

# **Seeing Green in Several Ways: The Interplay of Entrepreneurial, Sustainable and Market Orientations on Executive Scanning and Small Business Performance**

**Mark A. Gagnon**  
**The Pennsylvania State University**

**Judd H. Michael**  
**The Pennsylvania State University**

**Nathan Elser**  
**The Pennsylvania State University**

**Clint Gyory**  
**The Pennsylvania State University**

*Research on entrepreneurial, sustainable and market orientations indicate that the lenses small business executives and entrepreneurs apply to the strategic environment affect information processing. In this mixed method work, we discovered evidence that entrepreneurial, sustainable and market orientations affect small business executive information processing. Results also demonstrate relationships between the orientations and firm performance. Moreover, our findings indicate that executives who ascribe to one or multiple orientations attend to different primary industry challenges and opportunities. This work contributes to small business and entrepreneurship scholarship by demonstrating linkages between executive orientation, information processing and firm performance.*

## **EXECUTIVE SUMMARY**

Evidence exists that firm practices are impacted by entrepreneurial, sustainable and market orientations (Covin & Lumpkin, 2011; Gagnon, 2012; Kirca, Jayachandran & Bearden, 2005). Scholars theorize that information processing plays a key role in determining how executive orientations influence firm performance (Cannella, Hambrick & Finkelstein, 2009). This work utilizes the upper echelons perspective (Hambrick & Mason, 1984) to explore the affect of entrepreneurial (EO), sustainable (SO) and market (MO) orientations on the environmental scanning processes of small business executives. Two questions guide our research. First, how do entrepreneurial, sustainable and market orientations affect executive scanning of business relevant information? And, second, are EO, SO and MO related firm performance?

We utilized mixed methods to evaluate data from a sample of 177 transport packaging small business executives. Our findings indicate that EO, SO and MO directly affect executive scanning. We also found

evidence for the interactive effect of EO and SO, and MO and SO, on scanning. In addition, we discovered empirical evidence for the direct effect of EO and MO on firm performance, but not for SO. Finally, we found that executive MO mediated the EO to firm performance relationship for this industry segment.

Findings from this study provide insight into executive cognitive and affective information processes and begin to address Hambrick's (2007) call to explore executive beliefs and values on information processing. We, along with other scholars (Locke & Baum, 2007), advocate that more understanding of small business executive and entrepreneur psychology is needed to improve firm success. We believe our work makes a contribution by being one of the few that examines the role of orientations on actual executive scanning. Executives and entrepreneurs should be aware of their own orientations to help avoid the problems of bias in decision-making and perhaps even improve their ability to discover opportunities.

## INTRODUCTION

Mindset matters when it comes to entrepreneurial decision-making. Today many small business owners and entrepreneurs are seeking green in two ways; first they seek to meet company performance objectives, and second, many are considering how to best incorporate sustainability into their businesses (Fowler & Hope, 2007). Executive mindsets or orientations have witnessed significant scholarly attention (Lumpkin & Dess, 1996; McGrath & MacMillan, 2000; Kirca et al 2005). In particular the concepts of entrepreneurial, sustainable and market orientations have received considerable attention in the small business and entrepreneurship literatures. Executives have been prompted to consider each of these orientations in order to drive and maintain competitive viability and success. Moreover there exists a growing body of evidence that these orientations do matter for firm performance (Lumpkin & Dess, 1996; Kirca et al., 2005).

Although the performance benefits of an entrepreneurial orientation have been shown to differ in various contexts, the majority of EO research has concluded that businesses are likely to benefit from pursuing an EO (Rauch et al., 2009). In developing his measure of what is now referred to as EO, Miller (1983) argued that "an entrepreneurial firm is 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," whereas "a non-entrepreneurial firm is one that innovates very little, is highly risk averse, and imitates the moves of competitors instead of leading the way" (1983, p. 771).

Today, scholars and small business executives direct a considerable amount of attention to sustainability. This is important since small business is often seen as a driver of innovation that will lead to more socially, environmentally and economically sustainable outcomes. We believe, along with others (Choi & Gray, 2008; Cohen, Smith & Mitchell, 2008; Cohen & Winn, 2007; Dean & McMullen, 2007; Gagnon 2012; Kuckertz & Wagner, 2010; Schlange, 2006; Shepherd, Kuskova & Patzelt, 2009), that sustainable small business executives/entrepreneurs are an essential part of the solution to many of the social, environmental and economic challenges humanity faces. The concept of sustainable orientation has recently been evaluated (Gagnon, 2012; Kuckertz & Wagner, 2010) and has the potential to show linkages with executive information processing, decision making and perhaps with firm outcomes.

Similar to EO, market orientation has a significant body of research and has demonstrated linkages with firm performance (Baker & Sinkula, 2002; Pelham & Wilson, 1996; Slater & Narver, 2005). MO scholars argue that it is essential for executives to proactively scan for customer driven market intelligence, integrate market based discovery into their organizations and then act upon these discoveries via products, services and processes to maintain sustainable competitive advantage (Kumar, Jones, Venkatesan & Leone, 2011).

