SME's EO and firm performance (cf. Wales, Gupta, & Mousa, 2013), as well as joint effect in conjunction with other marketing strategies such as market orientation (MO; Atuahene-Gima & Ko, 2001; Grinstein, 2008a; Kirca, Jayachandran, & Bearden, 2005). The definition of MO is an "organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and thus continues superior performance for the business" (Narver & Slater, 1990, p. 21). However, there are some conflicting results from past EO studies on SMEs. Some studies have reported linear, nonlinear, and curvilinear results on EO (e.g., Tang, Tang, Marino, Zhang, & Li, 2008), and others have found performance depending on various internal and external contingencies (Rauch, Wiklund, Lumpkin, & Frese, 2009). Furthermore, research on the joint impact of EO and MO on firm performance has provided inconclusive results by indicating that EO has no direct impact on performance if MO is modeled as the independent variable (Baker & Sinkula, 2009).

The conflicting findings could be indicative of gaps in EO research. With the inconsistent findings indicated by Rauch et al. (2009), it is suggested that a contribution can be made by testing specific EO dimensions in certain contexts which would render the effects of the dimensions more valid or less valid, highlighting the importance of contextual influence. Notably, Rauch et al. (2009) called for the examination of likely moderator effects to explain the inconsistent findings and to understand the more complex relationship between these two variables.

The inconsistent EO findings could be attributed to several reasons. First, past EO studies have typically examined multiple dimensions of EO, either as unidimensional, consisting of proactiveness, innovativeness, and risk-taking, or multidimensional, with various combinations that include the additional two dimensions of autonomy and competitive aggressiveness (Covin & Lumpkin, 2011; Rauch et al., 2009; Wales, 2015). Furthermore, EO has been looked at as an innovation-based construct in past research, implying that innovativeness may be the driving force behind EO (Baker & Sinkula, 2009). However, focusing on innovativeness may dilute the impact of other EO dimensions such as proactiveness. Other dimensions of EO may need to be examined independently of innovativeness.

Second, the SME definition in past studies has not taken into consideration the heterogeneity of SMEs as salary-substitute SMEs (type of firm that aims to replace the salary of the owner's previous job, such as a small grocery store) and lifestyle SMEs (type of firm that aims to sustain a certain lifestyle and skill, such as a surfing instruction school) that can arguably have a lower level of EO than entrepreneurial SMEs. As Wale (2015) indicated, firms may have cycles of high EO and low EO in some context, while strongly and consistently present in other firms, so the timing and context of the study could influence the effect of EO on firm

performance. To examine the effect of EO and MO, it may be helpful to examine firms that are at a high level of EO, such as publicly-listed SMEs.

Finally, the conflicting results of EO and MO studies could be the difference between studies that focus on opportunity creation or opportunity discovery (Alvarez & Barney, 2007) and whether MO or EO should moderate the other's performance link. Additionally, MO studies have traditionally discussed MO as a whole (see Table 1 for a review of EO and MO studies), but to better understand the nuanced effects of EO and MO interaction when discussing opportunity discovery and creation, it may be necessary to unpack the three dimensions of MO and examine their respective impacts. Furthermore, Coltman and Devinney (2008) indicated MO measurements are formative, providing a logical rationale to unpack the MO dimension.

Table 1

Entrepreneurial Orientation and Market Orientation Literature Review

Publication	Dependent Variable	Independent Variable	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Barrett & Weinstein (1998)	Business Performance	EO & MO		Survey of a random sample of 142 Tennessee firms with more than 25 employees	No	None Explicit	Simultaneous effects of MO and EO on an overall performance measure, but no effect of EO on profitability.
Han, Kim, & Srivastava (1998)	Organizational Performance	MO		Survey of a random sample of 134 banks from a midwestern state	Yes	None Explicit	MO on performance was positive but nonsignificant, significant when innovation was a mediator.
Slater & Narver (2000)	Profitability	EO & MO		Survey of 53 single-business corporations of Strategic Business Units of multi-business corporations in three western cities	No	None Explicit	MO has a direct impact on profitability and no direct impact from EO.
Atuahene-Gima & Ko (2001)	New Product Performance			Survey of a judgment sample of 181 firms in Australia	No	RBV	Firms with high EO and MO outperform firms that are with EO alone, MO alone, or conservative firms.
Matsuno, Mentzer, & Ozsomer (2002)	Business Performance	EO & MO	Mediator: MO	Survey of a random sample of 364 manufacturing firms from the United States	No	None Explicit	MO has a direct performance impact, EO is mediated by MO, and direct performance effect of EO is negative on ROI.
Liu, Luo, & Shi (2002)	Organizational Outcome	CO, CE, LO		Survey of 304 state-owned firms in China	No	Organizational Learning	CO and CE have a positive impact on LO, and CO and LO have a positive impact on organizational outcome.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Verhees & Meulenberg (2004)	Product Innovation	Innovativeness	Mediator: MO	Survey of 152 rose growers in the Netherlands	Only CO	None Explicit	Innovativeness positively affects customer market intelligence and supplier intelligence.
Hult, Hurley, & Knight (2004)	Business Performance	MO, EO, and LO	Mediator: Innovativeness	Survey of a random sample of 181 firms with sales over \$100 million	No	RBV	All three orientations positively impact innovativeness, and innovativeness partially mediates EO performance and MO performance relationships.
Bhuiyan, Meguc, & Bell (2005)	Firm Performance	MO	EO	Survey of a random sample of 231 NFP hospitals in the United States	No	RBV	Contrary to the view that a high-market/high-EO is optimal, this study found that the best combination is high-market/moderate-EO, a curvilinear relationship.
Zheng, Yim, & Tse (2005)	Firm Performance and Product Performance	MO, EO, & Technology Orientation		A survey with a random sample of 350 brands in the consumer products segment in China	No	RBV	MO has a positive effect on tech innovation, but not market-based innovation. EO has an impact on both.
Zhou, Yim, & Tse (2005)	Firm Performance, and Product Performance	EO & MO		Survey of a stratified random sample of 350 brands from the consumer products segment in China	No	RBV	MO has a positive impact on tech-based innovation and negative impact on market-based innovation. EO positively affects both innovations.
Li, Liu, & Zhao (2006)	New Product Development	EO & MO		Survey of 585 firms in China, not specific on the sampling method	No	Organizational Learning	EO positively impacts product development, and MO does not impact product development.
Menguc & Auh (2006)	Firm Performance	MO	Innovativeness	Survey of 242 out of 750 (non-random) of the largest firms in Australia	No	Dynamic Capability	The interaction between MO and innovativeness related significantly and positively to firm performance.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Kropp, Lindsay, & Shoham (2006)	Entrepreneurial Business Success	MO, LO, Innovative-ness, and EO		Survey of 539 participants from 373 firms in South Africa	No	RBV	Innovativeness of EO, MO, and LO all have a positive impact on the entrepreneurial business success.
Frishammar & Horte (2007)	NPD Performance	EO & MO		Survey of 224 SME manufacturing firms in Sweden from the universe of 848	No	None Explicit	MO has a favorable effect on NPD performance, but innovativeness is more strongly related to NPD performance than MO.
Li, Zhao, Tan, & Liu (2008)	Performance	MO	EO	Survey of 213 SMEs in China (sampling method not disclosed)	No	None Explicit	MO has a significant impact on performance, while risk-taking has some impact in some models. Significant moderating impact of innovativeness and proactiveness.
Zahra (2008)	Firm Performance	EO	MO	Survey of a random sample of 536 firms in five U.S. states	No	Dynamic Capability, CE	MO as a key contingency variable in EO–financial performance relationship. Also, MO is a predictor of performance in high tech industries, but not in low tech industries.
Lin, Peng, & Kao (2008)	Business Performance	LO, MO, EO, Innovative-ness		Survey of a stratified sampling of 333 firms in the info-electronic industry in Taiwan	No	None Explicit	MO impacts LO, but EO does not impact LO. EO also does not impact MO.
Baker & Sinkula (2009)	Profitability	EO & MO		Survey of a random sample of 88 SMEs in San Diego, CA	No	Organizational Learning	MO has a direct impact on profitability, and EO has no direct impact. EO's impact on profitability is mediated by innovation success. Impact of MO is stronger than EO.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Renko, Carsrud, & Brannback (2009)	Product Innovativeness Capital Invested	EO & MO		Interviews with a random sample of 85 biotech venture CEOs in the United States, Finland, and Sweden		None Explicit	MO is positive on capital investment. EO is negative on capital investment. Neither has a direct effect on product innovativeness.
Tajeddini (2010)	Performance, Innovativeness	CO & EO		Survey of 156 hotels in Switzerland out of 189 sent	Only CO	None Explicit	EO is significant for performance and innovativeness, while CO is significant for performance but not innovativeness.
Rhee, Park, & Lee (2010)	Performance	MO & EO	Mediator - Innovativeness	Survey of a random sample of 333 technology SMEs in South Korea	No	Organizational Learning	LO mediate the relationship of EO–innovativeness and MO–innovativeness.
Nasution, Movondo, Matanda, & Ndubisi (2011)	Innovation and Customer Value	EO & MO		Survey of 231 hotel managers in Indonesia (sampling method unknown)	No	Learning Orientation	Positive direct effect on innovation and customer value, but no positive effect for the interaction term of EO–MO on customer value.
Mu, Di Benedetto (2011)	New Product Commercialization	MO, TO, EO, & NO		Survey of a random sample of 348 firms from China	No	Organizational Learning	EO and MO have a direct impact on new product performance. Additionally LO mediates the relationships.
Boso, Story, & Cadogan (2012)	Firm Performance	EO & MO		Survey of Ghanaian businesses, a total of 203 preselected firms	No	Dynamic Capability	High levels of both orientations can maximize performance.
Boso, Cadogan, & Story (2013)	Export Product Innovation Success	EO & MO		Survey of 164 Ghanaian exporters out of 528 (sampling method unknown)	No	RBV	EO and MO both impact export product innovation success, and MO moderates the relationship between EO and export product innovation success.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Thoumrungroje & Racela (2013)	New Product Performance, Firm Performance	EO	CO	Survey of a random sample of 159 SBUs within 134 firms in Thailand	Only CO	Dynamic Capability	EO to performance was not supported, and CO to performance was supported. EO-CO to radical product innovation was not supported.
Hong, Song, & Yoo (2013)	New Product Performance	EO & MO		Survey of 471 SMEs in Korea, from 5,183 sent	No	Exploration and Exploitation (March, 1991)	MO is significant to the proficiency of NPD process, EO was significant for both the proficiency of NPD and IPM processes.
Laukkanen, Nagy, Hirvonen, Reijonen, & Pasanen (2013)	Business Growth	LO, EO, MO, & BO		Survey of 1,120 firms from Hungary and Finland	No	None Explicit	EO has a positive impact on market performance but not brand performance, and MO has a positive impact on brand performance but not market performance.
Abebe & Angriawan (2014)	Exploration and Exploitation Activities	EO & MO		Survey of a random sample of 55 SMEs in Texas	No	Org. Ambi.	EO is positive on exploration activities. MO is positive on exploration and exploitation activities.
Rodríguez Gutiérrez, Fuentes Fuentes, & Rodríguez Ariza (2014)	Firm Performance	MO, EO, & LO	Mediators: EO, MO, & LO	Survey of a sample of 90 women-owned firms in Mexico	RBV	None Explicit	EO, MO, and LO positively impact growth-based performance, and EO mediates the MO–performance relationship.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Morgan, Anokhin, Kretinin, & Frishammar (2015)	New Product Development Performance	EO	MO	Survey of a random sample of 224 Swedish mid-sized manufacturing firms	No	None Explicit	EO positively impacts NPD performance, and MO negatively moderates the relationship.
Deutscher, Zapkau, Schwen, Baum, & Kabst (2016)	Firm Performance and Firm Growth	EO & MO		Survey of 148 German high-tech firms returned from a list of 1,703 firms	No	RBV	High tech firms with high levels of EO, MO, and LO outperform firms with other configurations. High EO firms are unable to achieve higher performance levels if both MO and LO are low.
Vega-Vazquez & Cossio-Silva (2016)	Firm Performance	EO	Mediator: MO	Survey of 79 independent hotels in Spain (sampling method unknown)	No	None Explicit	MO partially mediates the relationship between EO and firm performance.
Perez-Luno, Saporito, & Gopalakrishana (2016)	Knowledge Tacitness	EO & MO		Survey of a random sample of 376 SMEs in Spain	No	Knowledge-Based View	EO is positively related to knowledge tacitness, and MO is negatively related to knowledge tacitness. MO results in more explicit knowledge from deconstructing customer needs.
Boso, Sotry, Cadogan, Annan, Maglajlic, & Micevski (2016)	Sales Performance	Radical Product Innovation Capability	EO & MO	Survey of a random sample of 127 firms from developed and developing countries	No	None Explicit	Both EO and MO have a positive moderating effect on radical product innovativeness and sales performance.

Continued

Continued

Publication	DV	IV	Moderator & Mediator	Data	MO Unpack	Theory	Finding
Yu, Nguyen, & Chen (2016)	Product Innovation			Survey of a random sample of 207 new high-technology IoT ventures in China	No	None Explicit	Both EO and MO have a positive effect on IoT capability and IoT alliance.
Liu, Ko, Ngugi, & Takeda (2017)	New Product Development Performance	PEB	MO: CO, Comp. Ori.	Survey of a random sample of 385 UK SMEs in manufacturing	Yes	RBV	Customer orientation and competitor orientation have a negative moderating impact on PEB and NPD performance.

