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# New England Journal of Entrepreneurship

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# New England Journal of Entrepreneurship

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# New England Journal of Entrepreneurship

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# New England Journal of Entrepreneurship

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The *New England Journal of Entrepreneurship* (NEJE) is a double-blind peer-reviewed journal that aims to foster dialogue and innovation in studies of entrepreneurship and small and family-owned business management. The Journal welcomes original work across a broad spectrum of issues and topics related to the study and practice of entrepreneurship. The Journal encourages submission of a wide range of perspectives and is particularly interested in those that challenge conventional wisdom concerning all aspects of entrepreneurship and small and family-owned businesses and their role in society. In doing so, the Journal promotes an ethos that is explicitly theory-driven and supported, global in scope and vision, open, reflective and reflexive, imaginative and critical, interdisciplinary and multidisciplinary, and that facilitates exchange among academic scholars, as well as between academic scholars and practitioners.

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- The submission contains few and only necessary footnotes (not endnotes).
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From: 

# Inquiring Into Entrepreneurial Orientation:

## Making Progress, One Step at a Time

Vishal K. Gupta  
Dev K. Dutta

More than 25 years have passed since Jeff Covin and Dennis Slevin published a *Strategic Management Journal* article on firm strategy in the face of environmental hostility, formalizing the idea of “entrepreneurial strategic posture” (Covin & Slevin, 1989). The article argued, in the context of small manufacturing firms, that superior performance accrues to firms that adopt an entrepreneurial strategy in hostile environments and a conservative strategy in benign environments. It built on Covin and Prescott’s (1985) introduction of the “entrepreneurial orientation” (EO) construct and proposed a nine-item scale for its measurement. Within a few years, Lumpkin and Dess (1996) followed with a theoretical exposition and conceptual extension of the EO construct and its link to firm performance.

Fast forward to 2016: EO is now widely acknowledged as one of the most central and prominent concepts in all of management science. Table 1 lists key contributions to the EO literature over the years.

The journey of EO, from its initial development to today, has been long and eventful. Like many managerial concepts, EO research has evolved in a way that resembles the first three stages of the product life-cycle: introduction, growth, and maturity. We summarize select (key) EO publications over the three stages in Panel 1A.

The origination of EO is often traced back to Mintzberg (1973) who was the first to publicly appreciate the potential of an entrepreneurial strategy-making mode. Khandwalla (1976) conducted some initial empirical work on entrepreneurial strategy in Indian firms, which was followed by Miller’s (1983: 771) articulation of an entrepreneurial firm as one that “engages in product–market innovation, undertakes somewhat risky ventures, and is first to come up with “proactive” innovations, beating competitors to the punch.” The publication of Covin and Slevin (1989) and Lumpkin and Dess (1996) established EO in the upper echelons of the publication hierarchy, opening the path to the next phase of research in this area.

Following the publication of these seminal works that laid the foundations of EO, research in this stream really picked up during the growth phase, which we classify as the period from 1996 to 2008. During this timeframe, researchers not only worked to refine the understanding of the construct and its measurement but also began to examine the nature of its relationship with firm-level outcomes, notably firm survival, performance, growth, and also the impact of various contingencies on these relationships. Knight (1997) utilized the ENTRESCALE developed by Khandwalla (1977), and later refined by Miller and Friesen (1978) and Covin and Slevin (1989), to carry out a study on French-speaking entrepreneurs of firms based in Quebec (Canada). Lyon, Lumpkin, and Dess (2000) took a different approach to enhance EO research, identifying the three dominant approaches used to measure the EO construct and test its relationships with other constructs: managerial perception, firm behavior, and resource allocations. The authors identified relative advantages and disadvantages of each of three approaches and suggested that future research would benefit from a triangulation approach.

The next few years saw a burgeoning of research examining the nature of different moderating influences on the EO-performance relationship. Lumpkin and Dess (2001) carried out a study to link two dimensions of EO (proactiveness and competitive aggressiveness) on performance under the contingent impact of industry life cycle. The authors demonstrated that proactiveness and competitive aggressiveness emerge as two distinct factors in terms of how entrepreneurs visualize their impact on firm performance, with the former having a positive relationship with performance and the latter a negative relationship. Further, the industry life-cycle stage the firm was in also had an impact, with proactive firms enhancing their performance in the early stages of the life cycle and competitively aggressive firms bettering their performance in late and mature stages. Later studies broadened the scope of EO research even further, e.g., the impact of specific resources on the EO-performance relationship (e.g., Wiklund and Shepherd, 2003, 2005), the idea of EO



**Table 1: Key Contributions in EO Research**

1A	1B	1C
Progress in EO Research	Critiques and Concerns in EO	New Perspectives on EO
<i>Introduction (1973–1996)</i>		
Mintzberg (1973)	Cahill (1996)	Short, Payne, Coglisier, & Brigham (2009)
Khandvalla (1976)	Anderson (2010)	Miller & LeBreton-Miller (2011)
Miller (1983)	Covin & Wales (2011)	Wiklund & Shepherd (2011)
Covin & Slevin (1989)	Miller (2011)	Gupta, Dutta, & Chen (2014)
Lumpkin & Dess (1996)	Gupta (2015)	Anderson, Kreiser, Kuratko, Hornsby, & Eshima (2015)
<i>Growth (1997–2008)</i>		
Knight (1997)		
Lyon, Lumpkin, & Dess (2000)		
Lumpkin, & Dess (2001)		
Kreiser, Marino, & Weaver (2002)		
Tang, Tang, Marino, Zhang, & Li (2008)		
Wiklund & Shepherd (2003)		
Wiklund & Shepherd (2005)		
Jantunen, Puumalainen, Saarenketo, & Kylaheiko (2005)		
<i>Maturity (2009–2016)</i>		
Rauch, Wiklund, Lumpkin, & Frese (2009)		
Covin & Lumpkin (2011) <i>Special Issue Editorial</i>		
Wales, Gupta, & Mousa (2013)		
Gupta & Gupta (2015)		
Wales (2016)		
Martens, Belfort, & de Fritas (2016)		

as a dynamic capability in large firms (Zahra, Sapienza, & Davidsson, 2006), and the changing nature of the EO-performance relationships in emerging economies such as China (Tang, Tang, Marino, Zhang, & Li, 2008).

There are now strong indications that EO has reached a mature stage in its development. Rauch, Wiklund, Lumpkin, and Frese (2009) conducted a meta-analysis of 51 EO studies and found that effect size of the EO-performance relation is .24, which is considered medium in organizational research. Casting a much wider net, Wales, Gupta, and Mousa (2013) sought to integrate all of the available published literature on EO, drawing attention to the nomological net in which EO is embedded. Other reviews of EO followed, for example, Gupta and Gupta (2015); Wales (2016); and Martens, Lacerda, Belfort, and de Fritas (2016). Covin and Lumpkin (2011) edited a special issue of EO in the prestigious *Entrepreneurship Theory & Practice*, with contributions from several noted EO researchers.

One interesting aspect of the EO journey so far has been the relative scarcity of critical commentaries on the concept itself or the research in this area. Cahill (1996) was an early critic of the distinctiveness of the EO concept, but as far as we can tell, his comments did not find much resonance with researchers. More recently, Andersen (2010) questioned the common wisdom that EO leads to superior performance, but his critique has not attracted much attention yet. Other than these two articles, and occasional concerns raised by others (e.g., Covin & Wales, 2011; Gupta, 2015; Miller, 2011), few slings and arrows have been directed at EO scholarship. The lack of criticism appears to be a positive feature of EO research, but its insidious effect is that EO research risks becoming a stagnant pool with the same logic and arguments being repeated and rehashed among researchers, reviewers, and editors. Panel 1B lists the few (rare) articles critiquing the EO literature. We sincerely hope that every new entrant interested in conducting scholarship in the area of EO will give some attention to these critiques, understand their concerns, and consider ways in which their own research may be able to address or alleviate some of the issues raised by these scholars.

While the risk of stagnation is real in EO research, some methodological and conceptual innovations in recent years have helped invigorate the pool. Panel 1C summarizes key publications that have introduced much-needed freshness to the EO literature. On the methodological side, Short, Broberg, Coglisier, & Brigham (2009) and Gupta, Dutta, & Chen (2014) introduced novel

ways of measuring EO using textual data sources such as corporate letters to shareholders. The former analyzes textual documents for EO using computer software, while the latter employs psychometric scales with human coders for the same purpose. Miller and LeBreton-Miller (2011) developed a technique to assess EO using quantitative information available in the balance sheet and income statement of a firm. On the conceptual side, Wiklund and Shepherd (2011) proffered the novel position of EO as experimentation, and Anderson, Kreiser, Kuratko, Hornsby, & Eshima (2015) locate entrepreneurial risk-taking as a distinct antecedent of proactiveness and innovativeness.

In assembling this special issue of EO, we were mindful of the current state of scholarship in this area. There is much to celebrate in EO research, as the field now finds itself at a mature stage in its life cycle. At the same time, there are concerns about where EO research will go from here, so that the field may decline in accordance with traditional product life-cycle theory, or may be revitalized as a result of the new innovations introduced by researchers in this area. Our hope in drafting this special issue was that it would draw submissions that rejuvenate the conversation about EO as well as redirect it in new directions. Our own assessment of the articles in this special issue is that we were reasonably successful in achieving our goals (of course, we are biased in evaluating ourselves!). The next section summarizes some of the articles presented in this issue. We realize that our brief discussion cannot fully capture all the value created by these articles. Our effort in the next section, therefore, is to simply convey to you, our readers, the basic essence of the articles in this special issue.

The special issue starts with Wales and Mousa's (2016) examination of affective and cognitive discourse in prospectuses of young high-tech firms at the time of IP. For these authors, EO is a contingency variable that moderates the discourse-underpricing relation. The next paper is Farja, Gimmon, and Greenberg's (2016) investigation of EO effects in Israeli SMEs located in core and peripheral regions, which introduces the interesting distinction between core and peripheral areas to EO research. Cowden, Tang, and Bendickson (2016) theorize how a firm's administrative heritage influences the long-term relationship between EO and firm performance. Finally, Gupta, Chen, and Gupta (2016) tease out the performance consequences of the three separate facets of EO—proactiveness, risk-taking, and innovativeness—in a longitudinal sample of large retailers in the United States.

As we think through the four papers that comprise this special issue, we cannot help but be elated at the progress made by EO scholarship over the past few decades. Indeed, it seems safe to contend that EO defies the description of entrepreneurship research as a “hodgepodge” (Shane & Venkataraman, 2000), and instead serves as a good example of how a cumulative body of knowledge should develop in organizational science. We are hopeful that the quality of EO research will strengthen further going forward. The key challenge, we think, will be to reenergize a field of inquiry that is already in the mature

phase. In our view, this reinvigoration will require giving much-needed attention to the critics and concerns that have had limited impact on EO research so far. Special issues like the present one can play an invaluable role in furthering EO scholarship.

We conclude with a heartfelt thanks to all the authors and reviewers whose time and efforts made this special issue possible! Our sincere appreciation also to Editor-in-Chief Grace Guo, who actively supported this special issue from ideation to fruition.

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# Examining Affective and Cognitive Discourse at the Time of IPO:

## Effects on Underpricing and the Moderating Role of Entrepreneurial Orientation

William Wales

Fariss-Terry Mousa

*This study presents evidence concerning the effects of affective and cognitive rhetoric on the underpricing of firms at the time of their initial public offering. It is suggested that firms that use less affective, and more cognitively oriented discourse in their IPO prospectus will experience better underpricing outcomes. We examine these assertions using a sample of young high-tech IPO firms where investors rely on prospectuses as accurate and informative firm communications. Results from a robust five-year time span observe initial support for the hypothesized effects. Moreover, the signaling of a higher degree of entrepreneurial orientation in the firm prospectus is found to worsen the negative effects of affective discourse on underpricing. Study implications are discussed.*

**Keywords:** firm discourse; initial public offering; prospectus; language; entrepreneurial orientation

The power of discourse as captured through written or spoken communications to affect meaningful change in the world has long been acknowledged. In the business domain, choices in rhetoric have been shown to impact the organizational identity, which a firm projects and has been linked with higher firm performance (Zachary, McKenny, Short, Davis, & Wu, 2011). Moreover, language choices have been shown to evidence a firm's marketing orientation (Zachary, McKenny, Short, & Payne, 2011) and emphasis on corporate social responsibility (Castelló & Lozano, 2011) within a company's official letters to shareholders. Furthermore, rhetoric choices in company communications have been observed to provide meaningful indicators into a firm's strategy-making disposition and overall entrepreneurial orientation (Short, Broberg, Coglisier, & Brigham, 2010).

Among IPO firms, it is suggested that rhetoric choices offer meaningful signals to investors considering the value of a firm at the time of its initial public offering (IPO) (Mousa, Wales, & Harper, 2015; Payne, Moore, Bell, & Zachary, 2013). At the time of IPO, firms must prepare

a statement to investors, referred to as a prospectus, which includes key elements such as an overall business summary. This document is required by law in the United States to be as accurate, forthcoming, and diligently prepared as possible (Marino, Castaldi, & Dollinger, 1989). For young high-tech firms, the prospectus may be the first in-depth communication of their business summary and strategic vision to investors and is likely to be relied upon more heavily as an informative communication than among more established IPO firms. Nonetheless, understanding of how choices in rhetoric made by organizational members during the creation of their IPO prospectus may impact organizational outcomes is still in its infancy.

In the present study, we examine the open question of how choices in rhetoric may impact the degree of underpricing experienced by an IPO firm. In doing so we explore whether the choices organizations make in their official communications may impact the amount of money the firm "leaves on the table" during their IPO. Specifically, we examine the degree to which the rhetoric is either affective (e.g., expressive of emotion) or cognitive (e.g., expressive of consideration) in its composition and communication to investors. While such language choices may appear subtle, their impact can be rather pronounced (Pennebaker, Mayne, & Francis, 1997). We extend research on affective and cognitive rhetoric as a means to better understand how investors perceive a firm's official communications at the time of IPO.

Providing further insight, we examine the potential moderating role of firm entrepreneurial orientation (EO) in terms of how these influential choices in rhetoric are received by investors. Research on EO as a moderating factor has been highlighted as an influential direction for future research (Wales, 2016). Past research has demonstrated the importance of EO as a contextual condition within key relationships (i.e., Wiklund & Shepherd, 2003). While most research has examined EO

as an enhancing condition, we view EO as a potentially antagonistic influence within the relationship between IPO firm prospectus language and underpricing (Frazier, Tix, & Barron, 2004). We include EO within the present study given that past research suggests EO to constitute an important consideration at the time of IPO, which may heighten investor concern regarding the certainty of their investments (Mousa, Wales, & Harper, 2015). Indeed, firms with high levels of EO and innovation have been discussed as an interesting topic area within the media (VentureBeat, 2016), and a look at how they communicate with investors should add value to our understanding of these organizations poised for growth.

### Hypothesis Development

Content analysis has become an established and growing area of inquiry in management research. A review of the content analysis literature from 1980–2005 by Duriau, Reger, and Pfarrer (2007) found 98 articles published or referenced in management journals. Helping to foster content analysis research, computer-aided text analysis (CATA) has been adopted in management (Morris, 1994) and broader organizational (Kabanoff, 1997) research. CATA analyzes documents by counting the words of relevance to capturing a particular construct or choice in rhetoric. Word use can have an impact on the way in organizations are perceived.

While some words in a firm's prospectus may be eye-catching, such as innovation, patent, vision, etc., the general tone of how organizations portray their company's business summary is also important and likely to influence the impression of a given company in the minds of investors. Prior research has shown how linguistic choices in public communications can meaningfully impact observer perceptions and business outcomes. For instance, on a market level, Tetlock and colleagues investigate the sentiment of media content (daily news stories) to determine if such stories impact daily stock market activity (Tetlock, 2007; Tetlock, Saar-Tsechansky, & Macskassy, 2008). Tetlock (2007) observes that high levels of media pessimism correlate with downward price pressure on the Dow Jones Industrial Index. This study also found that abnormally high or low values of pessimism predict high market trading volume.

Moreover, foundational work in the communication literature by Tausczik and Pennebaker (2010) suggests that the function and emotion of words used in documents

provide meaningful cues into the actors underlying thought processes, intentions, and motivations. In this vein, Li (2006) examines whether specific risk-related words in company annual reports provide information about future earnings. The author counts specific words (e.g., risk, risky, uncertainty, etc.) and finds that increases in risk-related word counts are predictive of poor future earnings. A related study examined the optimistic and pessimistic language used by managers in quarterly earnings press releases to furnish information about the expected firm performance, and found managers' use of sentiment expressed in such releases to signal future earnings performance (Davis, Jeremy, & Sedor, 2006). Moreover, the rhetoric used by top leaders has been shown to shift during critical events to better fit the demands of a given situation (Bligh, Kohles, & Meindl, 2004). Thus, not only do language choices supply credible information to the market, but also investors respond to organizations' language usage (Davis et al., 2006).

The present study builds upon and extends these efforts by suggesting that the affective and cognitive discourse within a firm's prospectus meaningfully influences underpricing at the time of IPO. Pennebaker, Mehl, and Niederhoffer (2003) note that developing insight into emotional and cognitive discourse and its potential consequences represents an important area of inquiry. Indeed, they note that understanding whether individual's linguistic choices while disclosing emotional topics may affect their long-term health changes was a driving rationale behind the Linguistic Inventory and Word Count (LIWC) program. We now extend this pioneering work on affective and cognitive discourse to the official firm communications prepared by organizations for investors as captured within the prospectus at the time of IPO.

### Affective Discourse

Affective discourse is the use of language that captures the emphasis of positive and negative emotions in communications. The inclusion of affect helps emotionally connect with an audience and communicate feelings about a particular subject (Hyland, 1998). Often, affect is used to build relationships. For instance, President Bush's rhetoric was observed to change significantly following the 9/11 attacks to include more positive affect and better address the needs of a nation during a time of mourning (Bligh et al., 2004). Affective communication has also been shown to enhance group involvement and collaboration (Park, 2007). However, in the context of

official communications at the time of IPO, we assert that affective discourse can weaken an IPO firm's valuation when the firm is judged by investors.