Our work investigates the relationship of small business owners' entrepreneurial, sustainable and market orientations on information processing and performance in the North American transport packaging industry. We seek to address two questions utilizing the upper echelons perspective (UEP) as our framework (Hambrick & Mason, 1984; Hambrick, 2007). First, how do entrepreneurial, sustainable and market orientations affect executive scanning of business relevant information? In particular, we seek

to examine executive perceptions of the challenges and opportunities their companies face for the year ahead. Second, are EO, SO and MO related to firm performance? Through a mixture of qualitative and quantitative methods we will address these questions.

We begin with an overview of the upper echelons perspective and review work on entrepreneurial orientation, sustainable orientation and market orientation. Our research hypotheses will then be presented, with the methodologies used to test the relationships between executive orientations and perceptual measures of firm performance. Finally, findings from the study will be discussed and a series of conclusions and next steps for inquiry will be advanced.

### **Upper Echelons Perspective and Information Processing**

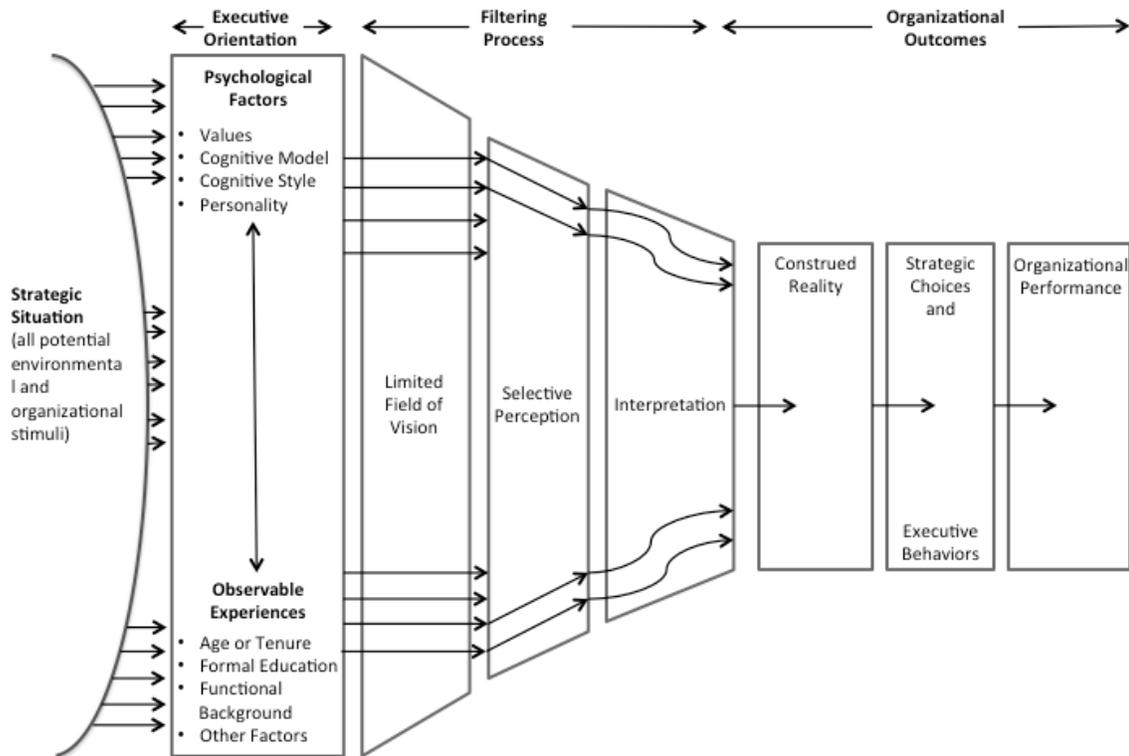
The upper echelons perspective guides our inquiry since we seek to examine the influence of top managers' orientations on their perceptions of the industry's business environment. The upper echelons perspective asserts that top managers significantly influence firm strategic actions and performance (Cannella, Hambrick & Finkelstein, 2009; Hambrick & Mason, 1984; Hambrick, 2007). Executive information processing is theorized as a key mechanism for driving executive impacts on firm outcomes and performance (Finkelstein & Hambrick 1996; Hambrick & Mason 1984; Starbuck & Milliken 1988). Upper echelon strategists do not discount the environmental forces offered by industrial organizational strategists (e.g., Porter 1980). Rather, UEP researchers seek to better understand how executives can impact their firms' efforts to manage these environmental forces.

A dominant consensus is that executives do matter, and the debate has progressed into the specifics of their contribution to firm performance. Initial research has found that executive demographics have accounted for 5-44% of the variance in their firm's performance (Cannella, Hambrick & Finkelstein, 2009; Finkelstein & Hambrick 1996; Weiner & Mahoney 1981). An approximate average across these studies indicates that 20% of firm performance is explained by the chief executive alone (Cannella, Hambrick & Finkelstein, 2009; Finkelstein & Hambrick 1996). However, a considerable amount of research has predominantly focused on Fortune 500 level firms, thus neglecting the evaluation of executive impact on small to midsize firms. Considering the amount of inertia these larger firms are purported to possess (Hannan & Freeman 1984; Pfeffer, 1997), the potential for chief executive impact on performance for smaller and or entrepreneurial firms is likely even greater.