Note. MO = Market Orientation, EO = Entrepreneurial Orientation, CO = Customer Orientation, NPD= New Product Development, CE = Corporate Entrepreneurship, BO = Brand Orientation, TO = Technological Orientation, RBV = Resource-based View, PEB = Proactive Entrepreneurial Behavior, IoT = Internet of Things, Comp. Ori. = Competitor Orientation, Org. Ambi. = Organizational Ambidexterity, CE = Corporate Entrepreneurship, ROI = Return on Investment

In the present article, I strived to address these gaps. I proposed that, in entrepreneurial SMEs, proactiveness directly impacted firm performance and that relationship was moderated by the SME's MO. As proactiveness involves taking the initiative to shape the environment to one's advantage (Lumpkin & Dess, 2001), SMEs with an elevated level of proactiveness may take initiatives that reflect innovation or other efforts, but not necessarily just innovation. The effect of proactiveness can be diluted or not observed if innovativeness or innovation is the focal point of EO (Baker & Sinkula, 2009), because proactiveness does not necessarily have to manifest in the form of innovation but can also reflect the creation of a new market or response to market changes, resulting in likely conflicting conclusions. As Lumpkin and Dess (1996) pointed out in their article delineating EO as a multidimensional construct, ventures may only exhibit a high level of one dimension of EO and still be successful, rather than the unidimensional conceptualization where a successful outcome depended on the high levels of all dimensions. Particularly in an SME context, SMEs may lack the necessary resources to out-compete and out-innovate larger competitors, as well as allow a high level of autonomy and risk-taking experimentations. Instead, SMEs proactively create new markets and seek opportunities that would result in high firm performance and build resources before taking a more resource-intensive approach. I argue that MO could moderate this relationship.

Contrary to my proposal, much of the marketing literature suggests that EO moderates the relationship between MO and firm performance (Atuahene-Gima, 1996; Grinstein, 2008b; Kirca et al., 2005). Also, Li et al. (2008) found that EO as a unidimensional construct (a combination of innovativeness, risk-taking, and proactiveness) moderated the MO-performance link. However, Li et al. (2008) did not take into consideration the propensity of entrepreneurial SMEs to create their own markets rather than competing with larger counterparts—a creation

mode versus discovery mode of opportunity. I argue that such consideration would reverse the role of proactiveness and market orientation and their impact on firm performance.

Proactiveness may not moderate the MO-performance connection, instead driving firm performance. Because the two theorizations carry different assumptions and explain different variances respectively, proactiveness-performance is about opportunity creation (opportunities socially constructed and dependent on social actors), but MO-performance assumes opportunity discovery (opportunities that are independent of social actors), such as scanning the environment to search for unmet needs. As a model, combining both opportunity creation and discovery perspectives may explain more variances, and I therefore extended these distinctive opportunity perspectives to propose that MO is an important moderator of the proactiveness-performance linkage since MO is a reactive or discovery mode of opportunity, but proactiveness tends to be a creation mode of opportunity. In the discovery mode of opportunity, “competitive imperfections are assumed to arise exogenously, from changes in technology, consumer preferences, or some other attributes of the context within which industry or market exists” (Alvarez & Barney, 2007, p. 13). In a creation mode of opportunity, “opportunities are not assumed to be objective phenomena formed by exogenous shocks to an industry or market. Rather, they are created, endogenously, by the actions, reactions, and enactment of entrepreneurs exploring ways to produce new products or services” (Alvarez & Barney, 2007, p. 15). Logically, proactiveness should involve exploring or creating new business opportunities (i.e., proactiveness is an exogenous variable) along with the assistance of responding to market demands (i.e., marketing orientation is likely to be a moderator) to enhance SMEs firm performance (i.e., firm performance is an endogenous variable).

Past MO studies have focused greatly on the discovery mode of opportunity, with empirical results of MO studies reflecting the predominant role of MO (Kirca et al., 2005). A new opportunity is to examine MO from a creation mode versus a discovery mode of opportunity. In a marketplace where opportunities are mostly discovered or customer-led, firms who properly monitor the marketplace would be able to identify and exploit opportunities. These opportunities could lead to increased firm performance but limit the potential for creating an uncluttered marketplace with high earnings potential since numerous competitors are already in the market.

MO studies have not addressed situations where opportunity is created endogenously and is not customer-led. Quoting the late Steve Jobs in an interview with Business Week, “Customers don’t know what they want” (Mui, 2011). Apple Corporation’s products either redefined or created new product categories. One could argue Apple Corporation was creating opportunities rather than discovering. In a creation mode of opportunity, firms are proactively creating products or services that are not customer-led. In this sense, firms would enjoy uncluttered marketplaces with premium pricing that contributes to increased overall performance, profit, sales, market share, and stock performance. Focusing on creation mode may explain some of the missing variances in MO studies. Given that MO focuses on the discovery mode, it bears significance that MO is examined from a creation perspective that considers the effects of proactiveness to achieve a more balanced and overarching picture of MO. Accordingly, this study focused on exploring the effect of proactiveness on entrepreneurial SMEs’ firm performance and the moderating effect of MO comprising of three subdimensions: customer orientation, competitor orientation, and interfunctional coordination (Narver & Slater, 1990). Therefore, this study posed two research questions, 1) How does SME proactiveness

influence firm performance? and 2) Does market orientation moderate this proactiveness-performance relationship and if so, in what way?

My article contributes to the literature in multiple ways. First, I add to EO literature by specifically examining the proactiveness dimension's impact on performance in the entrepreneurial SME context. While studies have examined EO in various combinations of dimensions, focusing on one dimension may reveal nuances that are unique to that dimension. I also add to MO literature by articulating MO in a reactive or discovery context because the mode of opportunity is a proactive or creation mode of opportunity (Alvarez & Barney, 2007). By modeling MO as the moderator and examining its contingency relationship with proactiveness and firm performance, the creation mode is another lens through which the EO and MO relationship can be further defined and clarified. Secondly, the examination of MO dimensions and their respective interactions with proactiveness could shed light on nuanced effects that may be missed in the overarching MO construct. Thirdly, using computer-aided text analysis (CATA) and archival data, this study showed an alternative method for studying the MO and firm performance relationship. Finally, this study attempts to shed new light on the customer and competitor monitoring efforts and how they have different impacts on firm performance, which can offer practical ideas to policymakers and SME practitioners.

Theory and Hypotheses

Small and Medium-Sized Firm Performance

Firm performance has been the main outcome of past EO studies, and it is just as important in the SME context. SMEs, especially entrepreneurial SMEs, need a persistent period of high performance to survive past the startup stage and beyond. While overall performance is

important, performance outcomes are multidimensional with various combinations of financial performance measures and growth (Wiklund & Shepherd, 2005). Both efficiency indicators, such as profitability and return on assets (ROA), as well as effectiveness indicators such as firm growth or market performance, have been examined in past EO studies (Wales et al., 2013). Researchers have found that entrepreneurial firms tend to focus on growth strategies that are more effective while non-entrepreneurial firms tend to focus on efficiency (Brown, Davidsson, & Wiklund, 2001; Moreno & Casillas, 2008; Stevenson & Jarillo, 1990). Therefore, it would be reasonable to assume that entrepreneurial SMEs would exhibit more effectiveness than efficiency when evaluating their firm performance. Although entrepreneurial SMEs are concerned with efficiency and overall performance as well, researchers have suggested that they cannot gain a competitive advantage from efficiency due to their small firm size, flat structure, and resource constraints (Hewitt-Dundas, 2006; Matthews & Scott, 1995) but rely on the niche. These constraints leave little room for errors in their strategy and implementation process. As such, Stevenson et al. (1990) proclaimed that SMEs were more entrepreneurial than established firms because SMEs possess a higher level of EO that results in better firm performance. Delmar et al. (2003) studied high growth firms and found that growth patterns depend upon firm age, size, and industry. Stevenson and Jarillo (1990) suggested that SME growth was connected to higher levels of EO because these firms have an entrepreneurial firm culture.

Given these findings and consideration of the discovery versus creation model of opportunity as I explored firm performance, I wanted to examine the performance outcomes that take in the short-term indicators, such as immediate profitability from efficient exploitation of the market, as well as long-term indicators, such as stock performance that takes into consideration the future growth as result of opportunity creation. Therefore, I considered the

firm's market performance as it is more aligned with effectiveness rather than the efficiency measure of performance (Gupta & Wales, 2017; Uotila, Maula, Keil, & Zahra, 2009).

Proactiveness and Firm Performance

Proactiveness represents an opportunity-seeking, forward-looking perspective characterized by high awareness of external trends, events, and acts in response to external trends and events (Jong, Parker, Wennekers, & Wu, 2015; Rauch et al., 2009). Miller (1983) first identified entrepreneurial behaviors of risk-taking, innovativeness, and proactiveness, subsequently defined as EO (Covin & Slevin, 1989, 1991). Two additional dimensions, autonomy and competitive aggressiveness, were later added by Lumpkin and Dess (1996) as important dimensions of EO. As Lumpkin and Dess (2001) found, proactiveness in the early life cycles was associated with sales growth, return on sales, and profitability. As such, SMEs, who were proactive for new opportunities in growth stage industries where opportunities for development and growth existed could experience higher performance. Risk-taking behavior involved venturing into the unknown, borrowing heavily, and committing significant resources to a venture of unknown result with potential asset losses (Rauch et al., 2009).

While innovativeness and risk-taking examined distinct aspects of EO, the main assumptions have revolved around external opportunities and resources. Market-driven endeavors, such as serve and retain customers by discovering their needs (Jaworski, Kohli, & Sahay, 2000; Narver, Slater, & MacLachlan, 2004), require a level of efficiency and resource endowment (Raju et al., 2011; Schindehutte et al., 2008). Many SMEs are resource-constrained and therefore cannot dedicate enough resources to take risks and systematically innovate (Baker & Nelson, 2005; Hewitt-Dundas, 2006; Weiss, Hoegl, & Gibbert, 2017), promoting more focus

on SME proactiveness and on creating and discovering opportunities to increase firm performance. SMEs are thought to be better off pursuing a market-driving strategy, where markets are fundamentally redefined or the markets do not exist yet, or there is a blue ocean (Kim & Mauborgne, 2010; Schindehutte et al., 2008). However, more research is needed to understand how the proactiveness is a mechanism for achieving this opportunity-creating and market-redefining phenomena and translating it into superior firm performance.

Next, I outline the discovery theory and creation theory of opportunity, then discuss my argument for proactiveness. The current debate on whether the opportunity is discovered or created bears interesting implications on SME proactiveness because both discovery theory and creation theory of opportunity recognize the importance of forming and exploiting new opportunities (Alvarez & Barney, 2007; Shane, 2003; Shane & Venkataraman, 2000).

Opportunities exist when competitive imperfection is present in a market (Alvarez & Barney, 2007). Discovery theory proposes that imperfections arise exogenously from changes in technology, consumer preference, and other industry and market contexts (Alvarez & Barney, 2007; Kirzner, 1973). Discovery theory assumes that opportunities already exist in the market independent of firms but firms have yet to discover them, and to discover opportunities, firms must focus predominantly on searching by systematically scanning the environment for opportunities to produce new products or services (Alvarez & Barney, 2007). Discovery theory assumes that if opportunities are observable, industry competitors will recognize them and exploit them as well because competitors are also actively scanning the environment (Alvarez & Barney, 2007) and have the resources to exploit discovered opportunities. For larger resource-rich competitors, there is a better chance of creating a competitive advantage by orchestrating their resource to out-market and out-compete rivals. SMEs may be at a disadvantage because

they lack sufficient resources and efficiency to move aggressively and compete against larger competitors. Given the disadvantages of competing against larger resource-rich competitors in the discovery theory of opportunity, SMEs may benefit more following a creation theory of opportunity where they can create new opportunities and tap new markets, for example, with a niche focus (Baker & Nelson, 2005; Sarasvathy, 2001).

Opportunity creation theory states that opportunities are created endogenously by actions and reactions of entrepreneurs who explore ways to produce new products or services (Alvarez & Barney, 2007; Baker & Nelson, 2005; Sarasvathy, 2001). Creation theory assumes that there is no prior knowledge of the opportunity that links it to previous markets and that only after an opportunity is exploited will it evolve out of prior industries or markets (Alvarez & Barney, 2007). These assumptions render the search function of discovery moot because the opportunity is not in the existing markets. Since the seed of opportunity in the creation mode does not lie within existing markets (Alvarez & Barney, 2007), it is the proactive actions of SMEs that create this opportunity. The potential for a first-mover advantage in exploiting the new opportunity can lead to better performance.

Proactiveness is “acting in anticipation of future problems, needs, and changes” (Lumpkin & Dess, 1996, p. 146). As such, it is being first to respond to opportunities discovered in the marketplace due to asymmetry. Therefore, firms capture the first mover advantage through innovative products or markets and risk-taking. However, proactiveness could also be creating opportunities rather than simply discovering opportunities. In their article that distinguished competitive aggressiveness and proactiveness, Lumpkin and Dess (2001) specifically delineated proactiveness as a response to opportunities where firms take the initiative to shape the environment to their own advantage, whereas competitive aggressiveness is a

response to threats in a marketplace where competition is intense (Lumpkin & Dess, 2001, p. 430). Furthermore, EO is a behavior that describes the way firms behave in creating a new firm, new products, or new markets (Lumpkin & Dess, 1996; Miller, 2011). In Lumpkin and Dess (1996), they cited Miller and Friesen's (1983) argument for proactiveness: "Does it shape the environment by introducing new products, technologies, and administrative techniques, or does it merely react?" (p. 146). This question implies that proactiveness is a dimension of EO that deals with the creation of opportunities rather than the discovery of opportunities. It is the proactive behavior to create opportunities independent of the current market rather than the discovering that can make SMEs more entrepreneurial and achieve better firm performance. Therefore, I predicted that:

H₁: The levels of proactiveness are positively related to SME firm performance.