Underpricing frequently results from an asymmetry of information between an IPO firm and its underwriters. Thus, investors must make valuation decisions under uncertainty, and they are incentivized to set offer prices low to avoid the risks and costs associated with an unsuccessful issue. An unconscious confirmation bias may therefore arise in which investors are more open to information and discourse that confirms their disposition that the IPO firm warrants a lower valuation. Emotionally charged dialogue, which captures instinctive or intuitive feelings as distinguished from more reasoned dialogue, is likely to help underwriters justify providing firms with lower valuations. There is also the potential for affective discourse to impact investors' overall impression of a company's state of development and thereby their intuition or "gut" feelings about the potential of the company based upon an emotionally charged summary of the firm's business directions in the IPO prospectus. Investors may interpret such emotional emphasis as positioning the firm's future earnings as more hopeful than secure. As such, investors may view the use of affective discourse as attempting to cover up for firm weaknesses by using more hopeful or relational appeals, as opposed to more concrete and rational points, which support their thesis of having a sound business warranting of a strong initial share price at the time IPO. Therefore, we hypothesize:

**Hypothesis 1:** *Affective discourse in the IPO prospectus is positively related to underpricing.*

### **Cognitive Discourse**

Cognitive discourse is the use of language that reflects the process of understanding through the application of thought and consideration. Cognitive discourse includes language referencing such areas as insight, causation, and certainty. We assert that cognitively focused discourse in the IPO prospectus is likely to be responded to more favorably than affective discourse by underwriters given that cognitive discourse is more focused on providing understanding, insight, and rationale concerning the firm's business potential. This is particularly relevant given the information asymmetry that typically exists between the IPO firm and the underwriters seeking to evaluate the firm's worth.

The IPO process offers a company the opportunity to present its strategic vision to underwriters. Because the IPO prospectus provides critical insight into a company's vision, it allows outsiders to judge the strategic trajectory of the company. As such, language that helps communicate reasoning may impact how favorably investors interpret the firm's potential as a public company. Cognitive language suggests careful thought and consideration and offers insight regarding causation and certainty. Thus, rhetoric, which is more cognitively focused, would likely enhance impressions of the organization's strategic vision and will help convince investors regarding the firm's potential strength as a public company. In turn, this will contribute to higher valuations by investors and drive the underwriting price up. In accordance, we posit:

**Hypothesis 2:** *Cognitive discourse in the IPO prospectus is negatively related to underpricing.*

### **Entrepreneurial Orientation as Moderator**

The influence of choices in discourse on underpricing are likely to be magnified in more sensitive firm contexts, such as when the firm has a higher degree of EO. EO captures the extent to which a firm is innovative, risk-taking, and proactive in its firm processes and behavior (Miller, 1983; Covin & Slevin, 1989). Although other dimensions have been proposed (e.g., Antoncic & Hisrich, 2003; Lumpkin & Dess, 1996), EO has been theorized to capture the shared variance between these three dimensions in the literature (Covin & Wales, 2012; Miller, 2011). In this vein, prior research has focused most intensely on this conceptualization of EO (Wales, Gupta, & Mousa, 2013). Innovativeness reflects a firm's creativity, discovery, and imagination. Risk-taking is associated with a firm's bold and daring actions and ventures with uncertain returns. Proactiveness represents a forward-looking and opportunity-seeking perspective to anticipate, explore, and search for new possibilities. EO has been shown to be reflected in official company communications such as shareholder letters (Short et al., 2010) and IPO prospectuses (Mousa & Wales, 2012). Short and colleagues (2010) observed support for the validity of measuring a firm's EO using a CATA approach based on firm communications.

As a strategic orientation communicated by young technology firms at the time of IPO, EO has been shown to have a negative impact on investor perceptions, reducing the amount of capital raised by the IPO firm (Mousa, Wales, & Harper, 2015). Mousa et al. (2015) posit that since EO captures an exploratory strategy posture characterized by high variance in performance (Wiklund & Shepherd,



2011), stronger EO signals might weaken underwriter's confidence in the ability of a prospective firm to project strong consistent earnings post-IPO. In this vein it is noted by Mousa and colleagues (2015) that returns from firm's efforts focused on exploration are generally "uncertain, distant, and often negative," whereas more exploitative efforts produce returns that are more "positive, proximate, and predictable" (March, 1991, p. 85).

Investors are highly sensitive to an IPO firm's performance in the market once trading begins given that stock performance impacts their reputation as an underwriter, which can have lasting repercussions for their ability to bring future firms public. Thus, underwriters are inherently risk-averse, with a strong motivation to price a firm's stock lower given that underpricing decreases the likelihood of legal action being taken against the investment bank for promoting issues that perform below expectations. Being highly entrepreneurial—that is when a firm signals it is being more innovative, proactive, and risk-taking in the marketplace—increases investor concerns regarding the certainty of the firm's potential as a public company. When firms are more entrepreneurially oriented we would expect that the influence of their affective and cognitive choices in rhetoric to be interpreted in a more critical light. Thus, for a given level of affective or cognitive discourse, higher EO may have an antagonistic effect on underpricing, which is negative and consistent across both cognitive and affective discourse. In short, with greater EO, both cognitive and affective language are likely to be interpreted more critically, and thus we propose that EO has an antagonistic moderating influence on how investors interpret IPO firm prospectuses and ultimately their valuations. Therefore, we hypothesize:

**Hypothesis 3a:** *The effects of affective discourse on underpricing are moderated by the degree of EO signaled in the firm prospectus. Firms with greater EO experience more significant underpricing when engaging in affective discourse.*

**Hypothesis 3b:** *The effects of cognitive discourse on underpricing are moderated by the degree of EO signaled in the firm prospectus. Firms with greater EO experience more significant underpricing when engaging in cognitive discourse.*

## Methods

### Sample

To test the hypotheses, we developed a sample of young high-tech firms, 8 years of age or younger, that had

undertaken an IPO in the United States over a robust 5-year period from 2000 to 2005. These years were selected in order to provide a 5-year period that avoids the majority of the dotcom bubble which ran from 1997 until early 2000, or the housing bubble stemming from increased foreclosure rates beginning in 2006, which depressed the market during the late 2000s and until quite recently. Based on Standard Industrial Classification (SIC) codes, firms were identified as operating in high-technology industries sectors (e.g., Loughran & Ritter, 2004; Mousa & Reed, 2013). Consistent with prior research in the field, holding companies, financial institutions, and real estate investment trusts (REITs) were excluded from the sample (e.g., Fischer & Pollock, 2004). The data were collected from a number of sources: the prospectuses found on the Securities and Exchange Commission's (SEC's) Electronic Data Gathering and Retrieval (EDGAR) system for IPOs and the Compustat Database. Other data, such as first-day closing prices used to calculate the dependent variable were obtained from CRSP data tapes. After excluding companies due to missing prospectuses or financial data, the final sample consisted of 98 firms located within the following two-digit SIC industry groups: 28 (biotechnology and drugs), 35 (computer and related), 38 (medical equipment), 73 (software), 36 (electronics and communication), and 48 (telephone equipment and communications services).

## Measures

### Dependent Variable.

Underpricing, or first-day trading period returns, is a unique performance indicator that is used extensively in IPO contexts. We calculated underpricing using the following formula:  $(P1 - P0) / P0$  (first-day closing price—the offer price/offer price) based on prior research (Arthurs, Hoskisson, Busenitz, & Johnson, 2008; Certo, Daily, & Dalton, 2001b; Filatotchev & Bishop, 2002).

### Independent and Moderating Variables.

All data required for the independent and moderating variables were obtained from the IPO prospectuses of new issues. Content analysis strives to interpret the meaning of texts and communications (Holsti, 1969). We used the business summary section of the IPO prospectus as the relevant communication between the IPO firm and its investors to be interpreted. We use the Manifest Content Analysis (MCA) method content analysis, which counts the words present in a document based on dictionaries for each construct. We employed the technique of computer-

aided text analysis (CATA) given its ability to process large samples with high speeds and reliabilities (Short et al., 2010). When applying CATA techniques we built on the method defined by Short et al. (2010). Whereas they used content analysis of shareholder letters, we started by downloading and saving the prospectuses from the SEC's EDGAR database in text format (Mousa et al., 2015).

Two independent variables were used to test the hypotheses, *affective* and *cognitive rhetoric*. Both of these variables were computed using the Linguistic and Inventory Word Count software, LIWC 2007. Affective rhetoric is measured using a dictionary of 915 words, which captures the general emotional content of a document. As emotions can be expressed in either a more positive or negative manner, both are captured in our measure of a prospectuses affective rhetoric. Examples of more positively oriented emotional rhetoric would be language choices, which include terms such as nice, happy, elegant, joyful, or love. Examples of more negatively oriented emotional rhetoric include terms such as anxiety, hurt, fearful, wrong, or annoyed. The second independent variable, cognitive rhetoric, is measured using a dictionary of 730 words that captures language choices, which include terms such as insight, think, cause, certain, and consider. These dictionaries, while included in the LIWC 2007 software, were developed and supported with evidence presented in the work of Pennebaker, Mayne, and Francis (1997).<sup>1</sup>

A moderating variable, *Entrepreneurial Orientation (EO)*, was also used in this study. EO was measured as the combination of innovativeness, risk-taking, and proactiveness based on the theorized shared variance between these dimensions of EO (Miller, 2011). These three dimensions were measured using content analysis, which has been applied extensively in many fields including the strategy and entrepreneurship literature on public companies (e.g., Mousa et al. 2015; Short et al., 2010). Short et al. (2010) validated word dictionaries for each of the dimensions of EO to facilitate CATA. As such, they followed a structured process to develop the list of words for each EO dimension to improve overall construct validity (see Short et al., 2010, p. 333 for the final list of words included in each dimension's dictionary). The total word count for each of these dimensions, summed together, formulates the level of EO.

We chose to use content analysis to measure EO as we wanted to depart from previous research, which has generally relied on surveys to measure EO. Similar to other studies that chose this approach (e.g., Mousa et al., 2015), we employ an objective measure of EO as it avoids a number of limitations that are generally associated with surveys, such as recall bias, which are common in survey-based research (e.g., Barr, Stimpert, & Huff, 1992). Content analysis thereby not only provides a high degree of reliability and replicability (Finkelstein & Hambrick, 1996), but also, it is especially appropriate when trying to study data that is difficult to obtain (e.g., Short & Palmer, 2008; Tetlock et al., 2008), such as herein where it enables the use of archival data to categorize communications using a set of procedures (Weber, 1990).

### Control Variables.

Based upon prior research exploring short-term IPO performance, we controlled for influences such as *firm age* (e.g., Beatty, 1989; Beatty & Zajac, 1994; Finkle, 1998), measured as years from founding (e.g., Dimov & Shepherd, 2005). We also controlled for *ownership presence* as the number of shareholders which serves as a proxy measure of information asymmetry (Wu, 2004). Underpricing is expected to correlate positively with the likelihood of private placements given that greater underpricing is associated with higher information asymmetry (Chemmanur, 1993). Further, both Booth and Chua (1996) and Brennan and Franks (1997) suggested a positive relationship with underpricing. Further, larger IPO firms have been shown to outperform smaller ones in terms of stock appreciation (e.g., Megginson & Weiss, 1991; Mikkelsen, Partch, & Shah, 1997). Thus, we also controlled for *firm size* using the log of number of employees to account for possible skewness in the data.

Given that the extent of voluntary disclosure that an IPO firm provides has been found to be significantly related to IPO performance (Leone, Rock, & Willenborg, 2007), we also controlled for *use of proceeds*. By being more specific about how it will use IPO proceeds, a firm can reduce underpricing. Yet, management also has to balance this potential benefit with the costs of disclosing such information to rivals. Three variables (dynamism, munificence, and complexity) were used to help us account for external environment conditions (see Dess

<sup>1</sup> While our analysis used LIWC version 2007, we note that at the time of publication LIWC version 2015 introduces revisions to the cognitive processes dictionaries, which further refine the measurement of cognitive activity.

& Beard, 1984). *Environmental dynamism*, was measured by entering the natural logarithm of sales figures into a quasi-time series regression with time serving as the independent variable. Then we used the antilog of the standard errors of the resulting regression slope coefficients to capture environmental volatility in the same fashion of previous studies (Dess & Beard, 1984; Keats & Hitt, 1988). *Industry munificence*, also known as environmental capacity (Aldrich, 1979), generally indicates the availability of environmental resources to support firm growth (Keats & Hitt, 1988). Building on well-established literature (e.g., Dess & Beard, 1984; Keats & Hitt, 1988), we also chose to measure this variable as industry net sales in the quasi-time series regression, especially since Dess and Beard (1984) argued that industry sales are the primary factor in environmental munificence. *Industry competition* was controlled for by following the previous literature which measured competitive intensity based on a firms' market share (Mezias & Boyle, 2005; Swaminathan, 1995). This was measured by using the inverse of the four-firm concentration ratio obtained from the US Census of manufacturers for the year of the IPO. We collected this data from Compustat Data

Consistent with prior research, we included *number of risk factors* (e.g., Beatty & Welch, 1996) as higher risk may increase underpricing. Certo, Covin, Daily, & Dalton (2001a, p. 650) write that "risk factors associated with a firm can affect both performance expectations and realized performance." Therefore, a firm's risk position was operationalized as the number of risk factors as reported in the prospectus (Beatty & Zajac, 1994; Welbourne & Andrews, 1996). We also controlled for the possible effects of *venture-capital backing (VC-Backing)* (e.g., Certo et al., 2001b; Megginson & Weiss, 1991). This variable has been shown to influence the ability of an IPO firm to raise capital (Brav & Gompers, 2003; Gulati & Higgins, 2003; Megginson & Weiss, 1991) and increase chances of survival (Khurshed, 2000). Firms backed by venture capitalists were calculated as a dichotomous measure coded 1 for venture-capital backing, 0 if not.

### Method of Analysis

Consistent with other IPO research, all hypotheses in regards to the underpricing were analyzed using partial hierarchical multiple regression analysis (Arthurs,

Hoskisson, Busenitz, & Johnson, 2008; Certo et al., 2001a; Dimov & Shepherd, 2005; Zimmerman, 2008). This type of analysis allows the researcher to determine the order of entry of the variables.<sup>2</sup> We used a four-step hierarchical regression analysis. The first model contained all of the control variables. In the second and third models we added the independent variables to the base model.

### Results

Table 1 presents descriptive statistics and correlations between the variables. The descriptive statistics reveal that the average age of these young high tech firms is 5.6 years, thus reflecting a consistent age with our focus on young firms which is similar to those found in other young IPO studies (e.g., Certo et al., 2001a). Many previous IPO studies have an average age of 10 or higher (e.g., Fischer & Pollock, 2004), however when firms are more established, the prospectus is likely to be less heavily relied on as an informative communication. Also, the table shows that most of the correlations seem to be low to moderate. To test for multicollinearity, we examined the variance inflation factors (VIFs) and found none approaching the commonly known threshold of 10; none of the VIFs was above 1.609. This indicates that that multicollinearity is not unduly influencing our results (Kutner, Nachtsheim, Netter, & Li, 2005).

Table 2 gives the results of the hierarchical regression analysis. Model 1 is the baseline model without inclusion of any independent variables. In Model 2 we added the independent variable (EO) and in Model 3 we added both of our main independent variables (affective and cognitive discourse). Model 3 is used to test the first two hypotheses. In Model 4 we added the interaction terms and use it to examine hypotheses 3a and 3b (Andersson, Cuervo-Cazurra, & Nielsen, 2014).

Hypothesis 1 stated that the impact of affective discourse on underpricing would be positive. The results show that the direct affect is positive and significant ( $\beta = .224, p < 0.05$ ). Thus, it would appear that more affective discourse does increase underpricing. Hypothesis 2 stated that the impact of cognitive discourse on underpricing would be negative. The results show that the direct affect is negative and significant ( $\beta = -.209, p < 0.05$ ). Thus, more cognitive discourse does reduce underpricing. Hypotheses 3a and 3b both predicted that the impact of the moderator will positively impact underpricing.

<sup>2</sup> This is not to be confused with Hierarchical Linear Models that deal with observations that are not independent.

**Table 1: Descriptive Statistics and Correlations**

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
Underpricing	.0823	.11753												
Firm Age	5.6038	1.82407	.125											
Ownership Presence	20.9286	30.78366	.210*	-.038										
Firm Size	2.2619	.64861	.139	-.022	-.031									
Use of Proceeds	3.5849	2.06959	-.231*	-.200*	.000	-.199*								
Industry Dynamism	1.1140	.14022	.104	-.021	-.034	.156	.060							
Industry Munificence	1.2585	.50920	.024	-.187	.038	-.078	.071	.384**						
Industry Competition	.6475	.22040	-.026	.069	-.150	-.040	-.071	.385**	.165					
Firm Risk	33.4057	7.34429	-.245*	-.084	.016	-.226*	.058	.021	-.019	-.082				
VC-backing	.8491	.35969	.267**	.126	-.126	-.181	-.290**	.029	.029	-.023	.099			
EO	.9139	.49080	-.048	-.116	-.163	-.338**	.223*	-.153	.070	-.065	.089	-.025		
Affective Discourse	3.1643	.90834	.158	.136	.020	.257**	-.012	.024	-.071	-.104	.142	.066	-.078	
Cognitive Discourse	17.2102	1.88101	-.149	.045	.096	.068	-.027	-.025	.055	-.209*	.216*	-.100	.113	.306**

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

The results support hypothesis 3a ( $\beta=.785$ ,  $p < 0.05$ ), thus showing that an increase in firm's EO at IPO appears to further strengthen the relationship between affective discourse and underpricing. We did not find support for hypothesis 3b. Thus, there is no evidence in our study that EO moderates the relationship between cognitive discourse and underpricing.

## Discussion

The results suggest that organizations should be mindful of the rhetoric they use when preparing their firms prospectus in anticipation of an IPO. As affective rhetoric is shown to lead to more significant underpricing, it would appear that investors are sensitive to the use of emotional language in the prospectus. While emotionally charged language can help build relationships, it might also be

**Table 2: Results of Linear Regression Predicting Underpricing**

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>	<b>Model 4</b>
Firm Age	0.07	0.079	0.073	0.063
Ownership Presence	0.261**	0.285**	0.292**	0.293
Firm Size	0.127	0.165	0.121	0.142
Use of Proceeds	-0.091	-0.106	-0.142	-0.144
Industry Dynamism	0.118	0.131	0.14	0.175
Industry Munificence	-0.004	-0.02	0.007	0.014
Industry Competition	-0.028	-0.025	-0.061	-0.069
Firm Risk	-0.268**	-0.267**	-0.257**	-0.258
VC-backing	0.313**	0.322**	0.27**	0.258
EO		0.123	0.164	0.265
Affective Discourse			0.224**	-0.183
Cognitive Discourse			-0.209**	-0.056
EO X Affective Discourse				0.785**
EO X Cognitive Discourse				-0.816
R2	.271	.283	.339	.374
Adjusted R2	.196	.200	.246	.268

N=98. Standardized coefficients reported. Two-tailed tests.

† p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\*p<0.001

interpreted as an attempt at persuading investors to evaluate the IPO firm more favorably on a non-pecuniary basis. Investors appear to value firms more favorably when their prospectus has a greater emphasis on cognitively focused language, which is associated with less underpricing, or money being “left on the table” by a firm at IPO. In short, emotion appears to be a poor substitute for more cognitively directed communication when crafting the IPO prospectus, and summarizing the firm’s business activities.