Figure 1 offers an overview of the upper echelons executive information-processing model proposed by Cannella, Hambrick and Finkelstein (2009), which is derived from the seminal work of Hambrick and Mason (1984). In this model, executive values and cognitive bases influence every step of information processing, which ultimately leads to the formation of executive schemata that guide decision-making. The model in Figure 1 brings executive characteristics and strategic information processing together with industry contextual forces. The figure depicts the relationships of executive characteristics (psychological and demographic) with situational concepts (industry and organizational) on executive strategic information processing.

Existing theory proposes that executives process strategic information beginning from the Field of Vision trapezoid, which represents the strategic information executives scan. From there, executives selectively attend to certain information (Selective Perception), followed by their assessment of the importance of the strategic issues (Interpretation). The next step in the process leads to the executives developing a construed reality, which frames the set of strategic choices available, and thus courses for taking strategic action (Strategic Action) that finally leads to company performance. Executives are thought to process information along this sequence that channels information into a strategic decision-making context. The processing of information is considered under the assumption that executives are goal directed and that information processing is linear for model utility. More specifically, executive orientations help shape their field of vision, the information they attend to within the field and their interpretation of this information (Chattopadhyay, Glick, Miller & Huber, 1999). This executive strategic information-processing model provides the theoretical framework for investigating transport packaging industry executive scanning and its impact on firm performance. In particular, executive beliefs about entrepreneurial, sustainability and market orientations are the subject of this study.

**FIGURE 1**  
**THE UPPER ECHELONS INFORMATION PROCESSING MODEL**



Cannella, Hambrick and Finkelstein (2009)

### Entrepreneurial Orientation

Today's business environment is often characterized as one of rapid change and shortened product and business model lifecycles. As a result, a firm cannot reasonably expect the profit streams of its current operations to continue unabated and must constantly seek out new opportunities (Rauch, Wiklund, Lumpkin, & Frese, 2009). A strategic orientation toward entrepreneurship may enable a firm to effectively seek out and capitalize on new opportunities, ultimately leading to greater performance.

Entrepreneurial orientation refers to the strategic orientation of a firm, encompassing entrepreneurial aspects of decision-making processes and methods. Entrepreneurship, being the *content* of entrepreneurial actions, has been differentiated within the literature from EO, which represents the *process* of those entrepreneurial actions (Miller, 2011). According to Lumpkin and Dess (1996), EO reflects more closely *how* a firm operates, rather than *what* it actually does. Rauch and colleagues (2009) state that EO can be "viewed 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" (p. 763). Because all organizations require decision-making processes, EO has been used broadly to investigate firm orientations toward entrepreneurial activity, irrespective of age, size, ownership type, etc. (Covin & Wales, 2011).

Following Miller's (1983) original conceptualization, our study utilized the three EO dimensions of innovativeness, proactiveness and risk-taking. According to Rauch and colleagues (2009, p. 763): *Innovativeness* is the predisposition to engage in creativity and experimentation through the introduction of new products/services as well as technological leadership via R&D in new processes; *Risk taking* involves taking bold actions by venturing into the unknown, borrowing heavily, and/or committing significant resources to ventures in uncertain environments; *Proactiveness* is an opportunity-seeking,

forward-looking perspective characterized by the introduction of new products and services ahead of the competition and acting in anticipation of future demand.

Innovation is not necessarily limited to the development of new, or modification of existing, products, services and manufacturing processes. Innovative solutions can also be applied to administrative systems (Bantel & Jackson, 1989), such that new organizational structures, policies or programs can be developed to improve decision making processes (López-Nicolás & Meroño-Cerdán, 2011). Because innovation can be pursued in all business functions, its potential value is not limited to specific industries or certain types of firms. Although innovation is more common in highly dynamic, high-technology industries, the innovativeness of a firm has been shown to be positively associated with revenue growth irrespective of the industry in which that firm operates (Thornhill, 2006).

Like innovation, the value associated with a willingness to assume risk is not restricted to certain environments. Often times a willingness to commit resources to projects having uncertain returns is necessary to gain, or even maintain, competitive advantage. Of course the pursuit of risky ventures can also prove detrimental. Only carefully managed risk, through adequate research and planning, will most often lead to competitive advantages (Dess & Lumpkin, 2005).

The extent to which a firm anticipates future market needs, seeks out new opportunities and takes initiative in pursuing those opportunities is a measure of its proactiveness (Lumpkin & Dess, 1996). A proactive firm may seek out opportunities unrelated to their current operations or be willing to eliminate operations having diminishing prospects due to their reaching a state of maturity (Venkatraman, 1989). Executives that maintain focus on new opportunities that result from changing environmental conditions may increase firm performance. Therefore we propose the following hypotheses.