Market Orientation

EO studies have called for research in contingency models with other strategic constructs (Baker & Sinkula, 2009; Wales et al., 2013). Another strategic orientation that has an immense impact on firm performance is MO. The central tenet of MO is the "organizational culture that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and thus continues superior performance for the business" (Grinstein, 2008b, p. 117). In addition, there was another popular conceptualization of MO as an organization-wide generation, dissemination, and strategic response to market information (Kohli & Jaworski, 1990). Kohli and Jaworski (1990) operationalized MO as customer focus, coordination marketing, and profitability, while Narver and Slater (1990) took a broader approach by operationalizing as customer orientation, competitor orientation, and interfunctional

coordination. These two conceptualizations of MO have been utilized in the clear majority of MO studies, but Narver and Slater's (1990) conceptualization was utilized in this study because of its broad approach and added focus on competitors. Because customers many times value a firm's products in comparison to competitors' offerings, competitive dynamics can be as important as the firm's own action, particularly in the dynamic environment in which entrepreneurial SMEs operate. The inclusion of competitor orientation in Narver and Slater's (1990) conceptualization provided a better fit for this study. As Drucker (1954) pointed out, creating customers is the only purpose of business. Therefore a business has only two basic functions: marketing and innovation (Menguc & Auh, 2006). As customers' needs and expectations evolve, delivering quality products and services to the satisfaction of the customers, as well as being responsive to changing environments, becomes important to a firm's success (Kohli & Jaworski, 1990).

Firms' MO enable them to understand the marketplace and develop appropriate products and services to meet customer needs and requirements (Liu, Luo, & Shi, 2003). Most marketing literature has shown that MO's interaction with EO (as a unidimensional latent construct) delivers superior business results, indicating a positive effect on the MO and EO relationship (Atuahene-Gima, 1996; Deshpandé & Farley, 2004; Grinstein, 2008a; Hult et al., 2008; Lukas & Ferrell, 2000). However, there have been some conflicting results, such as Morgan, Anokhin, Kretinin, and Frishammar (2015); they found MO's moderating impact reducing the positive influence of EO on new product performance in mid-sized Swedish manufacturing firms. Similarly, Baker and Sinkula (2009) claimed that when EO and MO were modeled simultaneously, the effect of EO disappeared using a sample of small businesses in California. The results of these studies showed a need to examine how MO interacts with individual

dimensions of EO to further understand how the effect transpires, particularly in the SMEs context (Raju et al., 2011).

Like EO, MO has three dimensions: customer orientation, competitor orientation, and interfunctional coordination. The focus of MO is on monitoring and taking input from customers to know and understand their needs, as well as monitoring and understanding firms' competitors. Firms with an MO also know their capabilities and what they can deliver to customers, so they can internally reorganize and coordinate functions and processes to deliver superior value to customers (Kohli & Jaworski, 1990; Narver & Slater, 1990).

The marketing literature argues that MO is the most important strategic orientation and that its contribution to firm success outweighs all other orientations (Agarwal, Erramilli, & Dev, 2003; Grinstein, 2008b; Matsuno, Mentzer, & Özsomer, 2002). This is evident in the multitude of studies where MO is the independent variable. Although MO is important to firm performance, the MO–EO relationship deserves careful reconsideration, specifically in studies of opportunity creation that can uncover more nuanced relationships between the two constructs in the SME context. As indicated in Table 2, discovery mode of opportunity is the predominant theme in EO and MO studies, with proactive MO (an extension of the original MO construct) being miscast as a creation mode of opportunity. Both Narver and Slater (1990) and Kohli and Jaworski (1990) focused on the conceptualizations of MO and identified it with firms that are more effective and efficient than competitors in identifying and satisfying the needs of target markets (Narver et al., 2004). Central to MO argument is the search function of the discovery mode and the assumption that customer needs exist, so opportunities exist. Furthermore, diligent searching and exploiting of such opportunities bring superior performance. This is disadvantageous to SMEs because many SMEs cannot perform at the same levels of searching

and exploitation as larger firms. Larger firms would have more resources to dedicate to systematically monitoring customers and competitors and would arguably bring innovations to markets faster than SMEs. MO is reactive and leans toward discovery, where SMEs benefit from proactiveness and creation as market-driving behavior. Such market-driving behavior is an entrepreneurial phenomenon (Schindehutte et al., 2008). A selection of past MO studies and their definitions of MO, reflecting a discovery mode of opportunity, are presented in Table 2.

Past studies have shown that MO has a significant effect on firm performance, but the impact of MO on SME firm performance needs further clarification (Raju et al., 2011). As stated previously, the creation of opportunities is an iterative process of actions and reactions (Alvarez & Barney, 2007). As SMEs adopt proactiveness, they gain market or industry information, and customer feedback can become a guide for subsequent SME actions or reactions. SME firms can act upon their initial belief of opportunities and observe the market responses, and market responses are reflected when SMEs have more knowledge and information to change the initial belief. This action and reaction process reiterates until the opportunity is created or the process is fruitlessly abandoned (Alvarez & Barney, 2007). In this process, the positive impact of MO on the proactiveness–performance relationship becomes an important guiding or feedback mechanism that assists and moderates the relationship between proactiveness and SME firm performance. As MO consists of three dimensions—customer orientation, competitor orientation, and interfunctional coordination—similar to examining EO dimensions separately, there is a need to examine how each dimension of MO interacts with proactiveness in SME context. As an argument for MO’s impact on performance, involving monitoring of customers and competitors as well as efficient use of resources, characteristics of SME’s depicted a different picture of how MO was utilized. To further explore the intricacies of

interactions between each dimension of MO and proactiveness, it is necessary to examine them individually.

Interaction of Proactiveness and Customer Orientation on Firm Performance

Narver and Slater (1990) defined customer orientation as the sufficient understanding of one's target buyers to be able to create superior value for them continuously. The focus should be on learning customer needs, both expressed or latent (Narver et al., 2004), and trying to satisfy those needs. The argument behind having a customer orientation is continuously trying to create better value for customers by either decreasing the cost to customers in relation to benefit or by increasing the benefit to the customer in relation to cost (Narver & Slater, 1990). Furthermore, firms not only need to understand customer's value chain as it is now but also as it evolves over time, taking into consideration the market dynamics (Narver & Slater, 1990). Customer-oriented firms focus on uncovering customer needs and attempt to satisfy said needs (Grinstein, 2008a) through the intelligent generation, dissemination, and responsiveness to the collected information (Kohli & Jaworski, 1990), most of the time through innovation efforts (Han, Kim, & Srivastava, 1998). There are, however, contradicting viewpoints on customer orientation, such as Christensen (1997), who argued that customer-oriented behavior results in marginal innovation because customers have difficulty articulating their needs beyond their current consumption (Grinstein, 2008a). In other words, customers do not know what they want if they do not have experience with the currently similar product. Customer needs may not be consistent and may create confusion in a firm's strategic direction. Connor (1999) pointed out that MO gives inadequate consideration to the resource endowment and scale differences between firms.

It is precisely such resource endowment and scale differences between the larger, more established firms, and smaller, less established firms that diminish the importance of customer orientation for SME firms. Large firms can systematically monitor customer needs better than SMEs, and they can orchestrate more formidable resources in innovation and achieve economies of scale faster and better than SMEs. For SMEs, the inability to add value to the current cost, or reduce the cost for the current value due to lack of resource and scale means they must look elsewhere to create a lucrative and uncluttered market with products that are substantially different from what customers are currently exposed to. Proactive SME firms use MO as a guide to lead them to that lucrative market for better firm performance, but to say customer orientation has no role in creating a lucrative market may be understating its importance. First, as Drucker (1954) indicated, creating a customer is the only purpose of business. After all, customers are the ones that ultimately accept a firm's product and are willing to pay for it. If proactive SMEs looking to create new-to-the-market products do not consider what is acceptable to customers, there may be a risk of customers not accepting the new product, resulting in failure (Schindehutte et al., 2008). Opportunities are created by actions and reactions, implying that there is a feedback mechanism that is necessary. As proactive SMEs introduce products intended to create new markets or redefine established markets, ignoring the customers' reaction to their products would be counter-intuitive to opportunity creation. This is not to say firms should monitor customer needs before introducing new products, but rather they should take feedback from customers in response to the new product or test the market for any potential improvement or new uses. Accordingly, I hypothesized:

H₂: Customer orientation positively moderates (accentuates) the positive relationship between proactiveness and SME firm performance.

Interaction of Proactiveness and Competitor Orientation on Firm Performance

Competitor orientation means that firms understand the short-term strengths and weaknesses and long-term capabilities and strategies of key potential competitors (Narver & Slater, 1990). It parallels customer orientation in that it is intended to collect and assimilate competitors' information and continuously monitor progress against competitors (Grinstein, 2008a). This concept also reflects the competitive intelligence of a firm. The impact of competitor orientation is somewhat conflicting with some studies that have claimed firms gain opportunities by creating products or services that differentiate them from those of competitors (Im & Workman, 2004), while others have claimed competitor orientation facilitates product imitations and line extensions that limit the potential of breakthrough innovation. These outcomes make sense since it could be argued that knowing the competitors allows a firm to create a product that is significantly different. In contrast, knowing the competitors allows for a better imitation strategy, such as a second-mover advantage, that fails to differentiate the competitor's current products. Examining competitor orientation in proactive SMEs from the lens of the creation mode of opportunity can perhaps shed some light on the conflicting results.

Utilization of competitor information or competitive intelligence is different from opportunity-discovery versus creation. From the opportunity-discovery perspective, competitor orientation could imply an imitation or second-mover strategy that aims at exploiting the existing market. Firms could look at competitor products or markets and create new demand of customers based on market information and competitor analysis. If the firms are both large and well-endowed with resource and scale, firms could sustain a certain level of exploitation, since they can move as fast as competitors and not suffer from size disadvantage. From an opportunity-creation perspective, firms would look at the competitor product and capability to

ensure new products are differentiated and hard for a competitor to duplicate, therefore enjoying a competitive advantage in a market that is uncluttered. SMEs are different from larger firms in terms of resource endowment and scale (Raju et al., 2011), and following a discovery mode of opportunity would guide firms to competitive markets just like customer orientation. Proactive SMEs are more likely to follow opportunity creation and utilize competitor orientation as a guide to differentiate their products and ensure competitors cannot compete based on resources and scale. In doing so, proactive efforts' impact on firm performance is stronger with the utilization of competitor intelligence as a guide to an uncluttered market. I, therefore, hypothesized that:

H₃: Competitor orientation positively moderates (accentuates) the positive relationship between proactiveness and SME firm performance.

Interaction of Proactiveness and Interfunctional Coordination on Firm Performance

Interfunctional coordination is the coordinated utilization of company resources in creating superior value for customers (Narver & Slater, 1990), where different functions within firms coordinate with marketing to achieve a synergistic effect. The logic of interfunctional coordination is the enhanced communication and exchange among all organizational functions as well as dissemination of market intelligence across functional areas to encourage creativity (Gatignon & Xuereb, 1997; Im & Workman, 2004). Jaworski and Kohli's (1993) work on an antecedent of MO suggests that organizational formalization and centralization hampers MO while interdepartmental connectedness promotes MO, so a large organization wants to promote interfunctional coordination to overcome the inefficiency in market intelligence gathering, dissemination, and response efforts due to formal organizational structure and disconnectedness between departments. The effect of interfunctional coordination is generally positive, although

some research has shown too much collaboration or information-sharing could hamper firm performance (Henard & Szymanski, 2001). Accordingly, this construct implies the process is costly and time-consuming to firm performance.

In proactive SMEs, the impact of interfunctional coordination is different than in large firms. SMEs tend to have a flat organizational structure as well as the smaller firm size, and they do not suffer from inefficiency when compared to larger firms. Raju et al. (2011) suggested that SMEs are distinct from larger organizations regarding how they integrate information processing, knowledge, and responsiveness to gain strategic advantages. The quest for a high level of collaboration may have had a negative effect on the proactiveness–firm performance relationship, as the proactive SMEs would have wanted to seize fast-changing opportunities, and efficiency demands of interfunctional coordination would have hampered the SMEs’ ability to do so. Additionally, implementation of interfunctional coordination in SMEs would have required dedication of scarce resources that could have been better used. The consensus-based logic of interfunctional coordination had a conflict with the creation-based logic of proactiveness, regarding decision speed, costs, and operational philosophies to pursue new opportunities as an entrepreneurial SME tapped a new market. Therefore,

H₄: Interfunctional coordination negatively moderates (attenuates) the positive relationship between proactiveness and SME firm performance.

Methods

Sample

The publicly-listed SME sample was drawn from the Russell MicroCap index that consists of 2,000 small market capitalization stocks, otherwise known as small-cap and micro-cap stocks. It consists of the smallest 1,000 firms on the Russell 2000 index as well as another 1,000 smaller U.S.-based and listed stocks (Investopedia, 2017). Together, these 2,000 firms represented the smaller and yet entrepreneurial firms that my study tried to identify, and their publicly-listed nature made secondary financial data more available and reliable. Combined, all MicroCap firms represented less than 3% of the value of the U.S. equity market (Investopedia, 2017).