In the final model, we observe EO to only worsen the effects of affective language on underpricing. These findings contribute to the small, but growing evidence that EO as captured within official firm communications

to investors at the time of IPO may affect key financial outcomes (e.g., Mousa et al., 2015, Payne et al., 2013, etc.).

The results of this study make several contributions. First, it is suggested that IPO firms must be mindful of the general tone of how they craft their prospectus if they are to maximize their gains at the time of IPO. This is a very significant finding as while such choices in rhetoric may seem minor, all else being equal, our results suggest that firms which use more cognitive and less affective language in their prospectus will achieve more favorable underpricing. The findings offered herein have strong implications for organizational members preparing their firms for IPO given that their rhetoric is imminently malleable. Moreover, these findings are highly relevant to

practitioners given that many firms are presently most likely not paying a great deal of attention to affective/cognitive rhetoric choices as they prepare their prospectus. Yet, such choices are found to matter and significantly impact underpricing at IPO.

An additional finding offered herein is that firms which are more entrepreneurially orientated experience more significant underpricing when affective discourse is more pronounced in their prospectus. This suggests that the investors are particularly sensitive to affective discourse among firms which are highly entrepreneurial, that is very innovative, risk-taking, and proactive in the market place. Given the uncertainty surrounding EO firm's ultimate potential as public companies, it would appear that affective dialogue pushes underwriters to provide lower valuations. As discussed, underpricing frequently results from an asymmetry of information between an IPO firm and its underwriters. Thus, these investors must make valuation decisions under uncertainty, and they are incentivized to set offer prices low to avoid the risks and costs associated with an unsuccessful issue. An unconscious confirmation bias may therefore arise in which they are more open to information and discourse, which confirms their disposition that the IPO firm warrants a lower valuation. In short, this finding further emphasizes that feelings appear to be a poor substitute to a more cognitively focused, reasoned dialogue. EO firms would be particularly wise to avoid affective rhetoric in their prospectus.

### **Limitations and Future Directions**

While initial evidence of interesting relationships is provided, the present findings must be interpreted in light of the study limitations and implications for future research. To begin, this study focused on a sample of firms in which communications between the IPO firm and the

underwriter are likely to be very important given that young high-tech firms have uncertain potential in the marketplace. Nonetheless, it is possible that the results of the present study may not hold among more established firms. Certainly future research is encouraged to explore broader contexts within which to test the present findings.

We also note that the affective dictionary captures the emotional content of the dialogue irrespective of whether the sentiment being expressed is either positive or negative. Nonetheless, there is still significant variance left unexplained in the model. Future research may choose to differentiate relationships between positive and negative emotions, etc. We also note that the cognitive processes dictionary includes an exclusive dimension which covers words such as but, without, and exclude, which, while part of this validated instrument, seem somewhat overly general (Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007). As discussed, at the time of publication an update to the LIWC software (version 2015) has sought to address some of the generality issues of version 2007. Thus, while version 2007 observes support for the novel hypotheses advanced in this study, future research may examine more refined dictionaries of cognitive and affective language.

In summary, the present study helps extend research on discourse and affective cognitive rhetoric to the influential managerial setting of IPO prospectus communication. It is postulated and a test is performed that supports the notion that such subtle choices in rhetoric can have meaningful implications for a firm's IPO performance. It is our hope that these initial research findings encourage future studies into how linguistic choices within IPO firms' official communications may impact their performance.

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# The Effect of Entrepreneurial Orientation on SMEs Growth and Export in Israeli Peripheral Regions

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*This research explores the influence of entrepreneurial orientation (EO) on SMEs located at core and peripheral regions, by focusing on a single dimension of EO: proactiveness. We conducted a quantitative study of 626 Israeli SMEs. Business growth, as measured by the rate of change in number of employees, was found to be significantly higher in the core region. As expected, proactiveness was found to strongly affect SME growth as well as firm expansion to international markets. Our analysis shows that the difference in business growth between regions can be attributed also to a lower level of owners' proactiveness in peripheral regions since it was found to mediate the effect of peripheral location on firm growth. Differences in proactiveness levels may be explained by the historical development of peripheral regions. Our results have useful implications for policies that aim to promote growth and development in peripheral regions.*

**Keywords:** entrepreneurial orientation; proactiveness; peripheral regions; SMEs growth.

This study is designed to determine whether entrepreneurial orientation (EO) affecting growth of young firms in core regions operates differently in peripheral regions. In this paper, peripheral regions are characterized by their distance from the economic center of a country and their lower population density (Davies & Michie, 2011). There is a paucity of studies probing the effectiveness in peripheral regions of applying business improvement methods designed to stimulate innovation implementation in small- and medium-sized enterprises (SMEs) (Harris, McAdam, McCausland, & Reid, 2013). These researchers asserted that the proximity of sophisticated and demanding customers, as one of the determinants of a competitive position, leads to an improvement of products and services and consequently to growth (Porter, 1990). Couclelis (2004) explored the constraints of space and time termed as "tyranny of the region," which traditionally led to predictable regional patterns of retail location, and found that the constraints hold even for advanced information and communication technologies

using e-commerce. Since many countries have policies that were designed to promote economic growth through entrepreneurship in peripheral regions, knowing the factors that affect growth in those regions has important implications. In our study, we combine the concept of EO with regional and geographical economics, and ask how spatial heterogeneity and EO jointly determine observed differences in SMEs growth. Gupta and Gupta (2015) called for further research to unravel the link between EO and economic growth though this issue is not easy to address.

In addition to firm characteristics, in this study we examined activities related to entrepreneurial orientation (EO), which refers to the strategy-making processes that provide organizations with a basis for entrepreneurial decisions and actions (Lumpkin & Dess, 1996). These researchers suggested the usefulness of considering EO as a multidimensional construct consisting of autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness. Following Miller's (1983) conceptualization, three dimensions of EO have been identified and used consistently in the literature: innovativeness, risk-taking, and proactiveness. Researchers dispute how these three entrepreneurial elements are related to each other within a holistic unitary conceptualization of EO (Gupta, 2015). Hughes and Morgan (2007) found that the five dimensions of EO have different effects on the business performance of young firms. Also, Covin and Wales (2012, p. 688) argued that risk-taking, innovativeness, and proactiveness cannot be assumed to have the same antecedents and consequences. Gupta and Batra (2015) suggested that EO offers SMEs a way through which their proactiveness can counter the detrimental effects of these institutional forces.

In this study, we conceptualized EO as a latent unidimensional construct comprised of proactiveness, which was found to be useful in previous EO studies (Wales, Gupta, & Mousa, 2013). We tested several factors that evaluated proactiveness as related to EO of SME managers: the development of new products and services,

entry into new markets, the willingness of managers to expand their business and the establishment of new sub-units to the main business. It should be noted that previous research showed that one of the strongest predictors of small business growth is the managers' willingness to grow their business (McKelvie & Dennis, 2014) and that many small young firms are sleeping gazelles that are reluctant to hire new employees (Wiklund, Davidsson, & Delmar, 2003) despite having high profits (Bornhäll, Daunfeldt, & Rudholm, 2014).

The growth of SMEs can be measured by different financial tools and in various ways. For many management and economics sources SME growth is measured in terms of increases in firm employment. This is the most relevant measure for many government policy makers, since SME growth is seen as an important way of reducing unemployment (Bah, Brada, & Yigit, 2011; Westhead & Birley, 1995; Birley, 1987). In our sample of SMEs from core and peripheral regions in Israel, firm revenue and number of employees have a strong correlation ( $r = .55$ ,  $p < 0.01$ ), further justifying the use of growth in firm employment as a growth measure.

## Literature Review

Prior empirical research has highlighted the role of entrepreneurship and new venture creation as a mechanism for employment creation, innovation, and economic growth (e.g., Thurik & Wennekers, 2004). Birley (1987) showed that growth would appear not to be a primary objective of the entrepreneur. Therefore, employment growth in SMEs is a prime concern and deserves further research (Westhead & Birley, 1995). More specifically, the differences between core and peripheral economies raises the question to what extent the uneven distribution of resources (Mueller, Van Stel, & Storey, 2008; Bosma, Acs, Autio, Coduras, & Levie, 2009) restrains employment growth of new ventures in peripheral regions.

Agglomeration economies and geographical accessibility shape location determinants of new manufacturing establishments, and the better connected a region is to the highway network, the more attractive it is for the growth of local firms (Alañón-Pardo & Arauzo-Carod, 2013). Following economic geography, McCann and Ortega-Argilés (2015) argue that entrepreneurship and innovation processes tend to be less successful in peripheral regions due to one or more fundamental characteristics that are difficult to modify or rectify relating to: sector, structure, transaction, behavior, resources and

capabilities, risk and financial flows, externalities and issues of market failure, technology, and perception.

Schnell, Greenberg, Arnon, & Shamai (2015) proposed a theoretical model of the entrepreneur as an agent of change and economic growth that is embedded in his/her entrepreneurial environment. An adapted version of this model is described in Figure 1. It shows that the environment is comprised of support systems on different levels: kinship, local, regional and national support, and also by the social networks in which the entrepreneur is embedded. Examples of such networks are markets, suppliers, cooperators, and competitors. Due to reasons such as low population density and historical processes that differentiated these areas from core areas, peripheral regions lack both support systems and social networks. One of the results is lower growth rates for businesses in these regions.

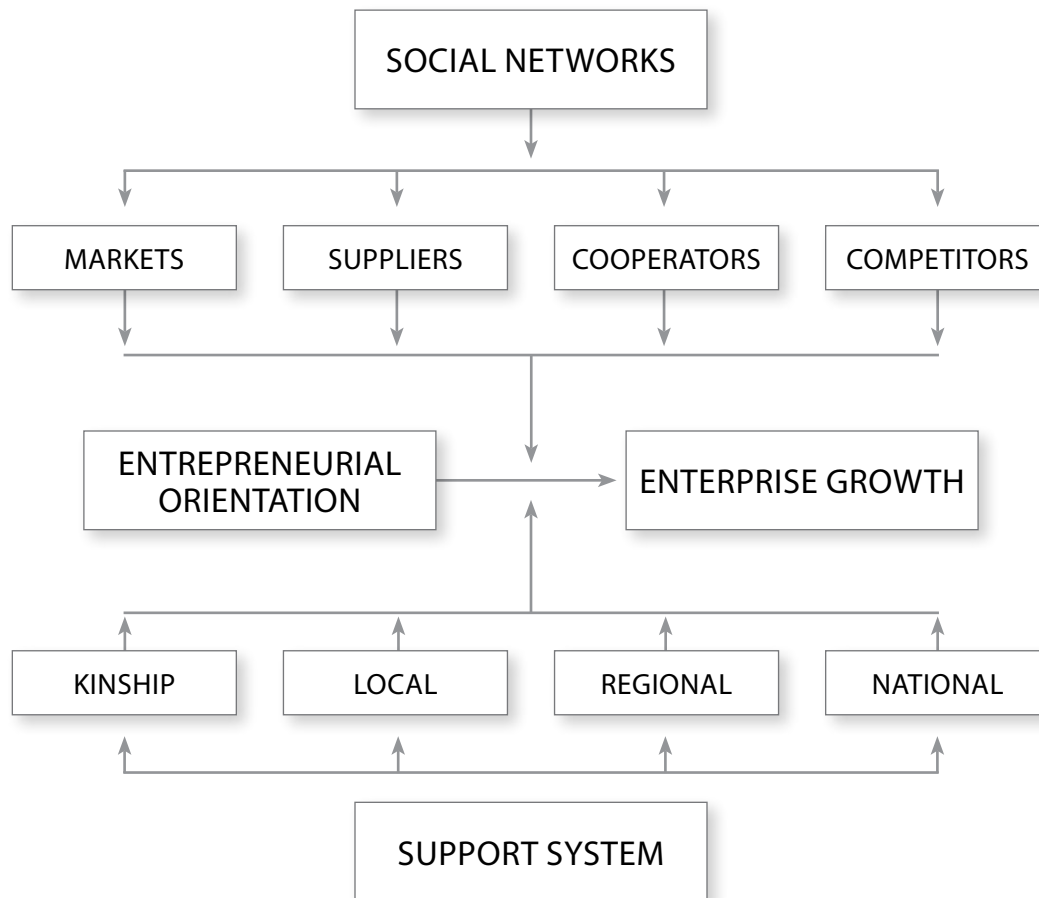
The weakness of peripheral regions was demonstrated by various empirical studies conducted in different countries, both underdeveloped such as El Salvador (Lanjouw, 2001) and developed such as Canada (Polese & Shearmur, 2006) and the United Kingdom (Kalantaridis, 2009). In addition, previous studies conducted in different developed countries in Western Europe such as Austria (Todling & Wanzenböck, 2003), the United Kingdom (Johnson, 2004), the Netherlands (Van Stel & Suddle, 2008), and in the United States (Headd, 2003), demonstrated that core regions showed greater propensity for fostering entrepreneurial activities.

In the current study, we expect to reconfirm the findings about firm growth and entrepreneurial success in peripheral regions. We hypothesize that:

**Hypothesis 1:** *Growth rates are lower in peripheral regions in comparison to core regions.*

Firms pursue activities related to EO in order to achieve competitive advantage and subsequent growth. Previous studies have generally established a positive relationship between aggregated measures of EO and firm performance (Kreiser, Marino, Kuratko, & Weaver, 2013). Rauch, Wiklund, Lumpkin, & Frese (2009) conducted a meta-analysis of 53 samples from 51 studies with an N of 14,259 companies and found that the correlation of EO with performance is moderately large ( $r = .242$ ) and that this relationship is robust with regard to different operationalizations of key constructs as well as cultural contexts. Most new business owners expressed

**Figure 1: Theoretical model of entrepreneurship orientation in a geographical context (based on Schnell et al., 2015).**



willingness to grow their businesses (McKelvie & Dennis, 2014), although this finding was not corroborated by all studies (e.g., Wiklund, Davidsson, & Delmar, 2003). Based on data gathered from farms in peripheral regions engaged in innovative ventures, Grande, Madsen, & Borch (2011) found that firms get better performance in the long run as a result of engaging in entrepreneurial efforts and activities enabling firms to create, reconsider, and apply their resources in more efficient ways. In the same stream Simon, Stachel, & Covin (2011) found that EO and commitment to objectives enhanced sales growth and determined that commitment to objectives was associated with greater increased sales growth of companies high in EO, as compared to those low in EO. Miller (1983) argued that the three EO components of strategic posture—innovation, proactiveness, and

risk-taking—comprise a basic, unidimensional strategic orientation. While considering the different effects of the five dimensions of EO introduced by Lumpkin and Dess (1996), Hughes and Morgan (2007) found that only proactiveness and innovativeness have a positive influence on business performance while risk-taking has a negative relationship. Competitive aggressiveness and autonomy appear to hold no business performance value at this stage of firm growth. Gupta and Batra (2015) investigated the influence of EO on firm performance while considering organizational inertia and slow reactivity as opposed to proactiveness.

The effect of EO on firms' growth in relationship to firms' location in peripheral regions has been under-researched. Chaston and Sadler-Smith (2012) conducted a study in Southwest England and found that in this

peripheral region the existing attribute of EO had no effect on firm growth. With respect to universal growth factors, the literature stresses the importance of EO manifested by firms. Thus, we hypothesize that:

**Hypothesis 2:** *EO proactiveness yields higher growth in core regions in comparison to peripheral regions.*

Further investigation of growth may focus on exporting and internationalization. Limited previous studies explored this question. Kuivalainen, Sundqvist, & Servais (2007) proposed that since rapid geographical dispersion increases commitment to international operations, firms that are true-born globals are more entrepreneurially oriented. But counter to their expectations they found that EO and specifically proactiveness were not found to affect growth in global sales. Several studies report the opposite finding of EO and in particular its proactiveness component having a positive effect on international performance (Sundqvist, Kyläheiko, Kuivalainen, & Cadogan, 2012; Covin & Miller, 2014). In our study, we expect that firms in peripheral regions will concentrate their growth efforts in domestic markets. Thus, we expect the following:

**Hypothesis 3:** *EO proactiveness does not characterize exporting firms.*

## Methodology

The unique dataset employed in the quantitative analysis was collected by means of a survey of small business owners, conducted in the first half of 2013. The questionnaire was pre-tested with a telephone pilot survey of 30 SME owners, resulting in the removal or modification of several items that showed low reliability or were not sufficiently clear to respondents. The content validity of the questionnaire was assessed and discussed by a panel of 10 experts in the fields of entrepreneurship and regional business development.

Items in the questionnaire include demographic information about the owner of the business and the business itself; questions about perceived growth and its causes; funding sources; number of employees currently and at inception; financial information such as revenue and costs; customer characteristics; expectations; and questions evaluating attitudes of the business owner.

The pre-tested questionnaire, comprising 70 questions, was then used in two formats: a telephone interview and a web-based questionnaire, for which

respondents were approached by email (the online version of the questionnaire was built and administered with ©Qualtrics).

The survey was administered to a representative sample from the following population: small businesses in Israel with 1–49 employees (based on the EU 2003 definition) that have been in existence for more than 1 year at the time of the survey, with proportional representation of the main industry groups defined by Israel's Central Bureau of Statistics (2011): agriculture; manufacturing; electricity and water supply and construction; trade, repair of vehicles, and other repairs; accommodation services and restaurants; transport, storage, and communications; banking, insurance and other financial institutions; real estate, renting, and business activities; public administration, education, health services, and welfare and social work; community, social, personal, and other services.

An additional sampling dimension was the location of the businesses: businesses were sampled from a very central region of Israel, as defined by the Israel Peripherality Index (Central Bureau of Statistics, 2008), and from a very peripheral, (i.e., remote) region in the north of Israel.

The response rate for the phone survey was 12.5%, resulting eventually in 329 completed questionnaires; the response rate for the web-based survey was 9.6%, resulting in 437 completed questionnaires, making the size of the final survey  $n = 766$ . Accounting for observations with missing values, the final sample size used in this study was 626 SMEs. Though we feared that the response rate would drop considerably (Cabus & Vanhaverbeke, 2006), we asked for the share of designated customers in the firm's sales.

The construct proactiveness was measured through questions adapted from scales presented by Covin & Slevin (1989), Bateman & Crant (1993), Crant (1996), Hughes & Morgan (2007), Stenholm, Pukkinen, & Heinonen (2015). We adjusted the questions to fit this study following Covin & Wales (2012, p. 690): "the content of a formatively measured latent construct is defined by the degree of association between its causal indicators and the endogenous outcome variables used to identify the measurement model. This is why the empirical meaning of formative constructs can change from study to study depending on the outcome variable being examined." Items that were relevant to personal characteristics, such as "I am constantly on the lookout for new ways to

improve my life" (Bateman & Crant, 1993, p. 112) were removed from the final version of the questionnaire by the panel of 10 experts mentioned above. The business owners were asked questions such as if they excel at identifying opportunities, if they actually try to take the initiative in every situation, have they developed new products and services, and whether they have entered into new markets. On a Likert scale of 1 (strongly disagree) to 5 (strongly agree) the mean value of proactiveness was 3.04 with standard deviation of 1.24. In comparison, the mean value of proactiveness in previous studies was 3.18 (Stenholm et al., 2015, 4.45 on a 1 to 7 scale) and 3.81 (Hughes & Morgan, 2007, 5.33 on a 1 to 7 scale).