*H1: Executives that rate high in entrepreneurial orientation will select and attend to different information in the business environment versus executives that score low in entrepreneurial orientation.*

*H2: Entrepreneurial orientation will be positively related to firm performance.*

### **Sustainable Orientation**

Sustainable orientation describes an individual's belief system that is directed toward sustainability and its tenets (Kuckertz & Wagner, 2010; Gagnon 2012). Sustainability, briefly defined, is the need for our species to account for the needs of others, including future generations, in both the social and natural environments. Practices such as bolstering local community development, environmental stewardship, model employment policies and disciplined economic behavior can be seen as contributing to sustainability. Kuckertz and Wager (2010) empirically demonstrated sustainable orientation as a robust concept and demonstrated its relationship to entrepreneurial intentions using a group of European engineering and business students and alumni. Gagnon (2012) has examined sustainable orientation utilizing entrepreneurship students and has found relationships between nascent entrepreneur values and sustainable orientation. Sustainable orientation has been shown to be discrete and related to the concepts of sustainable identification and commitment, which represent other modes of sustainable attachment (Gagnon & Michael, 2012). In summary, sustainable orientation is based upon the formation of schemata that shape and guide future information processing within a sustainable framework. Further, those who have a sustainable orientation will frame their problem solving in greater accordance with sustainable tenets. These individuals will see and express agreement with sustainable thinking and process information through a sustainability lens. Therefore we propose the following hypothesis.

*H3: Executives that rate high in sustainable orientation will select and attend to different information in the business environment versus executives that score low in sustainable orientation.*

One prominent study indicates that over sixty percent of corporate managers believe that attending to sustainability is essential to long-term firm performance (Haanaes, Reeves, Velken, Audretsch, Kiron &

Kruschwitz, 2012). Research indicates positive relationships between sustainability and performance (Hart and Ahuja, 1996; Wagner, 2005;). However, the relationship between sustainable practices and performance in other studies is negative (Lopez, Garcia & Rodriguez, 2007) or non significant (Van de Velde, Vermeir & Corten, 2005). Moreover, researchers indicate that more development is needed on firm practices and management systems to successfully integrate sustainability into firms in order to effectuate positive economic returns (Wagner, 2005; Werbach, 2009). Although sustainability is a mainstream concern of businesses today, we believe that the majority of firms have not yet been able to implement sustainable actions or programs that can be shown to significantly affect firm performance. Therefore we propose the following hypothesis.

*H4: Sustainable orientation will not have a relationship with performance.*

Many scholars believe there is a unique set of entrepreneurs and business executives who seek to address sustainability (Choi & Gray, 2008; Cohen, Smith & Mitchell, 2008; Dean & McMullen, 2007; Gagnon 2012; Kuckertz and Wagner, 2010; Schlange, 2006; Shepherd, Kuskova & Patzelt, 2009; Winn, 2007). A common finding in this body of work is that sustainable entrepreneurs view the business environment in unique ways. For example, they tend to ground decision making with enriched context, longer time horizons and account for distant stakeholders while being entrepreneurial (e.g., proactive, agile and creative, etc.).

Therefore, we believe there is likely an interactive effect of entrepreneurial and sustainable orientations on executive information processing. This leads us to our fifth hypothesis.

*H5: The interaction of entrepreneurial and sustainable orientation will affect executive scanning representing four unique scanning views based on high-low EO and SO categories.*

## **Market Orientation**

Market orientation refers to the customer-centric view of doing business that involves: 1) the gathering of market intelligence 2) the dissemination of that intelligence throughout all branches of the organization and 3) the responsiveness surrounding the acquisition of this information (Narver & Slater, 1990; Kohli & Jaworski, 1990). Having a high level of MO can create competitive advantage for an organization (Slater & Narver, 2005), so long as it executes the process more efficiently than its competitors (Day, 1994; Kotler, 2002). Business methods contrary to an MO mindset involve a greater focus on factors internal to the firm, such as production efficiencies and cost cutting. Both methods are shown to be legitimate ways of carrying out business. However, the direction that an organization ultimately follows is highly dependent on the focus of senior management within the organization (Webster, 1988; Narver & Slater, 1990; Kohli & Jaworski, 1990; Kirca, Jayachandran, & Bearden, 2005). Felton (1959) specified that the state of mind is the most important factor when looking at the level of market orientation and can only be achieved if top executives buy into the value of marketing.

Scanning is the act of acquiring information that will be helpful in the planning of a company's future course (Cannella, Hambrick & Finkelstein, 2009; Boyd & Fulk, 1996). We believe the perceived value of different information used in the strategic decision making process is dependent on the level of executive MO. Therefore we propose the following hypothesis.