MicroCap offered a population that fits the profile of small firms looking for the uncluttered marketplace as well as addressed the heterogeneity of SME firms. All firms on the MicroCap index can be looked at as entrepreneurial firms that seek performance and growth as they are publicly-listed firms, and they have grown beyond the scope of salary replacement and lifestyle SME firms. They are dwarfed in comparison to their larger counterparts included on the Standard & Poor's 500 (S&P 500) or Fortune 1000 indexes, illustrating the resource constraints that these MicroCap firms face as well as the need to proactively explore new markets since they cannot compete against large competitors based on resources and scale. In addition, a prior study showed that smaller firms that were part of Russell 2000 index showed higher growth than larger S&P 500 firms (Zachary, McKenny, Short, & Payne, 2011), and my study may shed some light on the differences in performance outcomes. As part of the listing requirement, MicroCap firms provide their shareholders an annual report that includes reliable financial data and often includes a cover letter or letter to shareholders that conveys value, beliefs, and strategic orientations. Such a letter is useful for content analysis techniques in understanding otherwise unavailable data such as management perception and vision. For this study, I attempted to

collect shareholder letters for MicroCap listed firms from the year 2009 through 2015. Starting with lists received from Russell, various sources were used in collecting shareholder letters, such as company websites, finance sites such as Morningstar, as well as third-party websites that provide annual reports of companies such as annualreports.com. Various factors limited the sample size, including the fact that some firms did not include a letter when publishing their annual report. Instead, they included their Securities and Exchange Commission's 10-K filings as substitutes. As MicroCap listings have a high rate of volatility, there are numerous instances where firms have gone private or out of business or have merged and been acquired by other businesses, all of which affect the availability of their annual reports. This dataset also combined financial information for the firms from the COMPUSTAT database with shareholder letters, resulting in some missing data. Consequently, the data collection resulted in 3,054 shareholder letters and further elimination of cases with missing data. My analysis sample included 2,039 firm-year observations from 726 firms during the years 2009 through 2015 that were usable for this study.

Computer-Aided Text Analysis

A method to quantify qualitative communications such as shareholder letters is CATA (Short, Payne, Brigham, Lumpkin, & Broberg, 2009; Weber, 1990). Short, Payne et al. (2009) identified several benefits of content analysis of narrative texts. First, CATA has been used to highlight key strategic decision-making processes (Short & Palmer, 2003). It is less intrusive than an interview to capture managerial cognitions (Phillips, 1994) while avoiding recall bias (Barr, Stimpert, & Huff, 1992). It is a highly utilized means of obtaining otherwise unavailable information (Kabanoff, Waldersee, & Cohen, 1995), such as corporate strategic orientations due to low response rate to surveys, a common occurrence in management studies (Bartholomew &

Smith, 2006; Dennis, 2003). Relying on the text to study such cognition and orientation assumes that the mental model of the author is reflected through the presence of or the lack of text and the frequency of the text that reflects certain concepts (Zachary et al., 2011). CATA is useful for reconstructing the perception of the authors (D'Aveni & MacMillan, 1990), and even if authorship of the shareholder letter is uncertain, there is widespread agreement that executives are heavily involved in the preparation (Barr et al., 1992). Therefore, these letters would offer a key insight into managerial thoughts and actions (Short, Payne et al., 2009). CATA has been indicated as a promising method to study EO (Covin & Lumpkin, 2011; Zachary et al., 2011).

In this study, I utilized CATA on proactiveness and market orientation. Management surveys often suffer from low response rates as well as recall bias, and both disadvantages were offset by utilizing CATA (McKenny, Short, & Payne, 2013). In addition, as both EO and MO are firm-level constructs, surveying multiple individuals in a firm and aggregates up to a firm level could be an issue when examining multiple firms. Utilizing CATA for firm communications offered a single data point per firm rather than multiple responses per firm (McKenny et al., 2013).

Shareholder letters were the main source of the text for CATA of EO and MO. They are normally found on the firms' websites under investor relations, and sometimes third-party organizations can provide a small collection; in this study I utilized multiple sources. The letters to the shareholder were then analyzed by computer software DICTION (Hart, 2000) in order to show the presence or absence of a certain concept by examining the usage frequency of words in the word list previously validated (Short, Broberg, Cogliser, & Brigham, 2010). Manual coding of 30 letters to shareholders showed a high level of agreement with DICTION outputs. With the established dictionaries for EO (Short et al., 2010) and MO (Zachary et al., 2011), I manually

content-analyzed 30 shareholder letters to determine if each word matched the theoretical definition of the construct. The reliability was checked by the agreement, or kappa (Cohen, 1960), of DICTION outputs and manual coding of 30 different shareholder letters. The kappa of 1.00, 1.00, .889, .959, and .940 for EO dimensions of autonomy, competitive aggressiveness, innovativeness, proactiveness, and risk-taking, respectively, demonstrated a high level of agreement. The kappa of .851, 1.00, and .815 for MO dimensions of customer orientation, competitor orientation, and interfunctional coordination, respectively, similarly demonstrated a high level of agreement.

Dependent Variable

The firm performance was operationalized as Tobin's Q, which has been widely utilized in finance and management research as a representation of firm performance instead of accounting measures. It assesses the degree to which the stock market values a firm relative to its replacement cost (Kapopoulos & Lazaretou, 2007), and has been commonly used in entrepreneurship literature (Dyer & Whetten, 2006; Short et al., 2010). Accounting measurement of performance, such as ROA, one of the commonly used accounting measures, measures the operating financial performance of the firm. A higher ROA indicates more effective orchestration of assets to the advantage of shareholders (Haniffa & Hudaib, 2006), but this measure has been criticized for the retrospective measurement of performance and limited by various accounting restrictions (Hoskisson, Johnson, & Moesel, 1994; Keats & Hitt, 1988). Market-based measurements, such as Tobin's Q, are more forward-looking and reflect the expectation of shareholders concerning future performance (Kapopoulos & Lazaretou, 2007).

As proactive SMEs cannot compete with larger firms in terms of efficient use of resources due to endowment and scale, their effort in creating opportunity bodes well for future growth. As such, Tobin's Q may capture the long-term performance better than ROA, as future performance of proactive SMEs may not be reflected in the short-term accounting measure. For this study, I operationalized Tobin's Q as the firm's total market value over the total book value and lagged one year (Gupta & Wales, 2017; Uotila et al., 2009).

Independent Variable and Moderators

I adopted the definition of proactiveness as defined in the multidimensional conceptualization of EO by Lumpkin and Dess (1996). EO construct, including the five dimensions per Lumpkin and Dess (1996), has been validated using CATA by Short et al. (2010) in demonstrating the construct validation process as described previously. The result of the study showed high validity and reliability; custom dictionaries from that study were also generously shared in the study, and this study utilized the dictionary for innovativeness and competitive aggressiveness (Short et al., 2010).

I adopted the definition of Narver and Slater's (1990) conceptualization of MO as customer orientation, competitor orientation, and interfunctional coordination. Zachary et al. (2011) validated MO per Narver and Slater's (1990) definition; they followed Short et al.'s (2010) method of developing content analytic measures to ensure the validity of the measure of MO, and as a result, the measure demonstrated high validity and reliability. The custom dictionary created by Zachary et al. (2011) was generously shared in their study, which I utilized in this study and included as Table 2.

Table 2

Word List for Market Orientation

Market Orientation Dimension	Content Analysis Words with Expert Validation
Customer orientation	Attendee, buyer, buying, client, clientele, consume, consumer, customer, empor, habitué, market, marketer, patron, patronage, patronize, patronized, purchase, purchased, purchaser, purchasing, shopper, spectator, subscribe, subscribed, subscriber, subscribing, user, vend, vended, vendee, visitor
Competitor orientation	Adversary, adverse, aggression, aggressions, aggressive, ambition, ambitions, ambitious, antagonist, antagonize, antagonized, aspirant, aspire, aspired, aspires, assail, assailant, assailants, assailed, barricade, barricaded, battle, battled, battler, battles, beat, beaten, beating, bid, bidden, bidder, block, blockade, blockaded, blocked, blocks, challenge, challenged, challenger, challenges, challenging, clash, clashed, clashes, clashing, collide, collided, collides, colliding, combat, combated, combating, combative, combats, compete, competed, competitor, competes, competing, competition, competitive, competitor, competitors, conflict, conflicted, conflicting, conflicts, confront, confrontation, confrontational, confrontations, conquer, conquered, conquering, conquers, contend, contender, contending, contentious, contest, contestant, contestants, counteraction, counteractions, counteractive, cutthroat, cutthroats, disputant, dispute, disputed, disputes, disputing, enemies, enemy, engage, engaged, engagement, engagements, engages, engaging, entrant, fight, fighting, fights, foe, foes, formidable, fought, grappled, grapple, grapples, grappling, jockey, jockeys, jockeyed, match, matched, matches, matching, opponent, oppose, opposed, opposers, opposing, opposition, oppositionist, oppositionists, oppositions, out bid, outclass, outclassed, outclassing, outmatch, outmatched, outmatches, outmatching, outrank, outranked, outranking, outranks, outrate, outrated, outrates, outrating, participant, participants, participate, participated, resist, resistance, resistant, resistants, resisted, resisting, rival, rivals, spar, sparing, sparred, spars, strive, strived, strives, striving, struggle, struggled, struggles, struggling, superior, surpass, surpassed, surpasses, surpassing, vied, vying, war, warring, aggressor, combatant, imitator, advantage, advantages
Interfunctional coordination	Accordant, accordants, amalgam, amalgamate, amalgamation, associate, associated, associates, associating, coactive, coadjuvant, coalesce, coalescence, collaborate, collaborated, collaborates, collaborating, collaboration, collaborative, combination, combinations, combine, combined, combines, combining, complement, complementary, complemented, complementing, complements, concerted, concerting, concurrent, congenial, congeniality, congenially, connect, connected, connecting, connects, consolidate, consolidates, consolidating, consolidation, consolidative, cooperate, cooperates, cooperating, cooperation, cooperative, coordinate, coordinated, coordinates, coordinating, correlated, correlation, correlational, correlative, fuse, fused, fusing, fusion, fusions, harmonious, harmony, in-concert, incorporate, incorporated, incorporating, incorporation, integral, integrate, integrates, integrating, integration, interact, interaction, interactional, interactive, interacts, joint, joint task, jointly, mutual, mutually, mutually beneficial, reciprocal, reciprocity, share, shared, shares, sharing, simpatico, symbiosis, symbiotic, symbiotically, syncretism, synergetic, synergistic, synergize, synergy, synthesis, synthesize, synthesized, synthesizes, synthesizing, team, team up, teaming, teams, teamwork, together, unification, unified, unite, united, unitedly, unites, unitize, unity, coaction, integrated, cross functional, interfunctional, company-wide, cross brand, mobilize, utilize, leverage, allocate, employ

Continued

Continued

Market Orientation Dimension	Content Analysis Words with Expert Validation
Profitability	Beneficial, benefit, benefited, benefits, cash, cost effective, cost effectiveness, cost efficient, desirable, desire, desired, earn, earning, earnings, earns, emolument, fecundity, fructuous, fruit, fruitful, fruitfully, fruits, gain, gained, gainful, gaining, gains, generate, generates, generating, generative, income, incomes, lucrative, lucre, money, moneymaking, net income, proceeds, productive, productivity, profit, profit making, profitable, profits, profited, profiting, propitious, prosper, prospered, prospering, prosperous, prospers, return, revenue, reward, rewarded, rewarding, rewards, rich, valuable, value, win, winnings, wins, yield, yielding, yields, paid off, pay off, paid dividends, pay dividends, revenues, bottom line, EBIT, EBITDA, income
Long-term focus	Constant, constantly, continuous, continual, continuation, continue, continued, continues, continuing, durability, durable, endure, endured, endures, enduring, extend, extended, extending, extends, extensive, extensively, hardier, hardest, hardness, hardy, immortal, immortality, immortalize, imperishability, imperishable, impervious, incessant, incessantly, indestructible, interminable, lengthy, lengthy tenure, life, lifespan, lifetime, lifetimes, long, long life, long run, long term, longer, longevity, longevous, maintain, maintained, maintaining, maintenance, marathon, more robust, most robust, nourish, nourished, nourishes, nourishing, nurture, nurtured, nurtures, nurturing, perennial, perennially, permanent, perpetual, perpetually, preservation, preserve, preserved, preserves, preserving, prolong, prolonged, prolonging, prolongs, protract, protracted, protracting, protracts, recurrent, resilience, resiliency, resilient, robust, robustness, sempiternal, steeliness, steely, stout, stouter, stoutness, sturdier, sturdiest, sturdiness, sturdy, sustain, sustainability, sustainable, sustained, sustaining, sustains, tenure, timeless, tough, tougher, toughest, toughness, unchanged, unchanging, undecayed, undecaying, undeviating, unending, uninterrupted, uninterrupting, vital, vitality, vitals, forecast, foresee, anticipate, project, estimate, theorize

Word list adopted from Zachary et al. (2011)

Controls

Four dimensions of EO—autonomy, competitive aggressiveness, innovativeness, and risk-taking—were controlled using CATA output for their impact on firm performance as demonstrated in past studies (see Rauch et al., 2009). Firm age was controlled, as well as firm-size, for any unobserved size and age impacts because older and larger firms may have an established market for their products. Industry was controlled as well for potential industry effects. Literature has discussed innovation and new product development as important to both MO, and to an extent EO. Firm R&D intensity (company R&D expense / sales) was controlled to indicate the R&D capability of firms (Renko, Carsrud, & Brännback, 2009), and industry R&D intensity (industry R&D expense / industry sales) was controlled to simulate the industry technological dynamism (Uotila et al., 2009; Zahra, 1996). Previous years' Tobin's Q values were also controlled similarly to study by Uotila et al. (2009).

Results

Table 3 presents the means, standard deviation, and correlations of the unstandardized variables. In this study, there were 2,039 firm-year observations obtained from 726 firms, from the years 2009 through 2015. Firm age ranged from 0 to 88 years with an average firm age of 17. This dataset was compiled from multiple sources as discussed previously and may contain missing values, therefore list-wise deletion was employed to exclude observations that contained missing data. Correlations among the independent and moderating variable were low, ranging from -.072 to .013, indicating discriminant validity. To ensure multicollinearity was not an issue, the variance inflation factors of variables were measured and were all less than 3.744, below the common limits of 10 (Hair, Black, Babin, & Anderson, 2010).