### Peripheral Regions in Israel

This study was conducted in Israel, a country distinguished by its long shape (Orni & Efrat, 1971) which clearly creates peripheral regions. Other examples of such countries are Portugal (Vale & Caldeira, 2007) and Chile (Felzensztein, Gimmon, & Aqueveque, 2013), in which there are regions that comply with the definition of peripheral regions (Davies & Michie, 2011). The heart of the country consists of three large metropolitan areas all located in its geographic middle. These cities make up Israel's financial and business center. Peripheral areas distant from this center are located to the north and south. The mean population density in the central region is 1,200 per sq. km; the mean population density in the peripheral region is merely 164 per sq. km. (Central Bureau of Statistics, 2012).

An additional characteristic of the peripheral regions is its numerous agricultural settlements and mid-size cities. The agricultural settlements in the peripheral regions experienced a financial crisis beginning with the introduction of mechanization and computerization into farming, reduction of government support of agriculture, international agreements that opened up the market of agricultural products to import, and the granting of import licenses for fruits, and vegetables that opened up agricultural markets to competition. These changes led to a reduction in the number of farmers, to transition from farming to salaried employment, and to the development of business initiatives that turn farms into multi-functional economies (Greenberg, 2013).

Israeli peripheral regions are populated by three different groups of people. The first group includes second- and third-generation descendants of Jews who immigrated to Israel in the 1950s from Eastern Arab

countries, and were sent to settle new towns (called "development towns") established around that time in the peripheral sphere (Shachar, 1998). The second one includes rural, cooperative communities, which were established as part of the agricultural settlement movement of these regions (Palgi & Getz, 2014). The third group includes minority groups, which have existed in the peripheral regions before the State of Israel was established, and for which economic development occurs alongside the Israeli economy (Schnell & Sofer, 2002; Avraham, 2002). This phenomenon, it must be mentioned here, is familiar from many peripheral regions worldwide (Kulcsar & Curtis, 2012).

Most of the workplaces in the peripheral regions of Israel were characterized as blue-collar industries, with low development level and low incomes for the workers. All of those elements impacted the development level of the local capital in these regions, and local activism in establishing small businesses and regional economic development based on local self-entrepreneurship. Other obstacles for developing local entrepreneurship are related to the lack of financial resources in these areas, difficulty of attracting entrepreneurs and private capital from central urban regions (Felsenstein & Schwartz, 1993), and the individuals' ability to raise capital—the level of proactiveness in these towns. These differences between the regions are also evident in the following statistical data: the average monthly wage in the central region is 10,844 NIS (1 NIS = 3.8 USD), compared to 7,800 and 8,232 NIS in the north and south peripheral regions, respectively (Bendelac, 2013).

### Results

Table 1 shows the summary statistics for the variables used in this study, for the full sample and by region. In addition, we have tested for the significance of the difference in the means of the variables between the two regions with a t test. Businesses in the core region experienced a significantly higher rate of growth in the number of employees, supporting Hypothesis 1; they are characterized by higher proactiveness; and their owners are more educated on average. Businesses in the core region are more established, as shown by their higher average age. Businesses in peripheral regions have significantly higher rate of female ownership than those in the core region.

The share of businesses in the finance sector is higher in the core region. As expected, there is a higher share of agriculture-related businesses in peripheral regions. There is a significantly higher share of businesses in the real estate and business services sector in the core

region, and a lower share of businesses in the food and hospitality sector. This also corresponds to our intuition, since economic activity is higher in core regions, while the peripheral regions have many tourist destinations.

**Table 1: Summary Statistics**

Variable	Full sample (n=626) mean	Core region (n=457) mean	Peripheral region (n=169) mean
Rate of growth	0.072852	0.080817	0.051282**
Proactiveness	3.039644	3.129133	2.797126***
Exporting business	0.149920	0.148471	0.1538462
Age of business	16.67783	17.40611	14.70414***
Female owner	0.23126	0.19869	0.319527***
Academic education	0.457735	0.478166	0.402367**
Home location	0.285486	0.246725	0.390533***
Many nearby customers	0.202552	0.131004	0.39645***
Few nearby customers	0.191388	0.163756	0.266272***
Many competitors	0.704944	0.722707	0.656805*
No competitors	0.027113	0.028384	0.023669
Finance sector	0.031949	0.039387	0.011834**
Agriculture sector	0.043131	0.032823	0.071006**
Utilities sector	0.140575	0.140044	0.142012
Education and health sector	0.076677	0.078775	0.071006
Wholesale and retail sector	0.135783	0.137856	0.130178
Real estate and business services sector	0.191693	0.21663	0.12426***
Food and hospitality sector	0.076677	0.035011	0.189349***
Other service sector	0.071885	0.074398	0.065089
Transport and communication sector	0.087859	0.09628	0.065089
Industry sector	0.14377	0.148797	0.130178

**Note:** Significance level for difference between core and peripheral regions is \*\*\*p < 0.01, \*\*p < 0.05, \*p < 0.1



Nearly 40% of businesses in the peripheral region are located at or near the home of the owner, significantly higher than the 24% of those in the core region. Businesses in the core region are less dependent upon customers living in their vicinity, with a significantly lower share of their customers living less than a half-hour drive from them.

Table 2 shows the correlation coefficients between the variables and their significance level. Growth rate has a significant and positive correlation with proactiveness,

while proactiveness has a negative correlation with peripheral location. A highly significant and strong positive correlation (0.29) was found between peripheral region location and having many customers in the vicinity of the business.

Our measure of proactiveness is positively correlated with businesses that are classified as finance or industry firms, and negatively correlated with businesses in the commerce and food and hospitality sectors.

**Table 2: Correlations between Variables (n=626; p-values in parentheses)**

	<b>Growth Rate</b>	<b>Periphery</b>	<b>Proactive</b>	<b>Age of Business</b>	<b>Female Owner</b>	<b>Home Location</b>
Peripheral location	-0.047 (0.201)	1.000				
Proactive	0.086 (0.024)	-0.110 (0.004)	1.000			
Age of business	-0.184 (0.000)	-0.081 (0.024)	-0.137 (0.000)	1.000		
Female owner	0.067 (0.076)	0.147 (0.000)	-0.096 (0.011)	-0.085 (0.024)	1.000	
Home location	-0.045 (0.220)	0.170 (0.000)	-0.028 (0.469)	-0.072 (0.048)	0.133 (0.000)	1.000
Finance sector	-0.006 (0.874)	-0.047 (0.196)	0.092 (0.016)	0.057 (0.116)	0.007 (0.851)	-0.039 (0.283)
Agriculture sector	-0.022 (0.542)	0.089 (0.014)	-0.032 (0.405)	0.115 (0.001)	0.002 (0.951)	0.073 (0.045)
Utilities sector	-0.035 (0.340)	0.014 (0.705)	-0.044 (0.248)	0.002 (0.957)	-0.152 (0.000)	0.014 (0.690)
Education and health sector	0.038 (0.292)	-0.017 (0.635)	0.027 (0.485)	-0.076 (0.036)	0.107 (0.004)	0.012 (0.747)
Wholesale and retail sector	-0.057 (0.120)	-0.011 (0.758)	-0.116 (0.002)	0.004 (0.920)	0.133 (0.000)	-0.113 (0.002)
Real estate and business services sector	-0.033 (0.365)	-0.127 (0.000)	0.031 (0.419)	-0.039 (0.277)	0.039 (0.301)	0.103 (0.004)

...continued on next page.

**Table 2: Correlations between Variables (n=626; p-values in parentheses)** *continued*

	<b>Growth Rate</b>	<b>Periphery</b>	<b>Proactive</b>	<b>Age of Business</b>	<b>Female Owner</b>	<b>Home Location</b>
Food and hospitality sector	-0.024 (0.511)	0.261 (0.000)	-0.078 (0.040)	-0.089 (0.014)	0.016 (0.680)	0.080 (0.027)
Other service sector	-0.001 (0.971)	0.015 (0.677)	0.019 (0.610)	-0.054 (0.134)	0.026 (0.485)	0.009 (0.814)
Transport and communication sector	0.154 (0.000)	-0.047 (0.196)	0.021 (0.582)	0.029 (0.425)	-0.089 (0.018)	-0.026 (0.466)
Industry sector	0.001 (0.968)	-0.024 (0.510)	0.101 (0.008)	0.082 (0.023)	-0.068 (0.071)	-0.099 (0.006)
Academic education	0.105 (0.004)	-0.038 (0.297)	0.116 (0.002)	-0.109 (0.003)	0.114 (0.002)	0.102 (0.005)
Many close customers	-0.048 (0.189)	0.290 (0.000)	-0.171 (0.000)	-0.106 (0.003)	0.073 (0.052)	-0.012 (0.732)
Few close customers	-0.043 (0.237)	0.097 (0.007)	0.072 (0.059)	0.052 (0.148)	0.012 (0.748)	-0.036 (0.322)
Many competitors	-0.030 (0.416)	-0.040 (0.269)	-0.106 (0.005)	0.093 (0.010)	-0.049 (0.191)	-0.022 (0.543)
No competitors	-0.016 (0.666)	-0.007 (0.849)	-0.051 (0.177)	-0.021 (0.563)	0.044 (0.245)	0.017 (0.631)

These correlations point to a possible path of effect on business growth: peripheral regions have a higher share of businesses in sectors that are not characterized by proactiveness, and as a result they grow less than those in core regions.

Regression analysis was then used to find causal relationships between the variables and the rate of growth in the number of employees. Column (1) in Table 3 shows the results of an OLS regression, using the full sample of businesses. As hypothesized, proactiveness was found to have a positive and highly significant effect on business growth, supporting Hypothesis 2. Similarly, academic education of the owner was also found to affect growth positively. Spatial characteristics of the business are also important: home location of the business was found to be a growth-inhibiting factor, as was the dependence on many nearby customers. Surprisingly, having no

competitors also lowers the growth of the business. Controlling for other possible factors affecting growth renders the effect of peripheral location insignificant.

Column (2) in Table 3 shows the results of a linear probability regression where the dependent variable is the indicator for exporting activities by the business. The effects of most variables on export are qualitatively similar to those on growth. In particular, we find a significant effect of proactiveness on export, and Hypothesis 3 is rejected. Another finding is that having many competitors lowers the probability of the SME being an exporting business. After controlling for other factors, peripheral location still has a positive and nearly significant effect on exporting activities. Another factor with a similar effect is if the firm is in the agricultural sector. A logistic regression with the same variables yielded similar results.

**Table 3: Regression Results**

<b>Variables</b>	<b>ln(growth)</b>	<b>Export</b>
Peripheral location	-0.0448 (0.0869)	0.0666* (0.0348)
Proactive	0.120*** (0.0297)	0.0434*** (0.0119)
Age of business	0.00152 (0.00280)	0.00188* (0.00112)
Female owner	-0.0335 (0.0855)	-0.00527 (0.0342)
Home location	-0.293*** (0.0790)	-0.0711** (0.0316)
Finance sector	-0.0218 (0.208)	-0.131 (0.0833)
Agriculture sector	0.143 (0.186)	0.131* (0.0745)
Utilities sector	0.229* (0.126)	-0.0335 (0.0504)
Education and health sector	0.0407 (0.148)	-0.103* (0.0592)
Wholesale and retail sector	0.00106 (0.129)	0.00342 (0.0518)
Food and hospitality sector	0.224 (0.154)	-0.0487 (0.0618)
Other service sector	-0.0377 (0.150)	0.0170 (0.0600)
Transport and communication sector	-0.00743 (0.140)	-0.00207 (0.0561)
Industry sector	0.0607 (0.125)	0.0694 (0.0502)
Academic education	0.270*** (0.0746)	0.117*** (0.0298)

*...continued on next page.*

**Table 3: Regression Results** *continued*

Variables	ln(growth)	Export
Many close customers	-0.219** (0.0973)	-0.110*** (0.0389)
Few close customers	0.00293 (0.0927)	0.00150 (0.0371)
Many competitors	-0.0995 (0.0792)	-0.0611* (0.0317)
No competitors	-0.389* (0.224)	0.112 (0.0898)
Constant	0.109 (0.158)	0.0239 (0.0634)
Observations	626	626
R-squared	0.104	0.121

Standard errors in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Next, we ask whether EO is a mediator in the effect of peripheral location on business growth and exporting activities. We proceed by conducting the Sobel Test for mediation, once with firm growth as the dependent variable and then with exporting activities as the dependent variable. In both cases the independent variable is peripheral/central location and the mediator is the proactiveness of the firm. Figure 2 shows the results of the test. In both cases we see that the only significant effect of peripheral location on the performance measures is indirect, through its effect on proactiveness.

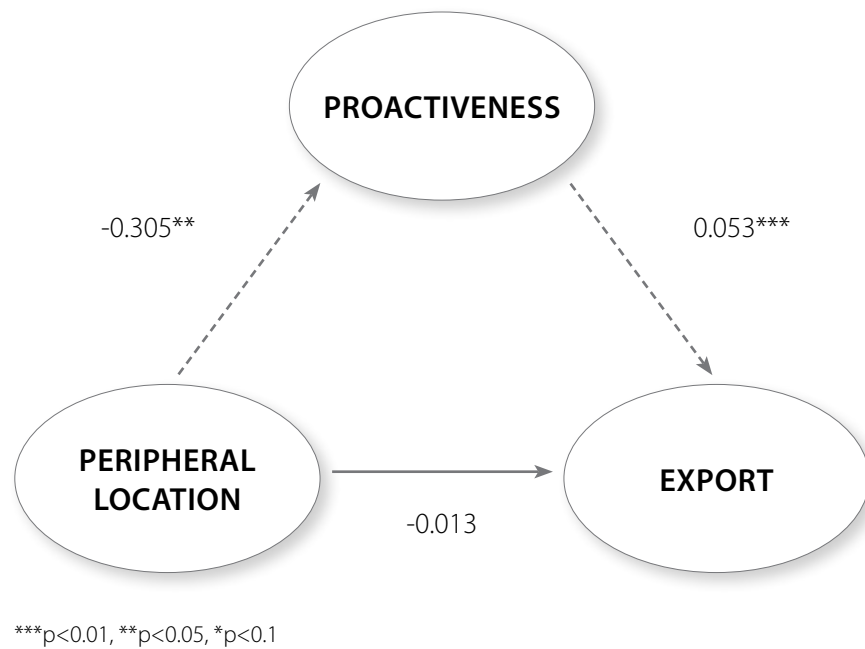
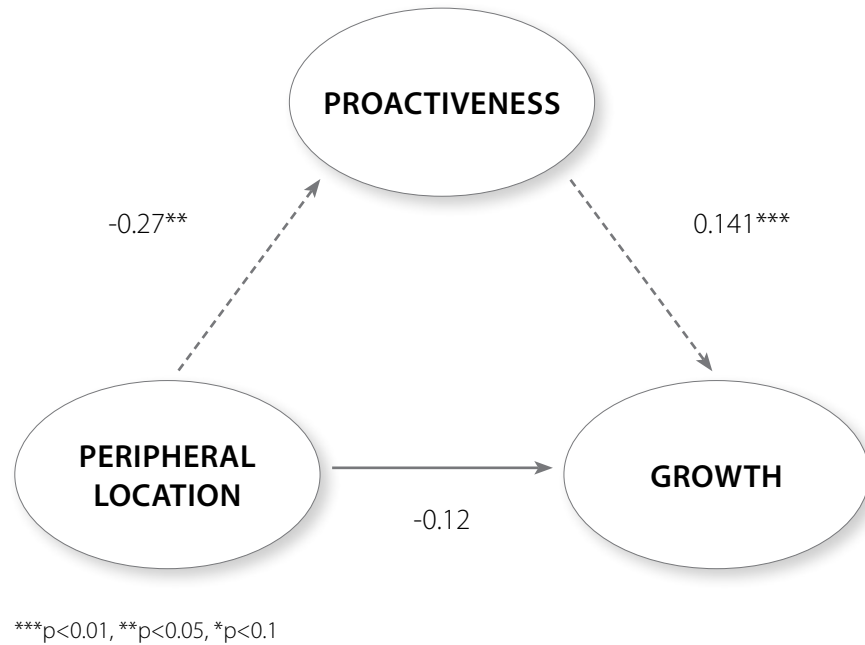
### Discussion and Conclusions

This study explores the effects of the entrepreneurial orientation on employment growth and export of small businesses, while comparing those in peripheral regions to similar businesses located in core regions. Some of the findings follow previous studies (Mueller, Van Stel, & Storey, 2008; Bosma, Acs, Autio, Coduras, & Levie, 2009) showing that in Israel, similar to other countries, the rate of growth of small businesses in peripheral regions is lower than that for similar businesses in core regions.

We traced the differences in growth between peripheral and core regions to difference in EO proactiveness between the regions. In the case of Israel, these differences can be traced back to the historical development of the peripheral regions and the people who live in them. Governments have historically considered these regions to be the food-producing areas and a suitable location for traditional, blue-collar industries. Consequently, policies were designed to aid the periphery in the development of these economic sectors. In the recent decades, these policies have resulted, on average, in a lower level of proactiveness among businesses in peripheral regions.

This research contributes to existing knowledge about the factors that advance growth of small businesses. It is the first study showing that businesses and their owners in peripheral regions differ from those in core regions in their proactiveness levels (i.e., it is lower on average), and this affects the growth of the business. The higher level of proactiveness found in core regions supports Lumpkin & Dess (2001), who suggested that proactiveness as a response to opportunities is an appropriate growth mode

**Figure 2: The results of the mediation models related to growth and export of SMEs.**



for firms in dynamic environments, where conditions are rapidly changing and opportunities for advancement are numerous. This finding also corroborates the model presented by Schnell, Greenberg, Arnon, & Shamai (2015), linking the firm's location in a peripheral region to owner's proactiveness. Another contribution is the formulation of recommendations for policy makers: government policies that aim to promote the growth of peripheral regions have to explicitly encourage the proactiveness of business owners in these regions.

The results and conclusions of this study have practical implications for practitioners who seek growth in employment (as opposed to those who are content with a more limited added income): entrepreneurs and managers of new ventures should be proactive, by engaging in the development of new products and services, entry into new markets and the establishment of new sub-units to the main business. They should increase networking and agglomerate within industrial or commercial zones rather than remain home-based. In addition, they should avoid any dependency on geographical proximity within the supply chain to either customers or suppliers. Entrepreneurs seeking to launch and manage a venture in peripheral regions need not be deterred by disadvantages related to their remote locations; rather they should overcome the detriments inherent in the periphery. Policy makers should consider adopting screening procedures and support programs that encourage entrepreneurs and managers to pursue strategies that promote employment growth. We argue

that these implications are relevant also for pursuing growth in revenue, since in our sample it strongly correlates with growth in employment.