*H6: Executives that rate high in market orientation will select and attend to different information in the business environment versus executives that score low in market orientation.*

Similar to EO and SO, we believe that MO and SO will interact to demonstrate unique ways of scanning. Crittenden, Crittenden, Ferrell, Ferrell and Pinney (2011) advance a series of propositions that merge MO and SO and assert that these concepts will influence stakeholder engagement and firm

performance. An executive who is market focused while also supporting the tenets of sustainability is likely to scan the business environment differently than an executive with opposing orientations. For example, an executive who attends to the market with a sustainable orientation is likely to search for means to provide value to customers in a sustainable manner or perhaps enhance their company's customer offering with sustainability (high MO and SO). In contrast, an executive that is internally focused on sustainability (low MO and high SO) will attend to areas inside the organization for improvement using sustainability. Therefore we offer the following hypothesis.

*H7: The interaction of market and sustainable orientation will affect executive scanning representing four unique scanning views based on high-low MO and SO categories.*

Many scholars have empirically shown a direct effect of market orientation on profitability and firm performance (Baker & Sinkula, 2002; Pelham & Wilson, 1996; Slater & Narver, 2005). Market orientation is likely to be the most impactful form of value capture for transport packaging in an otherwise homogeneous industry. The production systems and processes for this industry follow a widely adopted low-tech production convention with little room for cost reduction or enhanced efficiency. We believe firms that seek to capture value by being market oriented through understanding and attending to their customer needs are likely to perform better than internally focused companies. Therefore we propose the following hypothesis.

*H8: Market orientation will be positively related to performance.*

Entrepreneurial orientation (EO) has been shown to positively influence firm profitability (Covin & Slevin, 1986). However, when viewed in conjunction with MO, this relationship has been shown to be nonexistent (Matsuno, Mentzer, & Ozsomer, 2002; Slater & Narver 1998). Baker and Sinkula (2009) have shown that, when modeled together, the EO-performance relationship is mediated by MO. We think this relationship will hold true for the transport packaging industry as well. Industry context matters when examining EO, MO and performance. In this industry case, EO (being proactive, risk tolerant and innovative) has merit for performance. However if the firm isn't market focused the yield from these actions is likely to be marginal. The industry's dominant production logic leaves less room for value capture by being entrepreneurial versus focusing on markets and customers. Therefore when MO is evaluated it will dominate the performance relationship while showing a linkage with EO. In this instance EO is a means to execute MO. Therefore propose the following hypothesis.

*H9: Market orientation will mediate the relationship between entrepreneurial orientation and performance.*

## **METHODS**

### **Sample**

An internet survey was used to collect data from firms operating in the transport packaging industry. After finalizing the instrument with expert review, an email was sent by the president of the industry association to known upper-level managers of approximately 1200 firms. Our sample consisted of 177 usable responses (14.8% response rate).

Respondent firms were primarily headquartered in the United States. The mean age of respondent firms was 35.7 years. Firms in our sample had a median 40 full-time production employees. Finally, the median revenue for respondent firms in 2011 was between \$5 and \$10 million. We compared the answers of early versus late respondents to examine non-response bias (Kanuk & Berenson, 1975) and found no significant differences.

## Variables and Measurement

We utilized measures from previously established scales of entrepreneurial orientation (Covin & Slevin, 1989; Wiklund & Shepherd, 2003), sustainable orientation (Kuckertz & Wagner, 2010; Gagnon 2012) and perceived firm performance (Wiklund and Shepherd 2003). We developed a measure of market orientation similar to those used by (Narver & Slater, 1990; Kohli & Jaworski, 1990) utilizing a capabilities scale developed by Wiklund and Shepherd (2003). In addition, we also employed common firm characteristic measures and open-ended qualitative questions.

## Dependent Variables

*Perceived firm performance*- Previous research has suggested that subjective measures, such as those assessing firm performance, can accurately reflect objective measures (Dess & Robinson, 1984). Following Wiklund and Shepherd (2003), respondents were asked to compare the performance of their own firm over the past three years to that of their most relevant competitors. Four different dimensions of performance: sales, profitability, product/service quality and customer satisfaction ( $\alpha = 0.79$ ). Items were measured using five-point Likert type scales ranging from “much weaker” to “much stronger.”

*Environmental scanning*- We utilized a fixed 150 character response field on the survey to capture what challenges and opportunities executive perceive as being the greatest for the firms in the coming year. Responses were coded by three researchers into a narrowed list of higher order thematic categories such as profitability, competition and market share (Strauss & Corbin, 1998). We achieved acceptable agreement ( $r = 0.84$ ) after discussing coding differences and examining responses with additional case data. A list of final codes with raw textual data is available from the authors.

## Independent Variables

*Entrepreneurial orientation* (EO) was measured using Covin and Slevin’s (1989) scale, consisting of nine items measured on a seven-point semantic differential scale ( $\alpha = 0.87$ ). Each scale item consisted of a pair of contrasting statements that were placed on opposite poles. An example of an item pair is, “In general I... Have a strong preference for low-risk projects (with normal and certain rates of return)” versus the opposite pole of “Have a strong preference for high-risk projects (with chances of very high returns)”.

*Sustainable orientation* (SO) was measured using an adapted scale from Kuckertz and Wagner (2010) that was modified to fit a more generalized industry context by Gagnon (2012). Items were rated on a 5-point Likert type scale anchored at strongly disagree and strongly agree ( $\alpha = 0.84$ ). An example scale item is “Companies should contribute to the betterment of their local communities”.