Table 3

Descriptive Statistics and Correlations

Variables	Minimum	Maximum	Mean	SD	1	2	3	4	5	6	7	8
1. Tobin's Q	.1143	1000	2.972	25.971								
2. Firm Age	0	88	18.440	12.439	-0.018							
3. Firm R&D Intensity	-62.65 ^a	376.62	.639	11.716	0.004	-0.014						
4. Industry R&D Intensity	0	.1712	.028	.048	0.088***	-0.045*	0.151***					
5. Previous Tobin's Q	.1143	1000	3.236	32.195	0.273***	-0.018	0.003	0.065**				
6. Proactiveness	0	16.67	.835	1.258	0.067**	-0.042*	0.071*	0.247***	0.018			
7. Competitor Orientation	0	17.67	1.842	1.804	0.012	0.010	-0.032	-0.067**	-0.012	0.000		
8. Customer Orientation	0	22.52	2.143	1.994	0.020	-0.016	-0.050*	0.034	-0.017	0.013	0.110***	
9. Interfunctional Coordination	0	26.32	3.988	2.685	-0.010	0.059**	-0.011	-0.040*	-0.019	-0.072**	0.011	0.101***

Note. $N = 2039$. Autonomy, competitive aggressiveness, innovativeness, risk-taking, additional control variables of firm size dummies and industry dummies are not reported due to space

limitations. ^aThere is one observation with this negative firm R&D intensity due to negative sales number for that year. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Comp. = Competitor, R&D = Research and Development

Hierarchical regression analysis was used to test the hypotheses, with Model 1 incorporating the control variable, Model 2 testing for the universal effects of the variables, and Model 3 testing for the interaction effects. The hierarchical approach is appropriate when analyzing multiplicative terms in regression analysis and when analyzing highly correlated independent variables (Cohen & Cohen, 1983). An interaction effect exists when the interaction term gives a significant contribution over and above the direct effects of independent variables (Cohen & Cohen, 1983). The magnitude of interaction coefficients cannot be evaluated when separated from lower-order terms and has to be assessed jointly. This study adhered to that practice.

To test the hypotheses, I first added the control variables. Table 4 reports the results of hierarchical regression analyses that were conducted to test all hypotheses. The control variables accounted for 8.3% of the variance in firm performance, as displayed in the second column of Table 4. The next step of analysis addressed the universal influences of proactiveness, customer orientation, competitor orientation, and interfunctional coordination. These four variables and their respective coefficients are displayed in Model 3 of Table 4. Proactiveness had a statistically significant and positive relationship with firm performance ($\beta = .922$; $p < .05$); that is, higher proactiveness was associated with greater firm performance, therefore supporting H_1 , which predicted the positive relationship between proactiveness and firm performance.

Table 4

Moderated Hierarchical Regression Analyses

	Model 1	Model 2	Model 3
Control Variables			
Autonomy	.428	.580	.566
Competitive Aggressiveness	-.123	-.680	-.685
Innovativeness	-.089	-.143	-.181
Risk Taking	-.504	-.538	-.577
Firm Age	-.019	-.012	-.014
Ind_D1 Energy	.6	.565	.745
Ind_D2 Material & Processing	.405	.358	.008
Ind_D3 Health Care	3.43	3.144	3.905
Ind_D4 Financial Service	-.254	.025	.017
Ind_D5 Consumer Durables	1.798	1.669	1.600
Ind_D6 Technology	-.901	-1.087	-1.263
Ind_D5 Producer Durables	-.37	-.632	-.421
Ind_D8 Utilities	.263	.485	.218
Ind_D8 Consumer Stables	-.102	.067	-.141
Firm R&D Intensity	-.017	-.014	-.006
Industry R&D Intensity	34.847 *	32.001	33.837
Previous Tobin's Q	.213 ***	.214 ***	.210 ***
Size_D1 < 10	-1	-1.241	-.754
Size_D2 < 50	-4.128	-4.475	-2.530
Size_D3 < 250	-1.887	-1.747	-1.424
Size_D5 < 1000	-1.074	-1.063	-.785
Size_D6 > 1000	-1.207	-1.134	-.858
Main Effect Model			
Proactiveness		.922 *	1.069
Competitor Orientation		.501	-.337
Customer Orientation		.331	.049
Interfunctional Coord.		.003	.540 *
Contingency Model			
Customer Orientation × Proactiveness			.391
Competitor Orientation × Proactiveness			1.037 ***
Interfunctional Coord. × Proactiveness			-.752 ***
<i>R</i> ²	0.083	.086	.101
Adjusted <i>R</i> ²	.073	.074	.088
<i>F</i>	8.274 ***	7.298	7.790 ***

Note. *N* = 2039. **p* < 0.05, ****p* < 0.001. Coord. = Coordination, Ind_D = Industry Dummy

The last step was to test the moderation hypotheses by incorporating the interaction terms. Multiplicative interaction terms between proactiveness to each dimension of MO yielded three interaction terms, and they were added into the regression analysis. The result of Model 3 is displayed in Table 4. H_2 , which predicted that customer orientation positively moderates the positive relationship between proactiveness and firm performance, was not supported. Regression result showed that while the coefficient for the customer orientation and proactiveness interaction term was positive, it was not significant. H_3 , which predicted competitor orientation, positively moderated the positive relationship between proactiveness and firm performance and was supported with a positive and significant coefficient for the interaction term ($\beta = 1.037; p < .001$). H_4 , which predicted interfunctional coordination and negatively moderated the relationship between the proactiveness and firm performance, was supported ($\beta = -.752; p < .001$). A summary of the hypotheses and results is displayed in Table 5.

Table 5

Summary of Study Hypotheses

Hypothesis	Result	Statistics
<i>H₁: The levels of proactiveness are positively related to SME firm performance.</i>	Supported	$\beta = .922$; $p < .05$
<i>H₂: Customer orientation positively moderates (accentuates) the positive relationship between proactiveness and SME firm performance.</i>	Not Supported	
<i>H₃: Competitor orientation positively moderates (accentuates) the positive relationship between proactiveness and SME firm performance.</i>	Supported	$\beta = 1.037$; $p < .001$
<i>H₄: Interfunctional coordination negatively moderates (attenuates) the positive relationship between proactiveness and SME firm performance.</i>	Supported	$\beta = -.752$; $p < .001$

Note: SME – Small and Medium-sized Enterprises,

Assessment of how significant interactions affect the outcome variable was done by plotting. Selected values of the interaction terms were entered into the regression equation, and these values were plotted against the outcome values of the regression equation (Cohen, Cohen, West, & Aiken, 2003). Interaction plots are included as Figures 1 and 2 for competitor orientation and interfunctional coordination, respectively. In addition, slope tests were conducted to ensure slopes were distinct from one another according to Dawson and Richter (2006).

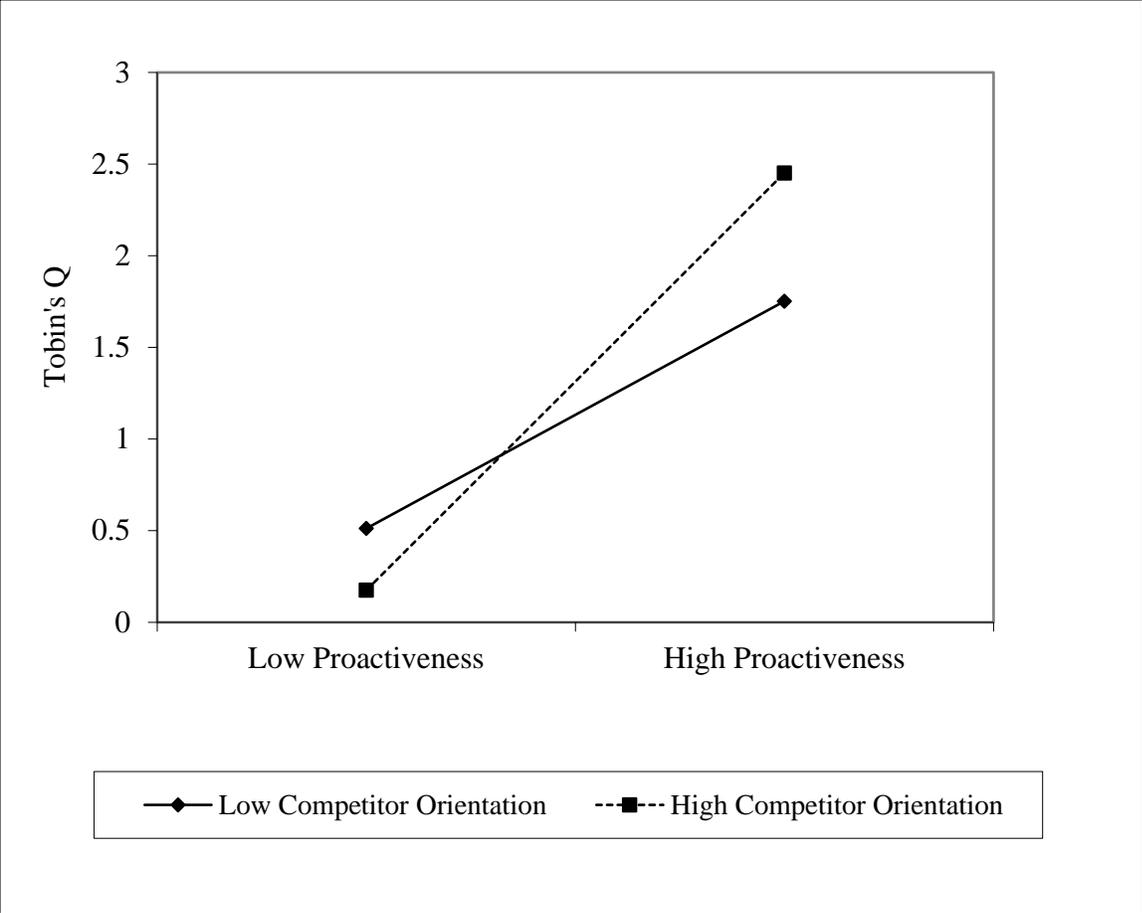


Figure 1. Competitor orientation moderation plot.

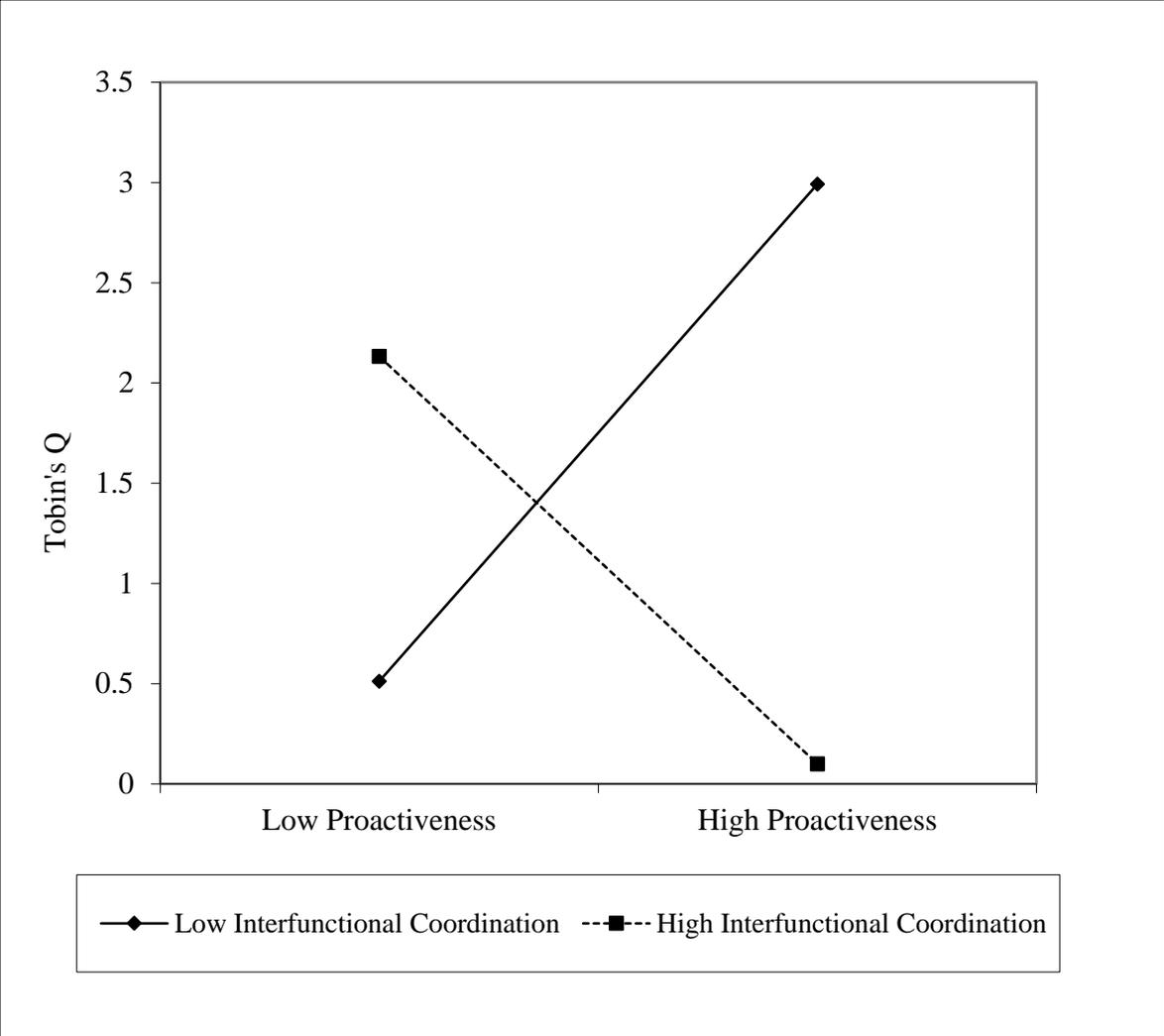


Figure 2. Interfunctional coordination moderation plot.