In this study we controlled for various factors related to the type of business. However, we excluded financial considerations since we were unable to receive the necessary financial data such as sales volume and profits. Other limitations of this study refer to the Israeli context of its sample. The elongated geographic shape of the country enables clear distinction of peripheral regions; however, distances to the core region in Israel may be considered relatively short in wider, larger countries. Further research is suggested in other countries and in different settings in order to validate the generalizability of our findings. Moreover, in the e-commerce era implications related to decreased influence of geographical proximity within the supply chain should be studied further in different contexts. Finally, the conclusions of this study should not be applied directly to the differences in growth found between bigger businesses (50 employees and above) in core and peripheral regions.

In summary, this study traced the differences in growth between peripheral and core regions to difference in EO proactiveness between the regions, and found it is higher in core regions, where conditions are rapidly changing and opportunities are more abundant. We suggest that government policies should aim to promote economic growth by encouraging the proactiveness of business owners in peripheral regions.

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# The Maturing of Entrepreneurial Firms:

## Entrepreneurial Orientation, Firm Performance, and Administrative Heritage

Birton J. Cowden  
Jintong Tang  
Josh Bendickson

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**A** large body of research has exhibited the positive effect of entrepreneurial orientation (EO) on firm performance. However, research that attempts to explore what happens to high EO firms when they mature is sorely needed. Every firm establishes a heritage over time that impacts future capabilities. In the current research, we build on the international business literature to examine how a firm's administrative heritage moderates the long-term effects of the EO-performance relationship, examined through the firm's asset specificity, founder tenure, and home culture embeddedness. From this, implications are derived for EO retention and the firm's awareness of administrative heritage and how to shape it to their advantage.

**Keywords:** entrepreneurial orientation, long-term firm performance; administrative heritage; asset specificity; founder tenure; cultural embeddedness

As the "entrepreneurial strategy-making processes that key decision makers use to enact their firm's organizational purpose, sustain its vision, and create competitive advantage(s)" (Rauch, Wiklund, Lumpkin, & Frese, 2009, p.6), entrepreneurial orientation (EO) may enhance the firm's ability to discover and exploit resources and to break existing rules and establish new institutional paradigms within a market (Khanna & Palepu, 2010), which in turn increases firm performance. Despite the abundant literature on EO (see Gupta & Gupta, 2015a), little effort has been made to explore what happens to firms with high EO when they mature. In particular, a crucial question remains unanswered: does the firm's EO prevail as a guiding light to ongoing superior returns over time? This remains an issue partly because existing EO research has studied firms at a single point in time or over a very short period of time (e.g., Wiklund, 1999). Few articles have explored EO-firm performance longitudinally (Gupta & Gupta, 2015a, b; Wales, 2016) and how this accumulation of resources and decisions might influence the firm's ability to capitalize on its EO. Thus, studying firm-level implications that position EO as a strategic posture (e.g., Covin & Lumpkin, 2011) and identifying conditions under which particular past resources/assets enhance or constrain the effects of EO represents an important research agenda.

To explore this long-term perspective on the EO-firm performance relationship, this article utilizes the population ecology perspective (Hannan & Freeman, 1984), and focuses on the building blocks of organizational inertia and path dependencies. Administrative heritage is defined as a firm's "configuration of assets and capabilities built up over the decades; its distribution of managerial responsibilities and influence, which cannot be shifted quickly; and an ongoing set of relationships that endure long after any structural change" (Bartlett & Ghoshal, 1998, p.37-38). Additionally, there are multiple constituents of administrative heritage. For example, Bartlett and Ghoshal (1998) identify administrative heritage as a firm's social norms, common behaviors, and values that stem from employee interactions and more directly from the original founder of the company. Administrative heritage is viewed from a "historical context," and includes a firm's typical attributes and routine processes for completing relevant tasks (Leong & Tan, 1993). Through the lens of administrative heritage, a firm's key competencies are identified (Bartlett & Ghoshal, 1998), as well as their established routines and recognized capabilities (Dixon, Meyer, & Day, 2010). Administrative heritage is a direct source for identifying a company's key competencies and determining the established strategic capabilities of a firm (Bartlett & Ghoshal, 1998). Administrative heritage is also viewed as an asset or as an explicit hindrance to firms, depending on the administrative philosophies that are set in place by the founder or key executive (Leong & Tan, 1993), and to the extent that firms are blessed with or limited by their existing resources and knowledge abilities (Teece, Pisano, & Shuen, 1997). Furthermore, Lin and Hsieh (2010) identify administrative heritage as shaped by the culture of a region and by the history of a firm and is therefore a crucial constraint that must be thoroughly understood and adapted upon for firms to function effectively. Collectively these constituents of administrative heritage are critical such that they add value beyond path dependence and core rigidities frameworks, as it goes beyond just past decisions or group of decisions a firm has

made. Accordingly, administrative heritage can be a source of enduring competitive advantage or a firm's biggest barrier to change. Hence, a firm should have a deep understanding of their administrative heritage to achieve sustainable performance. This leads to the current research question: what factors derived from administrative heritage moderate the EO-firm performance as high EO firms mature?

According to Bartlett and Ghoshal (1998), there are three main shapers of administrative heritage: organizational history, the influence of specific individuals, and national culture. A portion of administrative heritage is derived from path dependence such that organizational history refers to the path taken by the firm that defines their current operations. In the current research, we follow Collis (1991) to examine organizational history from the perspective of the physical heritage or the specific assets the firm has invested in over its years of operations. From these investments, there is some level of irreversibility, limiting the subset of decisions a firm can make for the future. In reference to entrepreneurial firms, past research shows the importance and influence of the company's founder (e.g., Baron & Tang, 2011; He, 2008). Therefore, the current research examines the enduring influence of the founder via the founder's tenure (Nelson, 2003). The founder of a firm with high EO has to have time to champion and institutionalize every aspect of EO throughout the firm. From this, the founder can instill EO as the dominant logic of how decisions are made by future firm leaders (Prahalad & Bettis, 1986). National culture can be defined as "the collective programming of the mind which distinguishes the members of one group or category of people from those of another" (Hofstede, 1980, p.25). A recent study indicates that national culture moderates the EO-firm performance relationship (Saeed, Yousafzai, & Engelen, 2014). In the current research, we go beyond the categorization of firms' home culture into certain dimensions; that is, we focus on the firm's embeddedness into their home culture. This embeddedness dictates the degree to which companies think about how business must be done and how the company should be structured (Bartlett & Ghoshal, 1998). A greater degree of embeddedness limits the subset of entrepreneurial actions a firm can make over time. From these three shapers, it will not be argued that administrative heritage is good or bad, but that firms need to be aware of what makes up their administrative heritage, and they must be active shapers of it.

We propose that all three shapers of administrative heritage have an influence on the relationship between EO and firm performance. Given the need to advance EO research through theory (Covin & Lumpkin, 2011; Wales, 2016), we present arguments for the usefulness of administrative heritage to further understand the EO construct. Our research makes several contributions to the EO literature. First, we fill a gap in the literature by theoretically exploring what happens to firms with high EO as they mature and elements of organizational inertia have the ability to develop over time. Second, a meta-analysis on EO suggests that existing research on contingent investigations of EO are not adequate in explaining how EO affects firm performance (Rauch, Wiklund, Lumpkin, & Frese, 2009). Thus, this article will add to this stream of literature by examining the EO-performance link through the unique lens of the firm's past decisions and philosophies (i.e., administrative heritage). Third, this article expands the EO-firm performance conversation to a longer time period and bridges the entrepreneurship literature to population ecology and international business concepts. Although administrative heritage has predominantly been used in international business literature, we propose that the foundations are useful to entrepreneurship research and thus we explain how administrative heritage lends itself to further ground EO research in theory (Covin & Lumpkin, 2011).

### EO and Firm Performance

EO consists of three core dimensions: innovativeness, proactiveness, and risk-taking (Miller, 1983). Innovativeness represents a firm's innate capability to experiment and create a new product, a new service, or a new technological process (Lumpkin & Dess, 1996). Proactiveness refers to a firm's desire to be in constant motion to be ahead of its competition. To do this, a firm is always looking to seek out new opportunities and make difficult decisions on their own merit before the market makes them. Risk-taking refers to the firm's ability to make decisions in light of complex, uncertain circumstances. Risk-taking behaviors can come in the form of investing in a new venture or technology where the probability of success is unknowable or very small (Wiklund & Shepherd, 2005).

The relationship between EO and firm performance is well established. For instance, a meta-analysis finds that EO is strongly and positively related to both financial performance (measured by both perceived and archival financial performance), and non-financial performance

such as satisfaction or global success ratings (Rauch, Wiklund, Lumpkin, & Frese, 2009). Research has also offered evidence for a curvilinear relationship between EO and firm performance (Tang, Tang, Marino, Zhang, & Li, 2008). More recently, research has established the relationship between proactiveness and social performance of SMEs (Tang, Tang, & Katz, 2014). Further, a large body of research has been dedicated to identifying the contingent factors that enhance the effectiveness of EO, such as environmental and internal organizational factors. Environmental factors include environmental dynamism, munificence, complexity, and industry characteristics; and internal factors include firm size, structure, strategy, strategy-making processes, firm resources, and top management team characteristics (Lumpkin & Dess, 1996).

Although extant studies have focused on static characteristics of the current condition of the firm in order to better explain the EO-performance relationship, very few, if any, have examined the long-term effects of the EO-performance relationship and what factors influence this relationship when a firm matures (Gupta & Gupta, 2015b). Therefore, the current piece explores the aspects of the accumulation of the firm's administrative heritage over time, which underlies the effectiveness of the firm's EO. In effect, as a firm matures, certain elements of organizational inertia begin to develop based on the accumulation of the firm's past decisions and behaviors. Over time, a firm naturally becomes dependent on its existing path and resources, making it more difficult to take entrepreneurial action into a new market or market segment. To explore this, we employ the elements of organizational inertia to explicate how the firm's asset specificity, the tenure of the founder, and the firm's embeddedness into its national culture might shape the effect of EO on firm performance.

### **Administrative Heritage**

Administrative heritage theorizes how the context of the firm's inception and past affect its current decision-making processes. Peer companies can face the same strategic goals, but have very different ways of implementing the tasks needed to achieve those goals. This is because the ability to build strategic capabilities depends on the firm's existing organizational attributes, or administrative heritage (Bartlett & Ghoshal, 1998). Tactics and strategic plans can easily be changed, but a core capability that has built the firm's previous success is not easily adaptable (Prahalad & Hamel, 1990). Thus, the past greatly influences the future, which can be good or bad.

Two competing sides of the spectrum have been developed over the years on whether the elements of administrative heritage are positive or negative for firm performance. From a resource-based view, authors such as Dierickx and Cool (1989) describe how asset stock accumulation can be an integral part of a firm's competitive advantage. Without the accumulation of tangible and intangible assets, firms would not have the ability to increase its absorptive capacity (Cohen & Levinthal, 1990) or gain a competitive advantage through superior knowledge (Kogut & Zander, 1992). Additionally, administrative heritage is an asset to firms if the predetermined norms, behaviors, and values contribute to an environment that promotes adaptation and change as opposed to stagnation (Dixon & Day, 2007; Leong & Tan, 1993). For example, administrative heritage can be viewed positively when firms have the ability to detect the need for organizational change, in a sort of "whistleblower" fashion (Dixon, Meyer, & Day, 2010). Administrative heritage may also present key benefits when firms undergo expansion by retaining the existing informal contacts and operational norms, which in turn promote operating independence (Leong & Tan, 1993). Leong and Tan (1993) also argue that administrative heritage is a sort of "internal force" that is beneficial to organizations, if utilized in a way that expands the strategic capabilities of the organization. Furthermore, Collis (1991) argues that administrative heritage inherently provides firms with a means for differentiation. In sum, if firms' administrative heritage involves methods for adaptation and resiliency, it is an excellent asset for them to capitalize on and thus administrative heritage is an asset when the beneficial aspects are maintained and utilized.

On the other hand, other researchers (e.g., Knight & Cavusgil, 2004) have used the idea of administrative heritage to explain why existing firms are not able to adapt to changing needs in a dynamic world. This is because the elements of administrative heritage get deeply embedded into the firm, institutionalizing how the individuals in the firm should do things. Over time, these policies, practices, and philosophies get passed to the next generation of employees. This tends to make a firm highly efficient, but becomes troublesome when the external market changes and the firm is not well equipped to handle such changes. Because of the firm's administrative heritage, the firm has a smaller subset of choices on how to respond and what its response could be (Collis, 1991). However,

while administrative heritage and its elements can either be claimed to be the catalyst or source of blame for a firm's performance, it has yet to be explored how it affects entrepreneurial firms.

As stated above, there are three primary shapers of administrative heritage that impact the firm's norms and capabilities (Bartlett & Ghoshal, 1998): organizational history, the influence of specific individuals, and national culture. We address these factors through asset specificity, the founder's tenure, and firms' embeddedness into national culture, and explain how each of these three factors affects the contribution of EO to performance. Asset specificity is utilized to represent the firm's physical history and its ability to reconfigure its assets to take on new entrepreneurial initiatives. The influence of the founder via his or her tenure is utilized to represent the degree of how ingrained and sustainable the firm's EO is over time. Finally, national culture embeddedness represents the restrictiveness of the firm's future decision sets. Every firm is influenced by administrative heritage and these three elements. Below, this piece explores the context of these elements and how a high EO firm can retain their positive EO-firm performance relationship over time.

### The Moderating Role of Asset Specificity

Asset specificity is the "degree to which an asset can be redeployed to alternative uses and by alternative users without sacrificing productive value" (Williamson, 1991, p.281). Every firm must operate and make decisions with its current asset configuration and historical distribution in mind. The research on organizational path dependence best represents this phenomenon (Sydow, Schreyoff, & Koch, 2009; Vergne & Durand, 2010). Path dependency refers to a sequential or evolutionary process where current operations build upon previous decisions. Some firms strategically pick their paths, through what Ghemawat (1991) describes as commitment strategies. These firms claim their space in the competitive market by investing in specific assets or pursuing a specific technology. This is not to say that a firm can be completely predictable based on past events. Path dependency does not necessarily mean historical determinism (Greener, 2002). Each path can be interpreted in different ways as new managers come in or higher priorities take over (March & Olsen, 1989). Thus, paths can evolve, but it is much more difficult for managers to implement the revolutionary process.

After a certain point in time, the constraints that path dependencies impose on the firm come in the form of inflexibility and inefficiency (Sydow, Schreyoff, & Koch, 2009). Inflexibility and inefficiency lead to higher costs of operation without providing alternative revenue streams, which has an inherently negative effect on performance. In addition, to take on new opportunities, a firm must have access to capital. When most of the capital is already tied up in other investments, it will be much more difficult for a firm to pursue that opportunity. These investments could be physical assets, human assets, site specificity, dedicated assets, or brand-name capital (Williamson, 2002). The use of the investment for a specific purpose can come from the design of the investment or through the cognitive fixation of the original intent of the investment. Some investments are specifically made or customized to only do certain things. Other investments are prone to cognitive fixations (Smith, 2003), which implies managers are unable to see additional uses for the investment beyond what its original purpose was. This is very common through industry standards where certain equipment is only assumed to be useful for only one application. Thus, through design or through cognition, asset specificity can provide rigidity to a firm's future options.

Although a firm with EO has tools to protect itself from fixation on asset specificity, managers in these firms are still operating under bounded rationality (Simon, 1955). As the asset specificity goes up, it becomes difficult for managers to creatively reposition its assets to capitalize on a new competitive move. While a certain amount of asset specificity is needed for production (Williamson, 1985), there is an unknown tipping point where the rigidities become "locked in" because as the asset specificity increases, its value in alternative uses decreases (Dyer, 1996). As new opportunities present themselves to the firm, inflexibility and inefficiencies set in. In effect, this removes the advantages and usefulness of a firm's EO. In addition, the transaction cost economics view also states that as the firm's asset specificity increases, costs go up to safeguard against opportunism (Williamson, 1991). This suggests that when asset specificity is high, the firm cannot effectively utilize its EO to outperform the competition due to the constraints of its existing assets.

**Proposition 1:** *As firms mature, the positive relationship between EO and firm performance will be stronger when asset specificity remains relatively low.*

## The Moderating Role of Founder Tenure

Extant research shows the lasting influence of the founder on a company (Nelson, 2003), especially in reference to a firm's EO, as a founder CEO is more likely to value and adopt EO (Mousa & Wales, 2012). Focusing on EO from the beginning is crucial, as "once formulated and articulated, a founder's organizational blueprint likely 'locks in' the adoption of particular structures, as well as certain premises that guide decision-making" (Baron, Hannan, & Burton, 1999, p.532). Therefore, for firms with high EO, the founder must be the EO originator and champion for EO to be effectively implemented.

Administrative heritage has its greatest effect on the firm's decision makers (Bartlett & Ghoshal, 1989; Collis, 1991). As a firm matures and new leadership takes over the strategic direction of the firm, there is a potential of the loss of momentum and champions of the firm's EO. Such things as personality and backgrounds of future leadership can influence entrepreneurial actions and intentions (Zhao, Seibert, & Lumpkin, 2010). These individual differences on entrepreneurial intentions can be minimized or enhanced based on the institutionalization of EO in every aspect of the firm (O'Reilly III, Chatman, & Caldwell, 1991). Again, one of the main influencers of this internal philosophy is the founder (Schein, 1989). One outlet for founders to shape and institutionalize EO is to develop internal human resource systems that support and reward the facets that make-up EO (Morris & Jones, 1993), which has been shown to be beneficial to the EO-performance relationship (Messersmith & Wales, 2013). The other outlet to ingrain EO is informal stories (Wilkins, 1984). Organizational storytelling provides a guiding light for internal and external stakeholders on the identity of the firm and its future direction (Boje, 1991). Having iconic stories of the firm's great success as a result of its EO will get passed down to each generation of stakeholders, instilling the entrepreneurial heritage for the future and setting expectations for future leadership (Boje, 1995).