*Market orientation* (MO) was measured using a 5-point scale adapted from Wiklund and Shepherd (2003). We used five items to measure market orientation such as expertise regarding development of products or services, staff educated in giving superior customer service and expertise in marketing ( $\alpha = 0.81$ ). These items were measured using five-point Likert type scales ranging from “much weaker” to “much stronger.”

## RESULTS

### EO, SO and MO effects on Scanning

Table 1 lists the overall key challenges and opportunities as reported by the full sample ( $n = 177$ ) so that we can contrast executive orientation data with the overall sample. The top three challenges reported by executives were profitability, competition and the economy, while the top opportunities were new products, market share and no answer given.<sup>1</sup> Many of the full sample top challenges and opportunities exist in each of the three high/low orientations categories of EO, SO and MO, yet some notable differences exist. In the individual orientation sections below, contrasts will be made to the overall sample at the end of each section.

Entrepreneurial orientation is separated to represent high and low by using the mean to divide the sample into groups as shown in Table 1. The first difference is that executives that score low on EO

reported supply as the first challenge versus high EO executives who listed supply as a third level challenge. Among high EO executives, growth was the second most cited challenge. Another area indicating a difference in scanning based on EO is the prominence of no answer as the most reported opportunity for low EO executives, whereas new products was the dominate opportunity cited by high EO executives. Moreover, high EO executives listed operations and diversification as potential opportunities, but these were not listed by low EO executives. Executives who scored high on EO reported growth, regulation, supply, operations and diversification as challenges. These items were not listed as top challenges and opportunities by the overall sample. Further, low EO executives listed supply as a challenge, which was not rated as a top challenge by the overall sample. Finally high EO executives noted operations and diversification as opportunities, which were not listed by the full sample. These data indicate some evidence of differences in scanning and information processing based on executive EO mindsets and supports our first hypothesis.

Table 1 also lists the high/low mean groups for executive sustainable orientation. Executives that scored high on SO indicated supply as a top challenge, which was not mentioned by low SO executives. Further, market share was listed by low SO executives and not by high SO as a challenge. The most commonly seen opportunity given by low SO executives was a no answer, whereas high SO executives mentioned new products and market share. Moreover, regulation was mentioned by low SO executives as an opportunity, but not mentioned by high SO executives. In the SO data categorization, high SO executives departed from the full sample by listing supply, operations and diversification as challenges and opportunities. Low SO executives differed by listing market share and regulation as challenges and opportunities, respectively.

Market orientation is shown at the bottom of Table 1. MO is divided into groups that score above or below the construct mean. Executives that scored high on MO differed very little from low scoring MO executives, except for the mention of market share as being a top challenge. Differences for opportunities were slight, with high MO executives listing market share as an opportunity and low MO listing operations as a top opportunity. These differences make sense considering the opposing marketing and operational views between low and high MO perspectives. When the sample was divided along the MO mean, it differed from the full sample by uniquely listing market share and supply for high MO and operations for low MO. These data show partial support for our sixth hypothesis.

Table 2 lists the top challenges along with count and percentage for each type of executive mindset. In quadrant one, the sustainable entrepreneur quadrant (high SO & EO), the top challenge was profitability and top opportunity was new products. In quadrant 2, traditional entrepreneurs (low SO & high EO) rated competition and new products as their greatest challenge and opportunity, respectively. Although the cell counts are small for each of these quadrants, the presence of growth and operations for sustainable entrepreneurs versus regulation and strategy for traditional entrepreneurs presents some initial evidence of differences in perception. Moving to the shopkeeper quadrant (low SO & EO), the opportunity rankings differ from the other quadrants. In particular, respondents listing no answer being the top opportunity and the presence of regulations as an opportunity offer a unique view for this segment. Sustainability advocates (high SO & low EO) in quadrant four cited supply as the greatest challenge and were the only group to list market share as both an opportunity and a challenge.

Traditional entrepreneurs (high EO & low SO) departed from the full sample by listing regulation, employees, supply and no answer as top challenges and by listing strategy and operations as top opportunities. Sustainable entrepreneurs (high EO & SO) differed from the full sample by listing growth and operations as a challenge and opportunity. The shopkeeper (low EO & SO) differed from the full sample by listing regulation, no answer as challenges and by listing operations and regulations as top opportunities. Finally the sustainability advocate (low EO & high SO) listed supply, costs and market share as challenges and economy as an opportunity when compared to the full sample.