Robustness and Supplementary Analyses

To further validate the results of this study, robustness analyses were performed. First, because some past studies have suggested a mediating relationship between EO and MO, I checked if proactiveness mediated the MO dimensions and performance relationships, as well as whether MO dimensions mediated the proactiveness and performance relationship. Using the PROCESS module for SPSS by Andrew Hayes (2017), each pair of proactiveness and MO dimensions, as well as MO itself (a total of 8 mediation models) were tested using Model 4 of PROCESS with normal theory tests for indirect effects (Hayes, 2017). The results showed no significant mediating impact in any of the eight models.

Second, as there is no established way to measure the nature of opportunity—discovered or created—that firms pursued, it can be helpful to examine ambidexterity (Uotila et al., 2009)—exploration or exploitation—to better understand the impact of opportunity creation and discovery. The balance of exploration and exploitation, or ambidexterity (March, 1991; Uotila et al., 2009;) might be a good indication of how the firm pursued the opportunity. Using content analysis dictionaries provided by Uotila et al. (2009), I processed the shareholder letters and obtained a score of ambidexterity indicators by dividing the exploration score by the sum of exploration and exploitation, following Uotila et al. (2009). Incorporating ambidexterity into the regression model did not have a significant impact on model results but deserves further investigation.

Based on the ambidexterity score from the previous test, I split the sample into two, based on mean value. Firms with ambidexterity scores higher than the mean were focused more on exploration (exploration subsample) while firms with a score lower than the mean were more

focused on exploitation (exploitation subsample; Uotila et al., 2009). Running regressions for Models 1, 2, and 3 on each sample revealed interesting results, and the results of regressions are listed in Table 6. For the exploration subsample ($n = 1,034$), the regression result supported the result from the overall sample in support of my hypotheses. In the exploration subsample, proactiveness was positive and significant ($\beta = 2.015; p < .05$), with the proactiveness multiplied by competitor orientation interaction term being positive and significant ($\beta = 2.597; p < .001$) and the proactiveness multiplied by interfunctional coordination interaction term being negative and significant ($\beta = -1.377; p < .001$). For the exploitation subsample ($n = 1,000$), the results told a very different story. In Models 1, 2, and 3, neither proactiveness nor competitor orientation were significant; rather, it was customer orientation ($\beta = .495, p < .001$) that became positive and significant in the main effect model. Also, the proactiveness multiplied by customer orientation interaction term was statistically significant and positive ($\beta = .338, p < .01$) and the proactiveness multiplied by interfunctional coordination was statistically significant and negative ($\beta = -.191, p < .05$). For the exploitation subsample, technological dynamism, measured by industry R&D intensity, was significant across all three models. These findings, from splitting the sample into an exploration subsample and an exploitation subsample, have uniquely supported the theorization of this study and reaffirmed some previous findings. As I theorized, entrepreneurial SMEs are more inclined to create a niche and unclutter markets. The exploration subsample showed that being proactive and closely monitoring your competitors has a significant positive impact on performance. On the flipside, for firms that are more inclined to discover opportunity by closely monitoring their customers, the exploitation subsample reaffirmed past MO and Customer Orientation studies which found that firms that proactively discovered and pursued opportunities that may be the more critical to firm performance (Liu, Luo, & Shi, 2002).

Finally, the negative and significant impact of the proactiveness multiplied by interfunctional coordination interaction term across all three samples was indicative that for SMEs to overly pursue efficiency by focusing on coordination, resulting in a waste of valuable corporate assets.

Table 6

Additional Analyses

	Exploration (<i>n</i> = 1,034)		Exploitation (<i>n</i> = 1,000)	
	Model 2	Model 3	Model 2	Model 3
Control Variables				
Autonomy	0.542	0.111	-1.077	-1.048
Competitive Aggressiveness	-0.768	0.275	0.484	0.515
Innovativeness	-0.292	-0.657	-0.339	-0.34
Risk Taking	-0.773	-0.4	0.037	0.033
Firm Age	0.014	-1.033	-0.296	-0.228
Ind_D1 Energy	-0.168	0.04	-0.006	-0.01
Ind_D2 Material & Processing	-0.969	1.716	0.927	0.914
Ind_D3 Health Care	2.754	-1.828	0.582	0.758
Ind_D4 Financial Service	-0.46	3.923	1.466	1.592
Ind_D5 Consumer Durables	3.875	0.048	0.172	-0.005
Ind_D6 Technology	-3.66	2.868	0.452	0.505
Ind_D5 Producer Durables	-1.797	-5.252	0.419	0.394
Ind_D8 Utilities	-1.154	-0.542	0.119	0.12
Ind_D8 Consumer Stables	-1.418	-1.973	0.853	0.634
Previous Tobin's Q	0.206 ***	-3.498 ***	0.602 ***	0.607 ***
Size_D1 < 10	-0.993	0.199	0.345	0.342
Size_D2 < 50	-8.484	-1.521	0.536	0.623
Size_D3 < 250	-2.306	-5.886	1.009	1.284
Size_D5 < 500	1.643	-2.739	0.936	0.888
Size_D6 < 1000	-0.956	0.97	0.33	0.362
Firm R&D Intensity	-0.019	-0.005	1.191	1.192
Industry R&D Intensity	48.005	55.182	15.875 *	14.892 *
Main Effect Model				
Proactiveness	2.015 *	2.208	-.043	.115
Competitor Orientation	.678	-1.179	.209	.358
Customer Orientation	.230	-0.389	.495 ***	.211
Interfunctional Coord.	-.005	.898	-.048	.077
Contingency Model				
Customer Orientation × Proactiveness		.727		.338 **
Competitor Orientation × Proactiveness		2.597 ***		-.179
Interfunctional Coord. × Proactiveness		-1.377 ***		-.191 *
<i>R</i> ²	.091	.126	.135	.146
Adjusted <i>R</i> ²	.068	.101	.112	.121
<i>F</i>	3.88	5 ***	5.852 **	5.739 **

Note. Model 1 results are not reported here due to space constraints. **p* < 0.05, ***p* < 0.01, ****p* < 0.001.

Discussion

Using secondary data from 2,039 firm-year observations that were derived from 726 firms for the period from 2009 through 2015, the findings of this study suggested that proactiveness positively influences entrepreneurial SME firm performance. Relying on this main effect test provided an incomplete understanding of proactiveness and firm performance. A greater understanding was gained by examining the interaction effects of the dimension of MO. For example, an interesting finding of this study was that when examining the effect of MO on firm performance using the universal approach, neither the overarching MO (the sum of the three MO dimensions) nor each MO dimension individually had a significant effect, and it was only when considering the interactions that the impact of MO dimension on SME firm performance became apparent.

By contrasting opportunity creation and opportunity discovery theories and using them as the theoretical lenses in examining the impact of proactiveness and market orientation on entrepreneurial SME firm performance, I hypothesized that proactiveness positively impacts firm performance due to a more opportunity-creating nature, whereas MO would have a moderating impact with the more reactive and opportunity-discovery nature. In addition, the intent of this study was to unpack the three dimensions of MO and to examine each dimension's moderating influence on proactiveness and the firm performance link. All hypotheses were tested, and overall results offered answers to the research questions that this study proposed: entrepreneurial SME proactiveness positively impacts SME firm performance, and MO plays a moderating role in guiding the SMEs to an uncluttered market, with competitor orientation being the most critical of the three MO dimensions.

In this study, I posited that proactiveness as the opportunity creation behavior of a firm that results in creating brand new products and services drives the market and creates a blue ocean to operate in. In entrepreneurial SMEs, the resource constraints prohibits them from dedicating significant resources to compete with larger competitors in a crowded marketplace. With their lack of existing market share to defend, their best chance at success comes from being a prospector in creating a new market, shaping the market structure or behavior of the players in the market, or driving-market (Jaworski et al., 2000). Contrary to the past MO literature (Narver et al., 2004), this study argued that MO is reactive, focuses on the discovery, and results in accepting the market structure and market behavior or being market-driven.

In depicting proactiveness as an opportunity creation and MO as more discovery and reactive, this interface of entrepreneurship and marketing became a little clearer. MO research has attempted to address the proactive aspect of MO (Narver et al., 2004), but proactively monitoring and searching for customer's latent needs can only speed up the timing of discovering such customer needs and give firms a competitive advantage by being first to address such need. The research has not addressed the possibility that such latent needs don't exist and there is no need to create demand and markets for products in the absence of expressed or latent customer needs. Rather, this market-creating aspect is addressed by entrepreneurial firms being proactive in monitoring the competitors and finding a niche to drive the market.

This study did not set out to judge the superiority the MO construct or the EO construct, as both are critical and complementary, but to point out the underpinning rationales for adopting either or both orientations from an opportunity-creation versus opportunity-discovery perspective. Both EO and MO are resource intensive, but both are also linked to improved firm performance. As both orientations can achieve competitive advantages, this study offered

guidance to the practitioner in implementing EO and/or MO. Past studies have examined MO as a whole, implying a high level of MO that reflects the high levels of customer orientation, competitor orientation, and interfunctional coordination, without considering the possibility of varying levels of dimensions under a context such as entrepreneurial SMEs. For entrepreneurial SMEs, in the absence of sufficient resources and market presence, the need to create an uncluttered market or changes in the behaviors of market players outpaces the firm's ability to monitor customers and introduce incremental innovations. Resources are better spent on monitoring competitors, knowing their strengths and market structures or behaviors, then striving to create a new market or significantly altering the market structure and behavior.

This is not to say customer orientation is ineffective for entrepreneurial SMEs. As the regression results for the exploitation subsample showed, proactiveness and customer orientation interact to impact performance. In line with past marketing studies, for firms that do not overtly intend to alter the existing market structure and behavior, focusing on customers' needs gives firms the ability to stay a step ahead of the competition, and proactiveness assists in that endeavor.

This study contributes to the literature in three different ways. First, it adds to the EO and MO literature on the proactiveness dimension. By examining proactiveness in conjunction with MO and examining position proactiveness as the opportunity creation behavior and MO as opportunity-discovery, this study showed that impacts of proactiveness and MO dimensions are contingent on the context under which they were examined. A high level of proactiveness can help firms drive the market by creating a new market or altering the market structure and behavior, but this high level of proactiveness can also assist in accelerating the timing of opportunity-discovery.

This positioning from the opportunity-creation and opportunity-discovery perspectives offered insight into the EO and MO interface. As MO studies have shown conflicting results (see Table 2), there is a need to examine the dimensions of MO and see how they behave individually in a certain context to understand the detailed performance impacts. Some past studies have examined the customer orientation (Tajeddini, 2010; Thourunrojje & Racela, 2013), and this study unpacked MO and its three dimensions and theorized how each dimension impacts performance when examined from opportunity perspectives in an entrepreneurial SME context. Without unpacking the dimensions, this study would likely have concluded that MO had no impact on the performance of entrepreneurial SME's, and only when examining the moderating effect of each dimension did the performance impact surface. Scholars have alluded to MO as too market-driven and customer-led and being overly focused on monitoring and finding what customers' needs are and striving to satisfy such needs (Connor, 1999; Schindehutte et al., 2008), and this study showed that was true for the more exploitation-minded firms. However, for the more exploration-minded and opportunity-creation oriented firms, high levels of MO may imply a high level of competitor orientation. Without unpacking the dimensions, this distinction might not have surfaced.

Another contribution is the utilization of CATA. Research has relied extensively on surveys to represent EO and MO but has faced issues such as low response rates and use single respondent to measure firm level construct. Utilization of CATA offered a viable way to capture firms' EO and MO behaviors while potentially avoiding some of the issues as in survey research. Use of CATA can provide a large sample if conditions are right, and as this study demonstrated, is an unobtrusive way to study the interface of EO and MO.

Finally, this study offers a guide for practitioners and managers in directing their firms' customer and competitor monitoring efforts. Entrepreneurial SMEs can be looked at as possessing a high level of proactiveness as they are distinct from salary-substitute and lifestyle SMEs; how these firms incorporate customer and competitor monitoring efforts bears significant in resource deployment and capitalizing on opportunities. As entrepreneurial efforts bear certain risk and resource consumption, MO similarly has its downsides, such as being customer led. However, as this study has shown, it is the alignment and complementary nature of proactiveness and MO that produces the performance outcome that is higher than proactiveness or MO alone. For an entrepreneurial SME that lacks the size and scale to adequately and systematically monitor the market and is looking to drive the market, overly monitoring customer and stressing interfunctional coordination can be an inefficient use of limited resources. It is the monitoring of the competitors that may be the best use of resources. Managers and entrepreneurs should look at the goal and strategy of their firms and chose the appropriate mix of proactiveness and MO that best suits their firms in achieving superior performance.

Future Studies

There are potential future studies that can build off this study. As this study positions proactiveness and MO as simultaneously manifesting in an organization from an opportunity perspective, it may be interesting to see if there is a consecutive or sequential behavior, such as being market-oriented first, then more entrepreneurially oriented, or if there is a dominance of one orientation over another. On the one hand, entrepreneurial firms can be proactive, risk-taking, and innovate to carve a market niche, but potential concerns may be that the new product or service may be out of the comprehension of customers, resulting in failure (Schindehutte et al., 2008). Just as being overly market-oriented can lead to incremental innovation, radical

innovation without some form of customer feedback or customer education can also result in failure. What is the best level of MO and EO in a certain context could be an informative proposition to study.