Ingraining EO to be the default way of thinking for the firm is not a quick process. As a firm grows, it takes time to build out human resource structures and systems, and it takes time for stories to develop. It takes even more time and dedication to craft each element to ensure all fit within the firm's EO. Thus, there is a time element to the sustainability of a firm's EO (Wiklund, 1999). Without the core EO champion actively guiding this process, the longevity and completeness of the firm's EO becomes

questionable. Hence, a longer tenure of the founder would enable the firm to develop a more sustainable EO because the longer the founder is at the firm working on ingraining EO into all of the firm's parts, the more likely EO will become the firm's dominant logic (Prahalad & Bettis, 1986). That is, the founder has set the script for future leadership of the firm on how to think about and react to any situation. Based on the reasoning above, we propose:

**Proposition 2:** *As firms mature, the positive relationship between EO and firm performance will be stronger when founders have longer tenure with the firm.*

## The Moderating Role of Firm Culture Embeddedness

Cultural differences have been shown to be a primary factor in explaining why business is done differently in different countries (Witt & Redding, 2009). Culture defines why a specific population acts in a certain way and why they do the things they do. These differences can be seen in education systems, legal systems, and in firms in terms of structure, practices, and goals (Hofstede, Van Deusen, Mueller, Charles, & Network, 2002). Culture has a way of preserving what society values (Zucker, 1977), which creates underlying motivations for the activities individuals partake in, such as entrepreneurship (Mueller & Thomas, 2001).

National culture has been associated with EO. Some claim that national culture is an antecedent of EO, in that the national culture promotes the type of orientation a firm will have (e.g. Lee & Peterson, 2000). For instance, Kreiser, Marino, Dickson, and Weaver (2010) explore the cultural effects on EO factors of risk-taking and proactiveness. They find that strong uncertainty avoidance and high power distance negatively affect both risk-taking and proactiveness, and individualism also has a negative effect on proactiveness. More recently, however, studies show that high EO firms do exist in all cultures. More importantly, culture influences the strength of the relationship between a firm's EO and other dependent variables. For instance, Marino, Strandholm, Steensma, and Weaver (2002) show that the relationship between EO and the extensiveness of the strategic alliance portfolio is moderated by national culture. Additionally, a recent meta-analysis utilized Hofstede's (1980) cultural dimensions to show that national culture and other macroeconomic factors moderate the EO-performance relationship (Saeed, Yousafzai, & Engelen, 2014).

While all these studies on culture provide great insights, this piece explores the firm-level variable

associated with national culture. From the population ecology literature, a more appropriate perspective is to explore the firm's embeddedness into such informal institutions (Baum & Oliver, 1992). Cultural embeddedness is the degree to which the elements of the firm's national culture influence its decision-making processes, organizational structure, and rule systems (Granovetter, 1985; James, 2007; Uzzi, 1997; Zukin & Dimaggio, 1990). As stated above, national culture guides a group of people to answer the question: how are things done here? As such, culture limits the vast array of variations on how one can respond, and how he or she responds to a given situation. Thus, the deeper a firm is embedded into its home culture, the subset of potential options is more reduced by the informal institutions indicating how things should be handled. As culture and societies change, being too embedded into an existing culture will make it difficult to change a firm's thinking about how to do things (Greenwood & Hinings, 1996). For instance, some question how suited existing firms in China will be to capitalize on the next generation of Chinese citizens who are becoming more individualistic (Kwon, 2012). Thus, being deeply embedded into a culture at a specific point in time creates an additional path a firm is dependent on (Kistruck & Beamish, 2010), making the firm's home national culture highly influential on its dominant logic. If culture provides the heuristics of how to do things, this may compete and conflict with the internal EO on how a firm reacts. Over time, if national cultural forces become the guiding light, the firm's ability to take entrepreneurial action will depend on national cultural fit rather than its own EO. Thus, if a high EO firm is less influenced by its national culture to make decisions, EO will have a greater influence on how firms think about and execute decisions.

**Proposition 3:** *As firms mature, the positive relationship between EO and firm performance will be stronger when the firm's embeddedness to its home culture remains relatively low.*

## Discussion

While some have shown that the standard moderators such as internal and external characteristics of the firm apply to the EO-performance relationship, a relatively recent meta-analysis calls for research to explore more moderators (Rauch, Wiklund, Lumpkin, & Frese, 2009). To answer this call, this article has explored aspects of the firm's asset specificity, founder tenure, and firm national cultural embeddedness to develop more contexts of the firm's EO and its effectiveness. These elements represent

a firm's administrative heritage. Administrative heritage is an all-encompassing term that takes into account all of the aspects of the organization's history, the influence of specific individuals, and national culture to better understand the past decisions a firm has made and possibly predict a firm's future conditions beyond just an array of strategic choices. Over time, all firms develop an administrative heritage, with some aspects being beneficial to long-term success, and other elements becoming barriers to change. As a firm with high EO matures, will its EO sustain the test of time? As argued above, it will if the firm's heritage becomes ingrained with the firm's EO rather than focused on past paths taken, past success, or other external influencers like culture. If the firm is set up to be entrepreneurial and its EO is deeply ingrained to be the dominant logic, then through structure, processes, and identity, the firm will be better suited to sustain its EO over time.

## Theoretical and Practical Implications

This article contributes to the conversation on how EO affects firm performance, especially over a long period of time. Gupta and Gupta (2015a) point out that long-term relationships between EO and firm performance are not often theoretically elaborated. Through the usefulness of administrative heritage, we provide a means for scholars to enhance the EO construct through theory. The moderators based on asset specificity, founder tenure, and firm national cultural embeddedness provide more context to a firm's EO as it matures. As the building blocks of organizational inertia, administrative heritage and time provide a theoretical linkage to the longevity of a firm's EO. This new perspective also adds a time element to the relationship by assuming changes over the firm's life cycle. A longitudinal outlook makes this relationship more dynamic.

Accordingly, the value of this research (often referred to as the "so what" question) is multifaceted. First, administrative heritage adds an internal element such that "A company's ability to respond to the strategic task demands of today's international operating environment is constrained by its internal capabilities, which are shaped by the company's administrative heritage" (Bartlett & Ghoshal, 1998, pp. 39-40). Moreover, while administrative heritage includes path dependence and the element of time, it also includes people and place factors. Thus, administrative heritage incorporates decisions, people, and places over time, all of which shed light on the EO-performance relationship and is a key differentiator



between this study and prior work examining the EO-performance relationship. Understanding these three elements in reference to EO and long-term performance is highly needed and this research will not only help firms remain entrepreneurial, but it also allows firms to become disrupters rather than the disrupted. Hence, the value of this integrative research includes a level of robustness not encompassed by path-dependence alone and is critical to better understanding the EO-performance impact. Additionally, this research also answers the call (Rauch, Wiklund, Lumpkin, & Frese, 2009) in EO for more complex evaluation by utilizing a time-based construct with the three important aspects of a firm (i.e., asset specificity, founder tenure, and culture embeddedness).

Further contributions of this article are also made by providing insights on how researchers can begin to use administrative heritage in the entrepreneurship literature. Having this ability will allow researchers focused in decision making to see how the interaction between administrative heritage and EO affects strategic decisions, which then affect performance. Additionally, by conceptualizing administrative heritage into a context such as the EO-performance relationship, studies can begin to measure a firm's administrative heritage. Many studies on administrative heritage have been qualitative (e.g., Collis, 1991), due to its long-term nature. This piece conceptualizes three measurable variables to begin to quantify a firm's administrative heritage. This novel conceptualization has major empirical implications for future studies in entrepreneurial and international settings.

The current research also has implications for managers to understand and be aware of the firm's administrative heritage. This awareness can be used proactively by managers to determine if current or future decisions might help or hurt the firm's EO effectiveness, which in turn, directly leads to performance, and actively shape its administrative heritage over time. There are also implications for boards on evaluating founder exits, as there may be more long-term effects of having a founder with a longer tenure with the firm.

### **Suggestions for Future Research**

This article serves as a launching pad for future studies. First, when discussing the maturing of entrepreneurial firms, the question remains: at what point does a firm feel the effects of administrative heritage? As stated above, a firm's administrative heritage should be understood and evaluated by the firm to gain a better understanding of

itself and its future direction (Bartlett & Ghoshal, 1998). Thus, at what point in a firm's life should the firm start doing this? Second, when the founder leaves the firm, is there a transition of the championing of the firm's EO and what does this process look like? Also, how much does the individual matter? For example, is the sustainability easier with founders and CEOs that have high individual EO (Kollmann, Christofor, & Kuckertz, 2007)? Additionally, does the type of innovation the firm focuses on matter, such as being classified as imitative or innovative (Cliff, Jennings, & Greenwood, 2006)? For firms that have developed an administrative heritage that restricts their entrepreneurial behavior, what other outlets can they utilize to minimize these barriers, and does this increase the importance of acquisitions for such firms? Finally, is there a shelf-life for EO, as the constraints of a firm's administrative heritage become too much? Or, is EO less influenced by this, but actual implemented entrepreneurial actions dwindle? Thus, the desire to be entrepreneurial is there, but the execution of entrepreneurial action is hindered. Much is to be explored by adding a time element to the EO-performance relationship.

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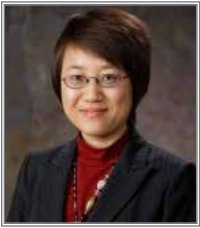
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# Does Management's Attention to Different Facets of Entrepreneurial Orientation Create Value for the Firm?

## A Longitudinal Study of Large Retailers

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*Studies of entrepreneurial orientation tend to merge its three components—proactiveness, risk-taking, and innovativeness—into a monolithic construct and analyze its relationship with firm outcomes at one point in time. This has resulted in knowledge voids related to the relative importance of the different components, their specific effect on value created by the firm, and their evolution over time. The present study links each component of entrepreneurial orientation to economic value creation using a longitudinal dataset. Results provide support for hypothesized relationships. Implications and avenues for future research are discussed.*

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**Keywords:** entrepreneurial orientation, proactiveness, risk-taking, innovativeness, economic value creation

Entrepreneurial orientation has gained substantial visibility in the entrepreneurship and management literatures, and become increasingly relevant to scholars in other areas of business studies (Wales, Gupta, & Mousa, 2013). Based on Miller's (1983) conceptualization, entrepreneurial orientation is often conceived as involving a willingness to innovate, take risks, and be more proactive (Covin, Green, & Slevin, 2006). Lumpkin and Dess (2005, p. 148) note that many large corporations such as Sony, 3M, Intel, and Virgin "attribute much of their success to an entrepreneurial orientation." Despite the growing popularity of the entrepreneurial orientation construct in management research and practice, "there continue to be numerous debates" about it, resulting in several "open questions and research gaps" (Miller, 2011, p. 6). A prominent knowledge gap in the literature pertains to the dimensions that comprise the construct of entrepreneurial orientation (Lumpkin & Dess, 2005). Specifically, myriad "differences between the components" of entrepreneurial orientation (Miller, 2011, p. 7) have largely been ignored, so that there exists little knowledge of whether each component is equally relevant or even needed for value creation (Vecchio, 2003). Understanding and establishing the value potential of individual components is important

because failure to do so can undermine the validity of our theoretical models, generate "erroneous conclusions" regarding the nature of entrepreneurial orientation, and hamper "efforts to build actionable knowledge" (George, 2011, p. 1299).

In this study, we examine a critical but neglected issue in entrepreneurship research—the value creation potential of the three component factors of entrepreneurial orientation. Specifically, we investigate the effect of top management's emphasis on innovativeness, risk-taking, and proactiveness on value generation by the firm in the capital markets. We conduct our study in the context of large, publicly traded firms in the organized retail industry, sampling some of the largest retailers in the United States. Top management at large retail firms is expected to continuously engage in the discovery, creation, and exploitation of new opportunities to maintain their firm's relevance in the highly competitive industry (Levy & Weitz, 2010). Consequently, the entrepreneurial orientation construct has been employed to assess the strategic posture of retail firms, albeit in other disciplines such as operations management (Jambulingam, Kathuria, & Doucette, 2005) and marketing (Griffith, Noble, & Chen, 2006).

Our study furthers theoretical and methodological research on entrepreneurial orientation in several ways. First, we respond to calls for linking the entrepreneurial orientation construct with promising theoretical paradigms (Miller, 2011), and propose an attentional explanation for why entrepreneurial orientation matters (Ocasio, 1997). Following Cho and Hambrick (2006, p. 454), we conceptualize attention as "the degree to which something ... occupies the consciousness" of top managers, and examine the relationship between managers' emphasis on the core dimensions of entrepreneurial orientation and value creation. Second, we examine the time-varying effect of individual dimensions of entrepreneurial orientation. The inability

to create value over time has led to the decline of many firms with household names such as Kmart, Borders, and Blockbuster. Yet, the role of time remains overlooked in the entrepreneurial orientation literature (Clausen & Madsen, 2011), a gap we redress in this study. Finally, we present a novel un-intrusive empirical approach, which involves historiometric analysis of corporate letters to shareholders, to provide a fairly unique window into management's emphasis on entrepreneurial orientation. To our knowledge, this is the first study to use historiometry to explore a substantive issue in entrepreneurship.

## Theoretical Background

Entrepreneurial orientation refers to managers' "angle of inclination" toward pursuing new business opportunities (Basso, Fayolle, & Bouchard, 2009: 317). It encompasses management's "frame of mind" and mental models that lead the organization "toward a proactive and continuous search for opportunistic growth" (Habbershon & Pistrui, 2002, p. 228). Research and popular press suggest that management biases and preferences have a strong impact on the strategic posture of the entire firm (Boal & Hooijberg, 2000). Firms often operate in environments characterized by complex and ambiguous information, so that managers have considerable discretion in the strategic choices they make to direct the firm.

Top managers face competing claims on their attention (Hambrick & Mason, 1984). Within their roles as managers, senior executives often must attend to various tasks such as environmental scanning, opportunity evaluation, performance assessment, labor negotiations, capital allocation, corporate development, and many others (Boal & Hooijberg, 2000). The attentional focus of top management influences what information is attended to in the firm and how this information is interpreted, which drives the culture and activities of the firm (Levy, 2005). Ocasio (1997, p. 189) explained attention as:

**The noticing, encoding, interpreting, and focusing of time and effort by organizational decision-makers on both (a) issues: the available repertoire of categories for making sense of the environment: problems, opportunities, and threats; and (b) answers: the available repertoire of action alternatives, proposals, routines, projects, programs, and procedures.**

Ocasio (1995) argued that the issues that receive management's attention become more salient in the organization, such that there is a greater state of awareness and anticipation about these events and topics (D'Aveni & Macmillan, 1990). Attention is therefore

a crucial component of managerial cognition, affecting organizational direction (Levy, 2005).

Managers often privilege particular areas over others by paying more attention to certain issues and trends (Hambrick, 2007). Consistent with a long-standing stream of research on upper echelons (Hambrick & Mason, 1984), entrepreneurial orientation provides that top management can exercise discretion in emphasizing strategic elements when dealing with the challenges and issues facing their firm (Covin & Slevin, 1989). For example, Cho and Hambrick (2006) found that management in some airline companies (but not others) demonstrated a strong 'entrepreneurial focus,' and this focus changed over time as the internal and external environment evolved. Thus, from an attention-based perspective, entrepreneurial orientation is a function of managerial emphases, which vary based on management's assessment of the situation. When top management of a firm emphasizes entrepreneurship, the entrepreneurial elements—proactiveness, risk-taking, and innovativeness—become salient in the organization, and drive organization-wide attention to events and issues consistent with this strategic posture. This is consistent with Ocasio's (2010) argument that dominant attentional foci of top managers influence the overall strategy of the firm, which in turn shapes the allocation of resources and effort within the firm.

## Hypotheses

A majority of entrepreneurial orientation studies adopt Miller's (1983) conceptualization of entrepreneurship as engaging in product market innovation, undertaking somewhat risky ventures, and proactively outcompeting rivals. Based on this conceptualization, scholars have repeatedly pinpointed and studied three core aspects of entrepreneurial orientation: risk-taking, proactiveness, and innovativeness. The extent to which these facets are emphasized by top management determines the strategic posture of the firm (Covin & Slevin, 1993).

For large firms competing in highly competitive industries, understanding which of the individual components of entrepreneurial orientation may be most useful in value creation is an important issue. It is conceivable that all three aspects may be beneficial, but it is equally plausible that only one or two of the components may be valuable at a particular point in time (Hughes & Morgan, 2007). It is also possible that some aspects of entrepreneurial orientation might be favorable for value creation, leading to a situation



where some dimensions may 'carry' others that have no separate influence (Lumpkin & Dess, 2001). This seems a likely possibility because, although the entrepreneurial orientation construct has been associated with superior outcomes in several studies (Rauch, Wiklund, Lumpkin, & Frese, 2009), many others have reported finding little or no association, and even negative effects (e.g., Hart, 1992; Matsuno, Mentzer, & Ozsomer, 2002; Smart & Conant, 1994). Despite the intuitively appealing notion that all aspects of entrepreneurial orientation are equally useful for the firm, prior research has revealed that the various facets of entrepreneurial orientation show differing relationships with firm performance. Table 1 summarizes articles that examine the effect of different dimensions of entrepreneurial orientation on performance outcomes.

Careful consideration of the studies that examine the performance outcomes associated with the individual dimensions of entrepreneurial orientation reveals little attention to the value creation as the dependent variable. Moreover, surprisingly little research has looked at the effect of different facets of entrepreneurial orientation on firm performance over time. Thus, in the next few pages we elaborate the evolutionary nature of the link between each dimension of entrepreneurial orientation and value creation.

*Proactiveness Focus and Value Creation.* The advice to 'adopt a proactive stance' is one of the most enduring in business theory and practice. Managers are often encouraged to be forward-looking and act in anticipation of future changes. Venkatraman (1989, p. 949) defined proactiveness as the pursuit of new directions "which may or may not be related to the present line of operations, introduction of new products and brands ahead of competition, [and] strategically eliminating operations which are in the mature or declining stages of the life cycle." Penrose (1959) suggested that an emphasis on proactiveness is essential for strategic leadership because proactive managers will have the vision and initiative to pursue growth in new domains.

Proactiveness enables managers to be receptive to market signals, stay attuned to changes and trends in the marketplace, and seize emerging opportunities in advance of rivals (Slater & Narver, 1995). Being attentive to future market changes allows management to be in a better position to shape future demand. A proactive focus indicates that management is prepared to meet the demands of the future, not simply occupied with the concerns and problems of the past and the present (Crant, 2000). Researchers generally agree that by

anticipating future challenges from environmental shocks and competitive pressures, management makes the firm less vulnerable to the ebbs and flows of the market. This reduces volatility in future revenues and cash flows, which will enhance shareholder value (Joshi & Hanssens, 2010). A strong emphasis on proactiveness allows companies to form a unique bond with their customers, attracting customers who are usually more loyal, willing to pay a higher price, and have greater switching costs, which provides the firm with greater elasticity in their marketing efforts. Such firms have a more stable and attractive customer base, and a higher rate of customer retention (Lieberman & Montgomery, 1988).