**TABLE 2**  
**INTERACTION OF ENTREPRENEURIAL (EO) AND SUSTAINABLE (SO)**  
**ORIENTATIONS ON SCANNING (H:5)**

**Perceived Challenges**

Above	Entrepreneurial Orientation (EO) mean = 4.11	Traditional Entrepreneur		Sustainable Entrepreneur			
			Pct		Pct		
		High EO & Low SO n = 33	1. Competition (n = 6) 2. Economy (n = 4) 2. Regulation (n = 4) 3. Employees (n = 3) 3. Supply (n = 3) 3. No answer (n = 3)	18.1 12.1 12.1 9.1 9.1 9.1	High EO & High SO n = 54	1. Profitability (n = 9) 2. Growth (n = 6) 3. Economy (n = 5)	16.7 11.1 9.3
Below	Entrepreneurial Orientation (EO) mean = 4.11	Shop Keeper		Sustainable Advocate			
			Pct		Pct		
		Low EO & Low SO n = 33	1. Profitability (n = 6) 1. Competition (n = 6) 2. Economy (n = 5) 3. Regulation (n = 3) 3. No answer (n = 3)	18.1 18.1 15.2 9.1 9.1	Low EO & High SO n = 34	1. Supply (n = 9) 2. Costs (n = 5) 3. Competition (n = 4) 3. Market share (n = 4)	26.5 14.7 11.8 11.8
		Below	Sustainable Orientation (SO) mean = 3.35	Above			

**Perceived Opportunities**

Above	Entrepreneurial Orientation (EO) mean = 4.11	Traditional Entrepreneur		Sustainable Entrepreneur			
			Pct		Pct		
		High EO & Low EO n = 33	1. New products (n = 6) 2. Market share (n = 4) 2. Strategy (n = 4) 3. No answer (n = 3) 3. Operations (n = 3)	18.2 12.1 12.1 9.1 9.1	High EO & High SO n = 54	1. New products (n = 11) 2. Operations (n = 9) 3. Market share (n = 7)	20.4 16.7 13.0
Below	Entrepreneurial Orientation (EO) mean = 4.11	Shop Keeper		Sustainable Advocate			
			Pct		Pct		
		Low EO & Low SO n = 33	1. No answer (n = 10) 2. Operations (n = 4) 2. Regulations (n = 4) 3. Market share (n = 3) 3. New products (n = 3)	30.3 12.1 12.1 9.1 9.1	Low EO & High SO n = 34	1. Market share (n = 8) 2. New products (n = 6) 3. Economy (n = 4)	23.5 17.6 11.8
		Below	Sustainable Orientation (SO) mean = 3.35	Above			

**TABLE 3**  
**INTERACTION OF MARKET (MO) AND SUSTAINABLE (SO)**  
**ORIENTATIONS ON SCANNING (H:7)**

<b>Perceived Challenges</b>			<b>Perceived Challenges</b>		
	<b>Classic Marketer</b>	Pct		<b>Sustainable Marketers</b>	Pct
High MO	1. Profitability (n = 5)	13.9	High MO	1. Profitability (n = 6)	14.3
Low SO	1. Market Share (n = 5)	13.9	High SO	2. Competition (n = 5)	11.9
	1. Economy (n = 5)	13.9		2. Growth (n = 5)	11.9
	2. Competition (n = 4)	11.1		2. supply (n = 5)	11.9
	2. No Answer (n = 4)	11.1		3. Regulation (n = 4)	9.5
	3. Regulation (n = 3)	8.3			
	3. Supply (n = 3)	8.3			
	<b>Shop Keeper</b>	Pct		<b>Sustainable Advocate</b>	Pct
Low MO	1. Competition (n = 7)	25	Low MO	1. Supply (n = 8)	18.6
Low SO	2. Profitability (n = 4)	14.3	High SO	2. Profitability (n = 16)	14
	3. Economy (n = 3)	10.7		3. Economy (n = 5)	11.6

<b>Perceived Opportunities</b>			<b>Perceived Opportunities</b>		
	<b>Classic Marketer</b>	Pct		<b>Sustainable Marketers</b>	Pct
High MO	1. Market Share (n = 6)	16.7	High MO	1. Market Share (n = 8)	19
Low SO	2. New Products (n = 5)	13.9	High SO	2. New Products (n = 6)	14.3
	2. Strategy (n = 5)	13.9		3. Operations (n = 5)	11.9
	2. No Answer (n = 5)	13.9		3. Diversification (n = 5)	11.9
	3. Regulation (n = 3)	8.3			
	3. Supply (n = 3)	8.3			
	<b>Shop Keeper</b>	Pct		<b>Sustainable Advocate</b>	Pct
Low MO	1. New Products (n = 5)	17.9	Low MO	1. New Products (n = 11)	25.6
Low SO	1. No Answer (n = 5)	17.9	High SO	2. Operations (n = 8)	18.6
	2. Operations (n = 4)	14.3		2. Market Share (n = 8)	18.6
	3. Regulation (n = 3)	10.7		3. No Answer (n = 6)	14

The interaction between market and sustainable orientation is presented in Table 3. We evaluated SO with both EO and MO since SO is uniquely different from the EO and MO concepts. Narven and Slater (2000) assert that MO and EO are similar since the customer centric nature of MO is a core component of entrepreneurship. Thus we did not evaluate the interaction of EO and MO with the executive scanning data. We divided MO and SO into four quadrants similar to EO and SO and found some differences in executive scanning.