One of the interesting outcomes of this study was the impact of innovativeness on SMEs. As MO studies have studied new product development and success as the outcome of EO and MO, in this study neither the impact of innovativeness nor firm R&D intensity on firm performance was insignificant. As I argued that SMEs cannot systematically innovate as well as their larger counterparts, perhaps in SME context, the role of the innovativeness dimension of EO does not manifest through new product development or R&D, and this could use further examination.

Limitations

As all studies have limitations, this study is no different. One limitation is the entrepreneurial nature of the sample. The selected firms were from the Russell MicroCap index, consisting of entrepreneurial SMEs, those firms most likely to exhibit a higher level of proactiveness and to be focused on opportunity-creation compared with larger and more established firms. I attempted to address this by splitting the sample into exploration and exploitation groups, but a comparison with larger firms, such as firms from the S&P 500 may gain additional insights. Another limitation is the cross-sectional design would not detect the long-term impact of proactiveness. In this study, I lagged of performance outcome to one year. Lagging the outcome longer than one year may have further limited the number of firm-year observations that could have been included in this analysis but perhaps could have resulted in better detection of the long-term performance impact. Finally, this study used firms in the

United States, and there could potentially be concerns about the generalizability of this study to other countries as EO is one of the few entrepreneurship constructs that has been applied across different countries (Wiklund & Shepherd, 2005), and findings have been varied. This could potentially be the limitation on the generalizability of this study.

Conclusion

Entrepreneurial SMEs have a large impact on the U.S. economy and have the best chance of evolving into the next big business with enormous economic benefit. Investigating their performance outcomes is very necessary. This study, through opportunity-creation and opportunity-discovery perspectives, found that proactiveness positively impacts SME firm performance. Additionally, this study found the moderating effect of the dimensions of MO, positioning proactiveness as opportunity-creation and MO as opportunity-discovery and modeling them as such, offers a better and more nuanced understanding of the EO and MO interface.

References

- Abebe, M. A., & Angriawan, A. (2014). Organizational and competitive influences of exploration and exploitation activities in small firms. *Journal of Business Research*, 67(3), 339–345. doi:10.1016/j.jbusres.2013.01.015
- Agarwal, S., Erramilli, M. K., & Dev, C. S. (2003). Market orientation and performance in service firms: Role of innovation. *The Journal of Services Marketing*, 17(1), 68–80. doi:10.1108/08876040310461282
- Alvarez, S. A., & Barney, J. B. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, 1(1-2), 11–26. doi:10.1002/sej.4
- Atuahene-Gima, K., & Ko, A. (2001). An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science*, 12(1), 54–74. doi:10.1287/orsc.12.1.54.10121
- Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of Business Research*, 35(2), 93–103. doi:10.1016/0148-2963(95)00051-8
- Baker, T., & Nelson, R. E. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, 50(3), 329–366. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=buh&AN=19092667&site=eds-live&scope=site>

- Baker, W. E., & Sinkula, J. M. (1999). Learning orientation, market orientation, and innovation: Integrating and extending models of organizational performance. *Journal of Market-Focused Management*, 4(4), 295. doi:10.1023/A:100983040
- Baker, W. E., & Sinkula, J. M. (2009). The complementary effects of market orientation and entrepreneurial orientation on profitability in small businesses. *Journal of Small Business Management*, 47(4), 443–464. doi:10.1111/j.1540-627X.2009.00278.x
- Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, 13(S1), 15–36.
doi:10.1002/smj.4250131004
- Barrett, H., & Weinstein, A. (1998). The effect of market orientation and organizational flexibility on corporate entrepreneurship. *Entrepreneurship Theory and Practice*, 23(1), 57–70. doi:10.1177/104225879802300103
- Bartholomew, S., & Smith, A. D. (2006). Improving survey response rates from chief executive officers in small firms: The importance of social networks. *Entrepreneurship Theory and Practice*, 30(1), 83–96. doi:10.1111/j.1540-6520.2006.00111.x
- Bhuiyan, S. N., Menguc, B., & Bell, S. J. (2005). Just entrepreneurial enough: The moderating effect of entrepreneurship on the relationship between market orientation and performance. *Journal of Business Research*, 58(1), 9–17. doi:10.1016/S0148-2963(03)00074-2
- Boso, N., Cadogan, J. W., & Story, V. M. (2013). Entrepreneurial orientation and market orientation as drivers of product innovation success: A study of exporters from a developing economy. *International Small Business Journal*, 31(1), 57–81.
doi:10.1177/0266242611400469

- Boso, N., Story, V. M., & Cadogan, J. W. (2012). Entrepreneurial orientation, market orientation, network ties, and performance: Study of entrepreneurial firms in a developing economy. doi:10.1016/j.jbusvent.2013.04.001
- Boso, N., Story, V. M., Cadogan, J. W., Annan, J., Kadić-Maglajlić, S., & Micevski, M. (2016). Enhancing the sales benefits of radical product innovativeness in internationalizing small and medium-sized enterprises. *Journal of Business Research*, 69(11), 5040–5045. doi:10.1016/j.jbusres.2016.04.077
- Bowman, E. H. (1978). Strategy, annual reports, and alchemy. *California Management Review*, 20(3), 64–71. doi:10.2307/41165283
- Brown, T. E., Davidsson, P., & Wiklund, J. (2001). An operationalization of Stevenson's conceptualization of entrepreneurship as opportunity-based firm behavior. *Strategic Management Journal*, 22(10), 953–968. doi:10.1002/smj.190
- Christensen, C. M. (1997). *The innovator's dilemma: When new technologies cause great firms to fail*. Boston, MA: Harvard Business Review Press.
- Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, 20(1), 37–46. doi:10.1177/001316446002000104
- Cohen, J., & Cohen, P. (1983). *Applied multiple regression correlation analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: L. Erlbaum Associates.
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: L. Erlbaum Associates.
- Coltman, T., Devinney, T. M., Midgley, D. F., & Venaik, S. (2008). Formative versus reflective measurement models: Two applications of formative measurement. *Journal of Business Research*, 61(12), 1250–1262. doi:10.1016/j.jbusres.2008.01.013

- Connor, T. (1999). Customer-led and market-oriented: A matter of balance. *Strategic Management Journal*, 20(12), 1157–1163. doi:10.1002/(SICI)1097-0266(199810)19:10<1001::AID-SMJ996>3.0.CO;2-4
- Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice*, 35(5), 855–872. doi:10.1111/j.1540-6520.2011.00482.x
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75–87. doi:10.1002/smj.4250100107
- Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Theory & Practice*, 16(1), 7–25. doi:10.1177/104225879101600102
- D'Aveni, R. A., & MacMillan, I. C. (1990). Crisis and the content of managerial communications: A study of the focus of attention of top managers in surviving and failing firms. *Administrative Science Quarterly*, 35(4), 634–657. doi:10.2307/2393512
- Dawson, J. F., & Richter, A. W. (2006). Probing three-way interactions in moderated multiple regression: Development and application of a slope difference test. *The Journal of Applied Psychology*, 91(4), 917–926. doi:10.1037/0021-9010.91.4.917
- de Jong, J. P. J., Parker, S. K., Wennekers, S., & Wu, C.-H. (2015). Entrepreneurial behavior in organizations: Does job design matter? *Entrepreneurship Theory and Practice*, 39(4), 981–995. doi:10.1111/etap.12084
- Delmar, F., Davidsson, P., & Gartner, W. B. (2003). Arriving at the high-growth firm. *Journal of Business Venturing*, 18(2), 189–216. doi:10.1016/S0883-9026(02)00080-0

- Dennis, W. J. (2003). Raising response rates in mail surveys of small business owners: Results of an experiment. *Journal of Small Business Management*, 41(3), 278–295.
doi:10.1111/1540-627X.00082
- Deshpandé, R., & Farley, J. U. (2004). Organizational culture, market orientation, innovativeness, and firm performance: An international research odyssey. *International Journal of Research in Marketing*, 21(1), 3–22. doi:10.1016/j.ijresmar.2003.04.002
- Deutscher, F., Zapkau, F. B., Schwens, C., Baum, M., & Kabst, R. (2016). Strategic orientations and performance: A configurational perspective. *Journal of Business Research*, 69(2), 849–861. doi:10.1016/j.jbusres.2015.07.005
- Drucker, P. (1954). *The practice of management*. New York: HarperCollins US.
- Dyer, W. G., & Whetten, D. A. (2006). Family firms and social responsibility: Preliminary evidence from the S&P 500. *Entrepreneurship Theory and Practice*, 30(6), 785–802.
doi:10.1111/j.1540-6520.2006.00151.x
- Fairlie, R. (2012). Immigrant entrepreneurs and small business owners and their access to financial capital (Contract No. SBAHQ-10-R-0009). Report prepared for the Small Business Association Office of Advocacy. Retrieved from <https://www.microbiz.org/wp-content/uploads/2013/07/Immigrant-Entrepreneurs-and-Small-Business-Owners-and-their-Access-to-Financial-Capital.pdf>
- Frishammar, J., & Åke Hörte, S. (2007). The role of market orientation and entrepreneurial orientation for new product development performance in manufacturing firms. *Technology Analysis & Strategic Management*, 19(6), 765–788.
doi:10.1080/09537320701711231

- Gatignon, H., & Xuereb, J.-M. (1997). Strategic orientation of the firm and new product performance. *Journal of Marketing Research*, 34(1), 77–90. doi:10.2307/3152066
- Grinstein, A. (2008a). The effect of market orientation and its components on innovation consequences: A meta-analysis. *Journal of the Academy of Marketing Science*, 36(2), 166–173. Retrieved from <https://link.springer.com/article/10.1007/s11747-007-0053-1>
- Grinstein, A. (2008b). The relationships between market orientation and alternative strategic orientations. *European Journal of Marketing*, 42(1/2), 115–134.
doi:10.1108/03090560810840934
- Gupta, V. K., & Wales, W. J. (2017). Assessing organisational performance within entrepreneurial orientation research: Where have we been and where can we go from here? *The Journal of Entrepreneurship*, 26(1), 51–76. doi:10.1177/0971355716677389
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Upper Saddle River, NJ: Pearson.
- Hambrick, D. C. (1994). CEOs. In G. L. Cooper (ed.), *Wiley Encyclopedia of Management*.
doi:10.1002/9781118785317.weom110089
- Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market orientation and organizational performance: Is innovation a missing link? *Journal of Marketing*, 62(4), 30–45.
doi:10.2307/1252285
- Haniffa, R., & Hudaib, M. (2006). Corporate governance structure and performance of Malaysian listed companies. *Journal of Business Accounting*, 33(7-8), 1034–1062.
doi:10.1111/j.1468-5957.2006.00594.x
- Hart, R. (2000). *Diction 5.0: The text-analysis program*. Retrieved from <https://www.jou.ufl.edu/assets/researchlab/dictionmanual.pdf>

- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York: Guilford Press.
- Henard, D. H., & Szymanski, D. M. (2001). Why some new products are more successful than others. *Journal of Marketing Research*, 38(3), 362–375.
doi:10.1509/jmkr.38.3.362.18861
- Hewitt-Dundas, N. (2006). Resource and capability constraints to innovation in small and large plants. *Small Business Economics*, 26(3), 257–277. doi:10.1007/s11187-005-2140-3
- Hong, J., Song, T. H., & Yoo, S. (2013). Paths to success: How do market orientation and entrepreneurship orientation produce new product success? *Journal of Product Innovation Management*, 30(1), 44–55. doi:10.1111/j.1540-5885.2012.00985.x
- Hoskisson, R. E., Johnson, R. A., & Moesel, D. D. (1994). Corporate divestiture intensity in restructuring firms: Effects of governance, strategy, and performance. *Academy of Management Journal*, 37(5), 1207–1251. doi:10.2307/256671
- Hult, G. T. M., Ketchen, D. J., Griffith, D. A., Chabowski, B. R., Hamman, M. K., Dykes, B. J., Cavusgil, S. T. (2008). An assessment of the measurement of performance in international business research. *Journal of International Business Studies*, 39(6), 1064–1080. doi:10.1057/palgrave.jibs.8400398
- Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management*, 33(5), 429–438.
doi:10.1016/j.indmarman.2003.08.015
- Im, S., & Workman, J. P. (2004). Market orientation, creativity, and new product performance in high-technology firms. *Journal of Marketing*, 68(2), 114–132.
doi:10.1509/jmkg.68.2.114.27788

- Investopedia. (2017). *Russell Microcap Index*. Retrieved from <http://www.investopedia.com/terms/r/russell-microcap-index.asp>
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 53–70. doi:10.2307/1251854
- Jaworski, B., Kohli, A. K., & Sahay, A. (2000). Market-driven versus driving markets. *Journal of the Academy of Marketing Science*, 28(1), 45–54. doi:10.1177/0092070300281005
- Kabanoff, B., Waldersee, R., & Cohen, M. (1995). Espoused values and organizational change themes. *Academy of Management Journal*, 38(4), 1075–1104. doi:10.2307/256621
- Kapopoulos, P., & Lazaretou, S. (2007). Corporate ownership structure and firm performance: Evidence from greek firms. *Corporate Governance: An International Review*, 15(2), 144–158. doi:10.1111/j.1467-8683.2007.00551.x
- Keats, B. W., & Hitt, M. A. (1988). A causal model of linkages among environmental dimensions, macro organizational characteristics, and performance. *Academy of Management Journal*, 31(3), 570–598. doi:10.2307/256460
- Kim, W. C., & Mauborgne, R. (2005). *Blue ocean strategy: How to create uncontested market space and make the competition irrelevant*. Boston: Harvard Business School Press.
- Kirca, A. H., Jayachandran, S., & Bearden, W. O. (2005). Market orientation: A meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing*, 69(2), 24–41. doi:10.1509/jmkg.69.2.24.60761
- Kirzner, I. M. (1973). *Competition and entrepreneurship*. Chicago, IL: University of Chicago Press.
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions, and managerial implications. *Journal of Marketing*, 54(2), 1–18. doi:10.2307/1251866