Proactiveness may be beneficial for a firm only as long as it is distinctive such that other firms do not have it. If competitors also emphasize proactiveness, firms cannot be at the forefront beating rivals over time. As is well known, rare is the firm that is safe from imitation by competitors. The apparent success of firms in which management is proactive encourages managers in others firms to also become more proactive. To sustain competitive advantage over time, managers need to continually emphasize higher proactiveness, failing which the firm may end up as the "one with the arrows in its back." (Robinson & Min, 2002). Consequently, there likely will be a reduced marginal effect of proactiveness on value creation in the long run. Therefore, balancing the positional advantages that accrue to proactiveness and the costs associated with maintaining that comparative advantage over time, we propose the following:

**Hypothesis 1:** *The relationship between top management's emphasis on proactiveness and value creation (a) will be positive, (b) and this effect decreases over time.*

*Risk-Taking Focus and Shareholder Value.* Risk-taking can be defined as emphasizing decisions or courses of actions involving uncertainty regarding success or failure outcomes (Lumpkin & Dess, 1996). Risk-taking has long been considered a defining feature of entrepreneurship (Zhao, Seibert, & Lumpkin, 2010) and common wisdom considers willingness to take risks to be a key driver of entrepreneurial behavior (Zahra, 1996). In top management contexts, Morgan and Strong (2003) note that risk-taking is important in "resource allocation situations and can act as a key parameter in determining the decision processes involved in competitive strategy."

**Table 1. Articles Examining Relationship between Different Dimensions of Entrepreneurial Orientation and Firm Performance**

S. No.	Author	Journal	Year	Sample	EO Dimensions	Nature of Relationship
<b>Main Effects</b>						
1	Shahzad, Wales, Sharfman, & Stein	JMO	2015	1015 public US corporations	Proactiveness Innovativeness Risk-taking	(+ve) (+ve) (-ve)
2	Kreiser, Marino, Kuratko, & Weaver	SBE	2013	1668 SMEs in nine countries across 13 different industries	Proactiveness Innovativeness Risk-taking	(+ve) U shaped (+ve) U shaped (-ve) U shaped
3	Koe	JEMI	2013	153 Government-linked companies in Malaysia	Proactiveness Innovativeness Risk-taking Autonomy Competitive Aggressiveness	(+ve) (+ve) (+ve) (+ve) (+ve)
4	Kraus, Rigtering, Hughes, & Hosman	RMS	2012	164 Dutch SMEs	Proactiveness Innovativeness Risk-taking	(+ve) n.s. n.s.
5	Short, Broberg, Coglisier, & Brigham	ORM	2009	450 S&P 500 firms	Proactiveness Innovativeness Risk-taking Autonomy Competitive Aggressiveness	(+ve) (+ve) (-ve) n.s. (-ve)
6	Swierczek & Ha	EI	2003	172 Thai and 306 Vietnamese SME	Proactiveness Innovativeness	(+ve) (+ve)
<b>Moderating Effects</b>						
7	Richard, Barnett, Dwyer, & Chadwick	AMJ	2004	700 U.S. banks	Innovativeness Risk-taking	(+ve) (-ve)
8	Li, Zhao, Tan, & Liu	JSBM	2008	213 Chinese firms	Proactiveness Innovativeness Risk-taking	(+ve) (+ve) (-ve)
<b>Partial Dimensions</b>						
9	Naldi, Nordqvist, Sjöberg, & Wiklund	FBR	2007	265 family and 431 non-family U.S. firms	Risk-taking	(-ve)
10	Lumpkin & Dess	JBV	2001	94 U.S. firms	Proactiveness Competitive Aggressiveness	(+ve) n.s.

**Note:** SBE: Small Business Economics, JEMI: Journal of Entrepreneurship Management and Innovation, ORM: Organizational Research Methods, EI: Entrepreneurship and Innovation, AMJ: Academy of Management Journal, JSBM: Journal of Small Business Management, FBR: Family Business Review, JBV: Journal of Business Venturing, RMS: Review of Managerial Science, JMO: Journal of Management and Organization

A large body of research in business, finance, economics, and management science has addressed the relationship between risk and performance returns, positing a positive relationship between the two (that is, higher risk accrues higher reward). According to much of the literature dealing with risk (Jensen & Meckling, 1976), managers tend to be risk-averse, so unless an endeavor promises a very high return, risk-averse managers will not pursue it (Singh, 1986). Figenbaum and Thomas (1988) observed that a positive risk-return relationship exists in cross-sectional studies across different environments. However, Bowman (1980, 1982) found that the risk-return relationship was negative, describing his finding as a paradox for management since it ran counter to conventional wisdom (Singh, 1986). Bettis and Mahajan (1985) suggested that when management takes risks based on careful consideration of the benefits and disadvantages associated with the various alternatives, high returns will accrue. Investors are aware of management's general aversion to risk and tend to see a proclivity to take risk as an indicator of management's willingness to invest in projects that may be deemed risky but have a high chance of success. In such situations, investors would react positively to management's emphasis on risk-taking, such that risk-taking will be evaluated positively by shareholders.

The positive relationship between risk-taking and value creation is likely to be dynamic and change with time. Figenbaum and Thomas (1986) contend that researchers should explicitly introduce a temporal component when examining the performance outcomes of risk. These scholars argued that longitudinal investigations may provide a deeper understanding of the role of risk in value creation for the firm. We believe that risk-taking will create value for the firm in the short-term, but these benefits will diminish in the long-term. This is because investors will begin to take for granted the above-normal returns that accrue to high risk-taking, and will demand an ever-increasing level of risk-taking from managers. Yet, it is difficult for management to be able to derive consistently high positive performance from progressively riskier projects. Thus, we suggest that the effect of risk-taking on value creation will diminish with time. We propose that:

**Hypothesis 2:** *The relationship between top management's emphasis on risk-taking and value creation (a) will be positive, (b) and this effect decreases over time.*

*Innovativeness Focus and Value Creation.* Ever since Schumpeter (1942) argued that innovation facilitates creative destruction in society, innovativeness has been regarded as an essential aspect of entrepreneurship (Lumpkin & Dess, 1996). Stevenson and Gumpert (1985) argued that innovativeness is the "heart of entrepreneurship," a sentiment echoed more than a decade later by Covin and Miles (1999). Conceptually, innovativeness refers to focusing on decisions and activities that embrace creativity, experimentation, and novelty (Wiklund & Shepherd, 2003). Managers are said to be innovative when they encourage departure from tried-and-tested ways of doing things and venture outside the proverbial box (Kimberly & Evanisko, 1981). In today's business, innovativeness has "become the industrial religion" as managers and external stakeholders see it "as the key to increasing profits and market share" (Baer & Frese, 2003, p. 45).

Despite the intuitive appeal of the 'innovativeness is good' logic, few studies have actually examined the direct relationship between top management innovativeness and value creation (Subramanian & Nilakanta, 1996). We expect that an emphasis on innovativeness will be rewarded by investors as a key differentiating factor between a firm and its competitors (Hult, Hurley, & Knight, 2004). Indeed, Rose and Thomsen (2004) found a positive association between innovativeness and stock market performance. Brüderl and Preisendörfer (1992) identified a focus on innovativeness as the single most important predictor of firm growth. We argue that focusing on innovativeness enables management to differentiate their offerings from other companies in the market, allowing the firm to charge higher prices, or at the very least better resist downward pressure on price. An innovative top management also increases the firm's relative bargaining power with its suppliers, customers, and channel members, who seek to maintain favorable relationships with a firm that may be seen as an innovative leader in its product category (Porter, 1980). Emphasizing innovativeness also provides a firm greater elasticity in demand as there is less competitive pressure in selling new products and services, providing a price advantage in the market. Together, the combined effects of innovativeness should positively impact value creation.

Over time, the value creation impact of innovativeness is likely to become weaker. This is because managers will narrowly define innovativeness within the range of the products and services they currently provide. This 'fallacy of the served markets' will lead management to focus its

attention on what they already do, rather than explore new territory unrestricted by the current scope of their activities. In such situations, firms are confronted with thresholds beyond which further focus on innovativeness does not provide corresponding returns in profit and sales. This could lead to a reduced marginal effect of innovativeness on value creation in the long run. Thus, we hypothesize:

**Hypothesis 3:** *The relationship between top management's emphasis on innovativeness and value creation (a) will be positive, (b) and this effect decreases over time.*

## Method

### Data Source

We obtained information about top management's entrepreneurial orientation from letters to shareholders published in annual reports. We chose letter to shareholders as our data source because:

Letters to shareholders are manifestations of the perceptual focus of attention of [managers]... They are particularly good indicators of the major topics that organizational managers attend to...and reflect the perceptions of organizational stewards because they are the product of the input of and close review by top managers...Letters to shareholders reveal how much attention is paid to various aspects... relative to others (D'Aveni & Macmillan, 1990, p. 640).

A considerable body of research shows that letters to shareholders provide a unique glimpse into management's attentional foci, which are very difficult to assess and access using conventional ask-a-key-informant methods (McClelland, Liang, & Barker, 2010). We used a historiometric technique to derive data from letters to shareholders. Historiometry applies psychometric measurement techniques to historical data (Simonton, 2003) such as using questionnaire instrument to assess leadership proclivity reflected in biographical material (e.g., Bass, Avolio, & Goodheim, 1987).

### Data Collection and Sample Selection

Data for this study were collected from two primary sources. Letters to shareholders were collected from corporate annual reports. Data for computing shareholder value were drawn from Standard & Poor's COMPUSTAT database.

We derived our sample from the retailing industry, starting with a list of retailers ranked as the "world's largest retail companies by sales in 2000" (Rugman & Girod, 2003). We chose to focus only on US-headquartered retailers ( $n = 25$ ) because the United States is considered the world's most sophisticated retail market, has relatively fewer

regulations governing retail firms compared to other parts of the world (e.g., Europe and Asia), and helps avoid potential country-of-origin issues.

We obtained ownership data for the 25 retailers from 2004 to 2008 (the time period of our study), and identified 9 firms for elimination: 3 were not publicly owned (Albertson, Publix, and Toys "R" Us), two merged (May and Macy's), one was acquired by another (Kmart and Sears Roebuck), and two declared bankruptcy (Circuit City and Winn Dixie) during this period. This left us with a sample of 16 independent publicly traded firms headquartered in the United States: Walmart, Home Depot, Kroger, Target, Safeway, JC Penney, Walgreens, CVS, Lowes, Best Buy, Rite Aid, Gap, Office Depot, Great Atlantic & Pacific Tea, Staples, and TJX. These 16 firms comprise the *Who's Who* of the retailing industry in the United States and account for a major share of the retail sales by volume in the country (Spector, 2005). Notably, 14 of these 16 firms are part of the S&P Retail Industry Index, indicating that these firms are considered to have a large influence on the overall market by analysts.

The retailing industry offers an interesting context for conducting our study. First, retailing is a high-discretion industry where management has substantial latitude in strategic decision-making to meet market needs (Levy & Weitz, 2010). Second, the organized retail sector is characterized by a general lack of rent-producing strategic assets such as proprietary technology and patented research, which accrue unique and inimitable benefits to firms that possess them. This relatively even playing field enables management the freedom to emphasize activities and choices they consider most suitable for their firm. Lastly, the major firms in this business are an interesting mix of 'veteran players' who have been around for decades and 'newbies' who are recent entrants in the industry. This indicates that new companies can enter and grow in the retail business when management is able to take advantage of emergent opportunities (Spector, 2005).

We used the sample firms in a panel that covered the years 2004-2008, a time period considered by many analysts, including Goldman Sachs, to be one of strong global economic growth. Panel data have the primary advantage of controlling for systematic heterogeneity across sample firms. It also alleviates issues related to reverse causality, which are challenging to address through traditional single-period studies. With the exception of

some two-period studies (e.g., Madsen, 2007), we are not aware of any studies using panel data to examine the effects of entrepreneurial orientation.

### **Procedure**

We followed the procedure suggested by Deluga (1997, 2001) to obtain quantitative information about our constructs from historical texts (in this case, letters to shareholders). Printed copies of anonymous letters to shareholders were randomly distributed to raters with academic training in business (70 raters of which 36 were men; mean age 24 years). Three raters independently evaluated each letter, and each rater was limited to a maximum of three letters. Raters were encouraged to re-read the letter as often as needed and to use overall impressions from each letter in making their evaluation on each measurement item. For each letter, we computed an overall proactiveness (3 items ( $\alpha = .80$ ): proactively introduce new products and services, have a strong tendency to be ahead of others, and take initiative), risk-taking (3 items ( $\alpha = .86$ ): willing to take risks, tendency to make bold and aggressive decisions, and open to pursuing risky projects), and innovativeness (4 items ( $\alpha = .85$ ): look for new ways to do things, improve and innovate its way of doing business, willing to engage in new innovations, and strong proclivity for innovation) score as the average score provided by all raters who evaluated the letter.

The instructions provided with the letters made no mention of entrepreneurial orientation, and raters were not informed that the letters were from retailers. An 'awareness' question asked raters to 'guess' the name of the firm from the letter. None of the raters correctly guessed the firm associated with the letters they read (responses included retailers such as Macy's and Wegmans, which were not part of our sample as well as non-retailers such as GE and HP), indicating that responses were not based on pre-conceived notions about the firm (Deluga, 2001).

Our measurement technique involved collecting data from individual raters about proactiveness, risk-taking, and innovativeness foci of management, and then aggregating it to form an indicator for the strategic posture of the firm. To justify aggregation, we calculated within-letter agreement using rwg ('reliability within groups on j number of items'; James, Demaree, & Wolf, 1993), and found it to be acceptable ( $>.7$  for the three constructs). We also calculated intraclass coefficients (ICC) and found them to be above the acceptable standard of 0.3 for the three constructs (Homburg & Furst, 2005), indicating significant between-letter variance.

### **Measuring Value Creation**

A future-oriented, capital market-based measure of economic value creation is Tobin's q (Anderson, Fornell, & Mazvancheryl, 2004). It is based on the supposition that financial markets efficiently evaluate firms' expected performance in determining the firm's value. Mathematically, a firm's q value is the ratio of market value of equity to the book value of equity (Cooper, Gulen, & Schill, 2008). A firm that creates a market value greater than the book value of its equity is performing well and increasing shareholder value (Fama & French, 1992). A firm that is not creating incremental value has a Tobin's q value equal to 1. Because the q value is informed by the stock price of the firm, it incorporates anticipated future value creation of the firm. Furthermore, Tobin's q offers the advantage of capturing both short-term and long-term value creation in a single variable (Uotila, Maula, Keil, & Zahra, 2009). In summary, as Anderson et al. (2004, p. 175) observed, "Tobin's q appears to be the best measurement option [of value created by a firm], given its strengths of being forward-looking, comparable across firms, and based on economic theory."

We measured Tobin's q using data obtained from Standard & Poor's COMPUSTAT database.

### **Control Variables**

We included several control variables in our study: firm size measured as number of employees, CEO change (dichotomous), board size, and top management team size. In addition, we also controlled for value created in the prior year, as past performance may influence subsequent performance.

### **Analyses and Results**

Our dataset uses time-series-cross-section (TSCS) data of 16 companies over a 5-year period. TSCS involves repeated cross-section data, where the relationship between variables is examined over time so as to properly specify longitudinal effects (Tosi, Misangyi, Fanelli, Waldman, & Yammarino, 2004). We estimate the impact of proactiveness, risk-taking, and innovativeness emphases on subsequent performance, using the following model, which incorporates time-varying effects of the independent variable on the dependent variable:

$$VC_{i,t} = \alpha_0 + \alpha_1 \log(Size_{i,t}) + \alpha_2 CEO\ change + \alpha_3 TMT\ Size_{i,t} + \alpha_4 Board\ Size_{i,t} + \alpha_5 VC_{i,t-1} + \alpha_6 PVI_{i,t-1} + \alpha_7 \log(t) + \alpha_8 PVI_{i,t-1} \times \log(t) + e_{i,t}$$

**Where**

$t = 1-4$  when year goes from 2005 to 2009;

$PV_{i,t}$  = Predictor Variable, proxy for risk-taking, proactiveness, and innovativeness, respectively;

$Size_{i,t}$  = Size of firm  $i$  at time  $t$ ; CEO Change = Change in CEO (Y/N);

$TMT\ Size_{i,t}$  = Size of management team of firm  $i$  at time  $t$ ; Board

$Size_{i,t}$ : Size of board of firm  $i$  at time  $t$ .

$VC_{i,t}$  = Value Creation at time  $t$  for firm  $i$ .

We model value creation (measured by Tobin's  $q$ ) as a function of lagged predictor variable, namely proactiveness, risk-taking, and innovativeness respectively. Lagging helps alleviate concerns over reverse causality, an issue that is further addressed by the use of panel

data. The coefficient of  $PV_{i,t-1}$  ( $\alpha_6$ ) measures the effect of the specific predictor variable on value creation at year 2005 ( $t=1$ ) to 2008 ( $t=4$ ). We predict that the effect of the predictor variable changes over time as proposed in our hypotheses. We use natural log of  $t$  as the moderator variable interacting with the predictor variable to capture the time-varying effect of the specific predictor variable, where  $\alpha_7$  measures the effect.

We examine our data using EViews software, which provides an easy-to-use object-oriented interface to examine longitudinal data. Table 2 presents correlations and key descriptive statistics for the variables in our study.