- Kropp, F., Lindsay, N. J., & Shoham, A. (2006). Entrepreneurial, market, and learning orientations and international entrepreneurial business venture performance in South African firms. *International Marketing Review*, 23(5), 504–523.
doi:10.1108/02651330610703427
- Laukkanen, T., Nagy, G., Hirvonen, S., Reijonen, H., & Pasanen, M. (2013). The effect of strategic orientations on business performance in SMEs. *International Marketing Review*, 30(6), 510–535. doi:10.1108/IMR-09-2011-0230
- Li, Y., Liu, Y., & Zhao, Y. (2006). The role of market and entrepreneurship orientation and internal control in the new product development activities of Chinese firms. *Industrial Marketing Management*, 35(3), 336–347. doi:10.1016/j.indmarman.2005.05.016
- Li, Y., Zhao, Y., Tan, J., & Liu, Y. (2008). Moderating effects of entrepreneurial orientation on market orientation-performance linkage: Evidence from Chinese small firms. *Journal of Small Business Management*, 46(1), 113–133. doi:10.1111/j.1540-627X.2007.00235.x
- Lin, C.-H., Peng, C.-H., & Kao, D. T. (2008). The innovativeness effect of market orientation and learning orientation on business performance. *International Journal of Manpower*, 29(8), 752–772. doi:10.1108/01437720810919332
- Liu, G., Ko, W. W. J., Ngugi, I., & Takeda, S. (2017). Proactive entrepreneurial behaviour, market orientation, and innovation outcomes. *European Journal of Marketing*, 51(11/12), 1980–2001. doi:10.1108/EJM-11-2016-0663
- Liu, S. S., Luo, X., & Shi, Y.-Z. (2003). Market-oriented organizations in an emerging economy: A study of missing links. *Journal of Business Research*, 56(6), 481–491.
doi:10.1016/S0148-2963(01)00265-X

- Lukas, B. A., & Ferrell, O. C. (2000). The effect of market orientation on product innovation. *Journal of the Academy of Marketing Science*, 28(2), 239–247.
doi:10.1177/0092070300282005
- Lumpkin, G. T., Cogliser, C. C., & Schneider, D. R. (2009). Understanding and measuring autonomy: An entrepreneurial orientation perspective. *Entrepreneurship Theory and Practice*, 33(1), 47–69. doi:10.1111/j.1540-6520.2008.00280.x
- Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
doi:10.5465/AMR.1996.9602161568
- Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance. *Journal of Business Venturing*, 16(5), 429–451. doi:10.1016/S0883-9026(00)00048-3
- March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, 2(1), 71–87. doi:10.1287/orsc.2.1.71
- Matsuno, K., Mentzer, J. T., & Özsomer, A. (2002). The effects of entrepreneurial proclivity and market orientation on business performance. *Journal of Marketing*, 66(3), 18–32.
doi:10.1509/jmkg.66.3.18.18507
- Matthews, C. H., & Scott, S. G. (1995). Uncertainty and planning in small and entrepreneurial firms: An empirical assessment. *Journal of Small Business Management*, 33(4), 34-65.
Retrieved from
<https://search.proquest.com/openview/7e03e4d144cc77d10a2f7b44ff705b3c/1?pq-origsite=gscholar&cbl=49244>

- McKenny, A. F., Short, J. C., & Payne, G. T. (2013). Using computer-aided text analysis to elevate constructs. *Organizational Research Methods*, *16*(1), 152–184.
doi:10.1177/1094428112459910
- Menguc, B. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the Academy of Marketing Science*, *34*(1), 63–73. doi:10.1177/0092070305281090
- Miller, D. (2011). Miller (1983) revisited: A reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice*, *35*(5), 873–894. doi:10.1111/j.1540-6520.2011.00457.x
- Miller, D., & Friesen, P. H. (1983). Strategy-making and environment: The third link. *Strategic Management Journal*, *4*(3), 221–235. doi:10.1002/smj.4250040304
- Mishina, Y., Pollock, T. G., & Porac, J. F. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. *Strategic Management Journal*, *25*(12), 1179–1197. doi:10.1002/smj.424
- Moreno, A. M., & Casillas, J. C. (2008). Entrepreneurial orientation and growth of SMEs: A causal model. *Entrepreneurship: Theory & Practice*, *32*(3), 507–528. doi:10.1111/j.1540-6520.2008.00238.x
- Morgan, T., Anokhin, S., Kretinin, A., & Frishammar, J. (2015). The dark side of the entrepreneurial orientation and market orientation interplay: A new product development perspective. *International Small Business Journal*, *33*(7), 731–751.
doi:10.1177/0266242614521054

- Mu, J., & Di Benedetto, C. A. (2011). Strategic orientations and new product commercialization: Mediator, moderator, and interplay. *R&D Management*, *41*(4), 337–359.
doi:10.1111/j.1467-9310.2011.00650.x
- Mui, C. (2011, Oct. 17). Five dangerous lessons to learn from Steve Jobs. *Forbes*. Retrieved from <https://www.forbes.com/sites/chunkamui/2011/10/17/five-dangerous-lessons-to-learn-from-steve-jobs/#5cb67ff73a95>
- Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, *54*(4), 20–35. doi:10.2307/1251757
- Narver, J. C., Slater, S. F., & MacLachlan, D. L. (2004). Responsive and proactive market orientation and new-product success. *Journal of Product Innovation Management*, *21*(5), 334–347. doi:10.1111/j.0737-6782.2004.00086.x
- Nasution, H. N., Mavondo, F. T., Matanda, M. J., & Ndubisi, N. O. (2011). Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value. *Industrial Marketing Management*, *40*(3), 336–345.
doi:10.1016/j.indmarman.2010.08.002
- Pérez-Luño, A., Saporito, P., & Gopalakrishnan, S. (2016). Small and medium-sized enterprise's entrepreneurial versus market orientation and the creation of tacit knowledge. *Journal of Small Business Management*, *54*(1), 262–278. doi:10.1111/jsbm.12144
- Phillips, M. E. (1994). Industry mindsets: Exploring the cultures of two macro-organizational settings. *Organization Science*, *5*(3), 384–402. doi:10.1287/orsc.5.3.384
- Raju, P. S., Lonial, S. C., & Crum, M. D. (2011). Market orientation in the context of SMEs: A conceptual framework. *Journal of Business Research*, *64*(12), 1320–1326.
doi:10.1016/j.jbusres.2010.12.002

- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761–787. doi:10.1111/j.1540-6520.2009.00308.x
- Renko, M., Carsrud, A., & Brännback, M. (2009). The effect of a market orientation, entrepreneurial orientation, and technological capability on innovativeness: A study of young biotechnology ventures in the United States and in Scandinavia. *Journal of Small Business Management*, 47(3), 331–369. doi:10.1111/j.1540-627X.2009.00274.x
- Rhee, J., Park, T., & Lee, D. H. (2010). Drivers of innovativeness and performance for innovative SMEs in South Korea: Mediation of learning orientation. *Technovation*, 30(1), 65–75. doi:10.1016/j.technovation.2009.04.008
- Rodale, J. I. (1978). *The synonym finder*. New York, NY: Warner Books.
- Rodríguez Gutiérrez, P., Fuentes Fuentes, M. d. M., & Rodríguez Ariza, L. (2014). Strategic capabilities and performance in women-owned businesses in Mexico. *Journal of Small Business Management*, 52(3), 541–554. doi:10.1111/jsbm.12048
- Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–288. doi:10.2307/259121
- Schindehutte, M., Morris, M. H., & Kocak, A. (2008). Understanding market-driving behavior: The role of entrepreneurship. *Journal of Small Business Management*, 46(1), 4–26. doi:10.1111/j.1540-627X.2007.00228.x
- Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, 25(1), 217–226. doi:10.5465/AMR.2000.2791611

- Shane, S. (2003). *A general theory of entrepreneurship: The individual-opportunity nexus*. Cheltenham, UK: Edward Elgar Publishing.
- Short, J. C., Broberg, J. C., Coglisier, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA): An illustration using entrepreneurial orientation. *Organizational Research Methods, 13*(2), 320–347. doi:10.1177/1094428109335949
- Short, J. C., McKelvie, A., Ketchen, D. J., & Chandler, G. N. (2009). Firm and industry effects on firm performance: A generalization and extension for new ventures. *Strategic Entrepreneurship Journal, 3*(1), 47–65. doi:10.1002/sej.53
- Short, J. C., & Palmer, T. B. (2003). Organizational performance referents: An empirical examination of their content and influences. *Organizational Behavior and Human Decision Processes, 90*(2), 209–224. doi:10.1016/S0749-5978(02)00530-7
- Short, J. C., Payne, G. T., Brigham, K. H., Lumpkin, G. T., & Broberg, J. C. (2009). Family firms and entrepreneurial orientation in publicly traded firms: A comparative analysis of the S&P 500. *Family Business Review, 22*(1), 9–24. doi:10.1177/0894486508327823
- Simon, M., & Houghton, S. M. (2003). The relationship between overconfidence and the introduction of risky products: Evidence from a field study. *Academy of Management Journal, 46*(2), 139–149. doi:10.2307/30040610
- Slater, S. F., & Narver, J. C. (2000). The positive effect of a market orientation on business profitability: A balanced replication. *Journal of Business Research, 48*(1), 69–73. doi:10.1016/S0148-2963(98)00077-0
- Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal, 11*(5), 17–27. Retrieved from <http://www.jstor.org/stable/2486667>

- Stinchcombe, A. L., & March, J. G. (1965). Social structure and organizations. In J. G. March (ed.), *Handbook of Organizations* (pp. 142–193). doi:10.1016/S0742-3322(00)17019-6
- Tajeddini, K. (2010). Effect of customer orientation and entrepreneurial orientation on innovativeness: Evidence from the hotel industry in Switzerland. *Tourism Management*, 31(2), 221–231. doi:10.1016/j.tourman.2009.02.013
- Tang, J., Tang, Z., Marino, L. D., Zhang, Y., & Li, Q. (2008). Exploring an inverted u-shape relationship between entrepreneurial orientation and performance in Chinese ventures. *Entrepreneurship: Theory & Practice*, 32(1), 219–239. doi:10.1111/j.1540-6520.2007.00223.x
- Thoumrungroje, A., & Racela, O. (2013). The contingent role of customer orientation and entrepreneurial orientation on product innovation and performance. *Journal of Strategic Marketing*, 21(2), 140–159. doi:10.1080/0965254X.2012.742129
- Uotila, J., Maula, M., Keil, T., & Zahra, S. A. (2009). Exploration, exploitation, and financial performance: Analysis of S&P 500 corporations. *Strategic Management Journal*, 30(2), 221–231. doi:10.1002/smj.738
- Vega-Vázquez, M., Cossío-Silva, F.-J., & Revilla-Camacho, M.-Á. (2016). Entrepreneurial orientation–hotel performance: Has market orientation anything to say? *Journal of Business Research*, 69(11), 5089–5094. doi:10.1016/j.jbusres.2016.04.085
- Verhees, F. J. H. M., & Meulenbergh, M. T. G. (2004). Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of Small Business Management*, 42(2), 134–154. doi:10.1111/j.1540-627X.2004.00102.x

- Wales, W. J. (2015). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal*, 34(1), 3–15.
doi:10.1177/0266242615613840
- Wales, W. J., Gupta, V. K., & Mousa, F.-T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, 31(4), 357–383. doi:10.1177/0266242611418261
- Weber, R. P. (1990). *Basic content analysis*. Thousand Oaks, CA: SAGE Publishing, Ltd.
- Weiss, M., Hoegl, M., & Gibbert, M. (2017). How does material resource adequacy affect innovation project performance? A meta-analysis. *Journal of Product Innovation Management*, 33(2), 141. doi:10.1111/jpim.12368
- Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, 20(1), 71–91. Retrieved from <http://www.diva-portal.org/smash/get/diva2:3910/FULLTEXT02>
- Yu, X., Nguyen, B., & Chen, Y. (2016). Internet of things capability and alliance. *Internet Research*, 26(2), 402–434. doi:10.1108/IntR-10-2014-0265
- Zachary, M. A., McKenny, A., Short, J. C., & Payne, G. T. (2011). Family business and market orientation. *Family Business Review*, 24(3), 233–251. doi:10.1177/0894486510396871
- Zahra, S. A. (2008). Being entrepreneurial and market driven: Implications for company performance. *Journal of Strategy and Management*, 1(2), 125–142.
doi:10.1108/17554250810926339
- Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, 39(6), 1713–1735. doi:10.2307/257076

Zheng Zhou, K., Yim, C. K., & Tse, D. K. (2005). The effects of strategic orientations on technology- and market-based breakthrough innovations. *Journal of Marketing*, 69(2), 42–60. doi:10.1509/jmkg.69.2.42.60756

Zhou, K. Z., Gao, G. Y., Yang, Z., & Zhou, N. (2005). Developing strategic orientation in China: Antecedents and consequences of market and innovation orientations. *Journal of Business Research*, 58(8), 1049–1058. doi:10.1016/j.jbusres.2004.02.003

VITA

Dexi Zheng was born on June 28, 1982 in China and later emigrated to the United States at a young age with his parents. He completed his undergraduate work at the Southwest Minnesota State University (2004) where he received a Bachelor of Science degree with majors in Accounting, Business Management, and Computer Science. He later completed his Master of Business Administration degree at Southwest Minnesota State University (2014). Dexi is currently an entrepreneur while remaining active in the field of accounting.