**Table 2. Descriptive Statistics**

Variable	Mean	Std. dev.	Min	Max	1	2	3	4	5	6	7
1. Value Creation	2.74	2.22	-13.47	6.69	1						
2. Proactiveness	3.72	0.57	2.33	5	0.04	1					
3. Innovativeness	3.76	0.49	2.38	4.83	0.06	<b>0.55</b>	1				
4. Risk-Taking	3.15	0.60	1	4.67	0.11	<b>0.33</b>	<b>0.33</b>	1			
5. Firm Size	290	444	2100	38	0.09	0.08	0.19	-0.10	1		
6. TMT Size	5.90	1.59	5.00	11.00	0.03	0.02	<b>-0.22</b>	-0.09	-0.09	1	
7. Board Size	11.23	0.43	8.00	17.00	<b>0.22</b>	0.18	0.18	-0.04	<b>0.43</b>	<b>0.26</b>	1

**Notes:** All correlations above  $|0.21|$  are significant at the 0.05 level.

Following prior research (e.g., Gupta, Huang, & Yayla, 2011), we conducted a maximum likelihood CFA on the variance-covariance matrix and found that proactiveness, risk-taking, and innovativeness were distinct constructs, providing support for a multi-dimensional conceptualization of entrepreneurial orientation. We used ordinary least squares (OLS) with panel-corrected standard errors (PCSE) which is appropriate when the number of time points ( $t$ ) is less than the number of cross-sectional units ( $i$ ) (Beck & Katz, 1995)

Hypothesis 1 predicted that the relationship between top management's emphasis on proactiveness and value creation (a) will be positive, (b) and this effect decreases over time. We found that, initially, a one standard deviation increase in proactiveness (approximately 0.57 units)

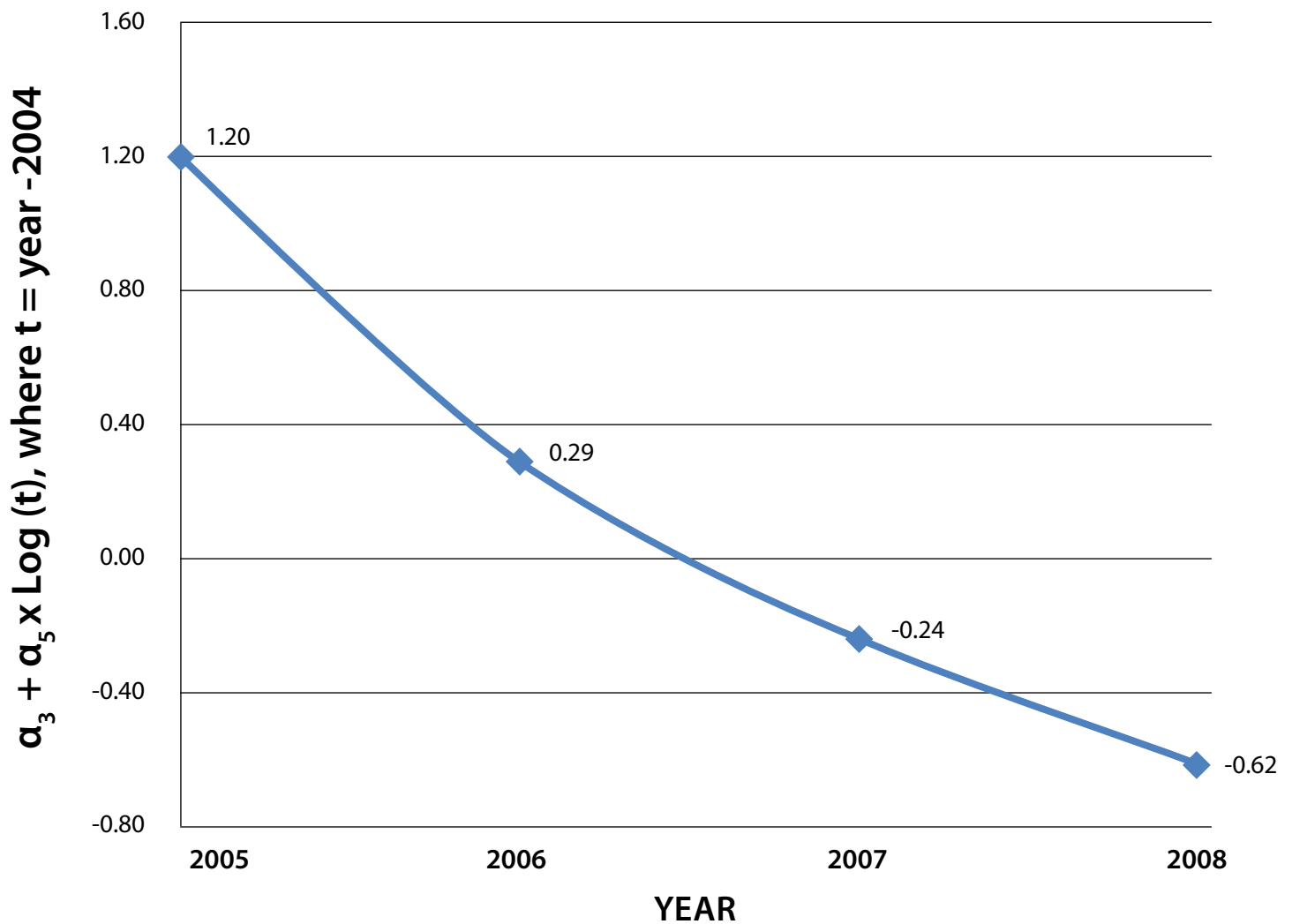
improves shareholders' value by 0.67 units in year 1. The marginal effect of proactiveness on shareholder value in the regression,  $\alpha_6 + \alpha_8 \log(t)$ , diminishes over time as there is a negative coefficient to the interaction term between proactiveness and logarithmic value of  $t$ . Thus, hypotheses 1a and 1b were supported in our data. Figure 1 presents the evolutionary nature of the effect of proactiveness.

Hypothesis 2 predicted that the relationship between top management's emphasis on risk taking and value creation (a) will be positive, (b) but this effect decreases over time. We found that risk-taking emphasis had no association with value creation in the short run as well as over time. Thus, hypotheses 2a and 2b were not supported in our data.

**Table 3. Effect on Value Creation; Dependent Variable = Value Creation (VC)**

Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	<b>11.9**</b> (5.384)	9.7 (5.82)	<b>9.728</b> (5.78)	-3.577 (5.132)	6.35 (6.1)	-6.508 (6.4)
Log(size)	-1.09 (1.143)	-1.092 (1.218)	-1.212 (1.232)	0.713 (0.884)	0.232 (1.026)	0.863 (0.971)
SVt-1				0.049 (0.178)	0.057 (0.04)	0.014 (0.04)
CEO	0.582 (0.37)	0.649 (0.401)	0.657 (0.395)	<b>0.545**</b> (0.263)	<b>0.662**</b> (0.292)	<b>0.586**</b> (0.28)
TMT Size	-0.026 (0.112)	-0.039 (0.116)	-0.021 (0.117)	-0.007 (0.081)	-0.027 (0.084)	0.031 (0.091)
Board Size	-0.108 (0.092)	-0.127 (0.098)	-0.121 (0.099)	-0.041 (0.07)	-0.099 (0.07)	-0.055 (0.074)
Proactiveness <sub>t-1</sub>	<b>-0.632**</b> (0.215)			<b>1.197**</b> (0.55)		
Risk-Taking <sub>t-1</sub>		0.116 (0.252)			-0.709 (0.67)	
Innovativeness <sub>t-1</sub>			0.208 (0.283)			<b>1.776**</b> (0.81)
Log(t)				<b>3.73**</b> (1.589)	-2.413 (1.489)	3.362 (2.411)
Proactiveness <sub>t-1</sub> * Log(t)				<b>-1.31***</b> (0.44)		
Risk-Taking <sub>t-1</sub> * Log(t)					0.381 (0.463)	
Innovativeness <sub>t-1</sub> * Log(t)						<b>-1.298*</b> (0.66)
R-square	0.669	0.632	0.634	0.755	0.712	0.724

\* p < 0.10, \*\*p < 0.05, and\*\*\*p < 0.01; Notes: Standard errors are in parentheses.

**Figure 1. Diminishing effect of proactiveness on value creation**

Hypothesis 3 predicted that the relationship between top management's emphasis on innovativeness and value creation (a) will be positive, (b) and this effect decreases over time. We found that, initially, a one standard deviation increase in innovativeness (approximately 0.49 units) improves value creation by 0.87 units. The marginal effect of innovativeness on shareholder value in the regression,  $\alpha_6 + \alpha_8 \times \log(t)$ , diminishes over time as there is a negative coefficient to the interaction term between innovativeness and logarithmic value of  $t$ . Thus, hypotheses 3a and 3b were supported in our data. Figure 2 presents the evolutionary nature of the effect of innovativeness.

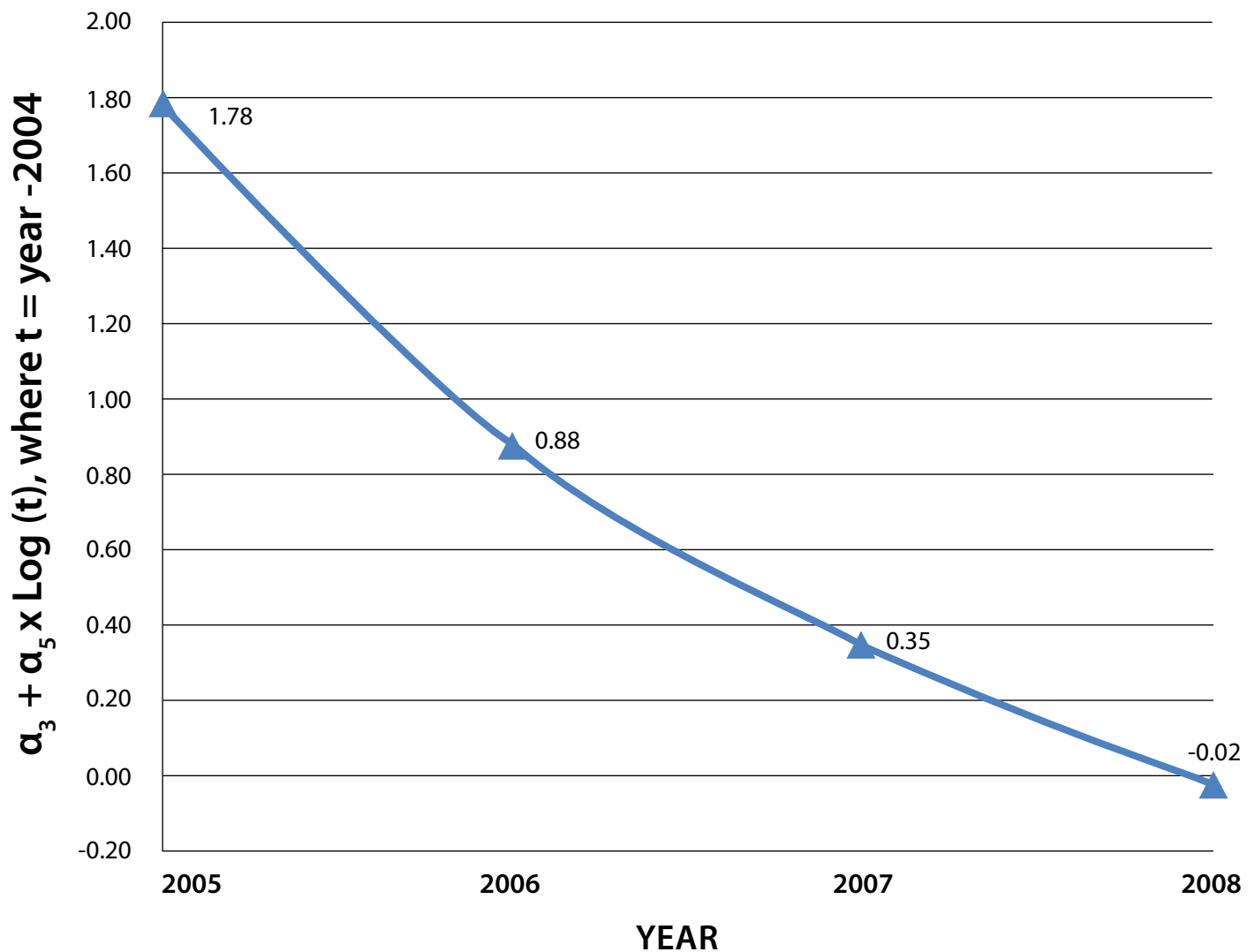
To establish the robustness of our results, we conducted some additional analyses. We re-estimated our regression models for ten iterations, in each case with a randomly drawn subsample of 90% of the data we have.

We found that results remain stable, indicating that our findings are not vulnerable to random variations in sample size. These analyses enhance confidence in the findings of our study.

### Discussion

Our results, based on studying senior management in large publicly-traded retailers, suggest two important ideas. On the conceptual side, we show that the manner in which top management exercises discretion in allocating scarce attentional resources to the various components of entrepreneurial orientation has significant implications for the value creation potential of the firm. This is an important finding because, the nexus between managerial attention and specific aspects of entrepreneurial orientation, though theoretical and practically substantive, remains under-explored in prior



**Figure 2. Diminishing effect of innovativeness on a value creation**

research. On the methodological side, we demonstrate the potential usefulness of historiometry in researching questions related to entrepreneurial orientation of top management. A historiometric approach enabled us to convert qualitative information over an extended period of time into quantitative indicators that were embedded in a nomological network and analyzed using statistical tools.

A notable knowledge void in the entrepreneurial orientation literature concerns how it relates to financial value creation and whether its individual dimensions are equally valuable (Miller, 2011). Results of the present study provide evidence that proactiveness and innovativeness emphases on the part of top management are significantly associated with value creation in the capital markets. Our findings with regard to lack of evidence for

the value creation potential of risk-taking seem to support Morgan and Strong's (2003) conclusion that it is unclear what place risk-taking occupies in the complement of top management as its commercial rewards are unclear. We join prior research in arguing that it may be premature to talk about the 'potential competitive advantage' of risk-taking at the corporate level. Investors may be inert to a risk-taking emphasis on the part of top executives as our results suggest, or worse, react negatively to it if they perceive it to be an impediment to performance as some past research suggests (Hughes & Morgan, 2007; Short, Broberg, Coglisier, & Brigham, 2010).

The entrepreneurial orientation concept also stipulates that sustained success can only be attained by emphasizing an entrepreneurial posture over time

(Rauch, Wiklund, Lumpkin, & Frese, 2009). Yet, the question of whether the impact of individual elements of entrepreneurial orientation is monotonic across time has not yet been examined (Madsen, 2007). In the present study, we found that the positive influence of proactiveness and innovativeness on value creation diminished over time. These results shed new light on the effect of entrepreneurial orientation over time. Perhaps, with time, managers of rival firms also begin to emphasize proactiveness and innovativeness, slowly eroding their value generation potential. The influence of proactiveness became negative after some years, which suggests an emphasis on proactiveness is not rewarded by the capital markets in the long-term, unless management follows it with stronger attention to proactively leading the market. For innovativeness, our results suggest that management can create value for the firm by emphasizing innovativeness as investors continue to react positively to it (Sood & Tellis, 2009). To our knowledge, this is one of the first studies to examine the evolutionary influence of the three central facets of entrepreneurial orientation. The temporal aspect of our research is important as superior outcomes over time are a key concern for managers. This is because sustained value creation reflects consistently high estimates of future cash flows for the firm (Milgrom & Roberts, 1992), indicating that the firm is being managed in the best interest of stockholders.

On the methodological side, our research illustrated the use of historiometry to extract quantitative information about entrepreneurial orientation of top management from qualitative data sources (Cho & Hambrick, 2006). Past studies have largely relied on asking a key executive within the firm for information regarding entrepreneurial orientation, leading to problems associated with self-serving biases and memory distortion. Moreover, a key informant approach is not appropriate for longitudinal research because it “requires very intrusive access to ... executives. ... who are notoriously unwilling to submit themselves to scholarly poking and probing” over time (Hambrick, 2007, p. 337). More than a decade ago, Lyon, Lumpkin, & Dess (2000) encouraged development of new methodological techniques to measure entrepreneurial orientation. Recently, Miller (2011, p. 7) echoed the call for exploring new ways to measure entrepreneurial orientation, and spotlighted textual analysis as one methodology to test hypotheses using qualitative data sources. By using historiometry to derive data from

archival publically available qualitative sources like letters to shareholders, we were able to (a) collect data consistently over time and across companies, as well as (b) conduct quantitative analyses based on first-order qualitative data. We hope our novel methodology will show future researchers an approach that can be applied to collect data related to top management constructs like entrepreneurial orientation that would be difficult to obtain otherwise.

To summarize, our results provide support for the idea that not all components of entrepreneurial orientation may be equally important or relevant (e.g., George, 2011). Based on our results, we contend that innovativeness may be the most important dimension of entrepreneurial orientation, followed by proactiveness. As for risk-taking, further research is needed to establish its relevance for entrepreneurial orientation in the context of large firms. Departing from prior research, we also examined the evolutionary nature of the relationship each component of entrepreneurial orientation had with value creation, and found that, as expected, the effect of proactiveness and innovativeness diminished with time. Further, it seems that, in the long run, the effect of innovativeness is stronger than the effect of proactiveness. These findings have important implications for researchers who conceptualize entrepreneurial orientation as a gestalt construct (e.g., Covin, Green, & Slevin, 2006) as well as those who view it as having independent dimensions (e.g., Lumpkin & Dess, 1996). To the first group of scholars, it suggests that it may be useful to operationalize entrepreneurial orientation as an unequally weighted composite measure with different weight attached to each dimension. To those in the second group, our research suggests that even when one dimension is absent, the other two dimensions can cause the firm to be entrepreneurial. In addition, for managers, our results suggest the need to strategically focus their attention on specific aspects of entrepreneurial orientation to generate superior value in the capital markets.

Like other research studies, our study also has certain limitations. First, it is possible that there is a gap between what is emphasized in the letter and what the firm actually does (Judd & Tims, 1991), though these concerns may be considerably alleviated in light of the fact that misleading statements in the letter can lead to negative consequences for managers, including loss of credibility, censure by powerful stakeholders, and legal sanctions (McClelland,

Liang, & Barker, 2010). Another issue is the small sample size ( $n=16$ ), which may influence the credibility of results presented here. However, our data collection involved obtaining data on independent and dependent variables for 5 years (2004-2008), and it can be argued that collecting data for a longer period of time would eliminate the need of large sample size and increase temporal generalizability of our research (Bettis & Mahajan, 1985). Lastly, we followed Miller's (2011, p. 9) advice to study entrepreneurial orientation within a "carefully defined industry context" and focused on large retail firms headquartered in the United States, but whether our findings generalize to other industries (e.g., banking) or countries (e.g., Germany) remains to be examined in future studies.

Notwithstanding the limitations of our research, our study has several methodological strengths. First, in addition to providing benefits such as alleviating reverse causality and controlling for value generated in the prior year, our panel dataset also allowed us to explicitly include and test the role of time in the nomological net. Second, the use of public correspondence to obtain data helped overcome some of the limitations associated with prior entrepreneurial orientation research that has relied on single key informants. Third, we employed non-expert raters who do not possess intense knowledge of retail companies and do not read shareholder letters as part of their job, which reduces concerns about the role of preconceived notions and biases based on real-world

knowledge about the company (Deluga, 2001). Fourth, we used an objective measure of economic value creation, departing from prior research in entrepreneurial orientation that has generally relied on other performance indicators, often measured perceptually. Fifth, we used qualitative data to obtain quantitative information that was used to test hypothesized relationships in a rigorous variance-theoretic manner, which is the dominant mode of empirical research in management and entrepreneurship (Chiles, Bluedorn, & Gupta, 2007). Finally, we focused our research within a single industry context within one country, which has the merit of holding extraneous factors constant.

### Conclusion

Our findings indicate that the core aspects of entrepreneurial orientation do not generate uniform and consistent gains in shareholder value creation. The influence of entrepreneurial orientation is therefore more complex than is often portrayed, and its three core facets are not of equal value at all times. Top management that emphasizes proactivity and innovativeness aspects of entrepreneurial orientation can accrue shareholder value for their firm for some time. The key emphasis area for management may indeed be innovativeness as it is positively associated with shareholder value over a longer time period. Thus, managers of large firms should strategically and selectively emphasize entrepreneurial orientation to create value in the financial markets.

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