The interactive affect of MO and SO on scanning showed some differences. We provided descriptive labels for each of the quadrants similar to the EO and SO interaction table. Only those executives who occupied the high MO and SO quadrant mentioned growth (sustainable marketers) as a challenge. The other set of unique differences was the mention of market share and no answer for the executives that occupied the high MO and low SO quadrant (classic marketers). The other shop keeper (low MO and low SO) and sustainable advocate (low MO and SO) did not attend to differing information as compared to the other quadrants. The differences listed above also were present when compared to the full sample in

Table 1. One additional difference from the full sample is the mention of supply as a challenge by all quadrants except for the shopkeeper quadrant.

Similar results were found for opportunity scanning where the sustainable marketers (high MO and SO executives) were the only group to report diversification. The classic marketers (high MO and low SO quadrant executives) reported strategy and supply as their primary opportunities, which was unique from the other quadrants. Differences were also found for the interactive effect of MO and SO, for all quadrants, on opportunity scanning when compared to the full sample. The classic marketer listed strategy, regulation and supply; sustainable marketers listed operations and diversification; shopkeepers listed operations and regulation and sustainable advocates listed operations as being top challenges, which were not listed by the full sample. These findings indicate partial support for the interactive effect of MO and SO. However, the interactive effect of EO and SO on executive scanning appears to be more pronounced.

Our next series of analyses examined the relationships of these mindsets on firm performance. Table 4 lists the means, standard deviations and Pearson correlations of the variables included in this research. We found positive associations for EO, MO and performance. No significant associations were discovered for SO as we expected. We conducted a series of stepwise regressions controlling for firm age and size utilizing number of employees to evaluate the relationships of executive orientation on firm performance. We found support for our hypotheses concerning performance (H2, H4, H8 & H9), as both EO ( $\beta = 0.322$ ) and MO ( $\beta = 0.461$ ) were positively related to performance (Table 5). We found the relationship between SO and performance to be non-significant (supporting H4). We also found support for the mediation of the EO to performance relationship by MO, supporting (H9). Upon entering MO into with SO and the control variables, the regression coefficient for EO ( $\beta = 0.083$ ) to performance became non-significant, while MO remained positive and significant ( $\beta = 0.401$ ).

**TABLE 4**  
**VARIABLE MEANS, STANDARD DEVIATIONS AND PEARSON CORRELATIONS**

Item	Mean	S.D.	PERF	EO	SO	MO
Performance (PERF)	3.72	0.64	1			
Entrepreneurial Orientation (EO)	4.10	1.03	0.35**	1		
Sustainable Orientation (SO)	3.35	0.66	0.07	0.15	1	
Market Orientation (MO)	3.77	0.68	0.50**	0.48**	0.06	1
** Correlation is significant at the 0.01 level (2-tailed).				n = 141		

**TABLE 5**  
**PERFORMANCE REGRESSION RESULTS**

Variable	Model 1	Model 2	Model 3
	Firm Performance <u>Initial EO &amp; SO</u>	Firm Performance <u>SO &amp; MO</u>	Firm Performance <u>Final Partial Mediation</u>
	$\beta$	$\beta$	$\beta$
<b>Control Variables</b>			
Firm Employees	0.061	0.133	0.091
Firm Age	0.043	0.086	0.095
<b>Independent Variables</b>			
Entrepreneurial Orientation (EO)	0.322***		0.083
Sustainable Orientation (SO)	0.021	0.012	0.004
Marketing Orientation (MO)		.461***	.401***
R <sup>2</sup>	0.122	0.245	0.226
Adjusted R <sup>2</sup>	0.097	0.223	0.196
$\Delta R^2$		.123**	-0.019
F	4.85***	11.36***	8.91***
N = 132; ***p < 0.001; **p < 0.01; *p < 0.05; †p < 0.10			

## CONCLUSIONS AND IMPLICATIONS

Our work supports the notion that a relationship exists between executive orientation and information processing. Our findings are in line with upper echelons theory (Hambrick & Mason, 1984; Hambrick, 2007), which supports that executive orientation(s) affect information processing. Addressing our first question, executive orientation appears to matter when scanning the competitive environment. Perhaps orientation even affects the interpretation of an environmental factor as being viewed as an opportunity or a burdensome challenge.

Another interesting finding of this work is the interplay of various executive orientations on scanning. Qualitatively, we found evidence of an interactive effect with entrepreneurial, market and sustainable orientations. Previous research has shown the interaction of orientations and their implications for information processing and firm performance (Rausch et al, 2009; Gagnon, 2012 and Kirca, Jayachandran & O'Bearden, 2005). We believe, along with others (Hambrick, 2007), that there is much to be done with executive orientation, information processing and organizational performance. Questions of industry context and orientation saliency arise when examining how executives and entrepreneurs make sense of the competitive environment. For example, does sustainable orientation better help entrepreneurs identify opportunities in the alternative energy space than in an established extractive industry like coal mining? Similar questions have been posed for entrepreneurial orientation (Miller, 2011) and market orientation (Kirca, et al., 2005; Narver and Slater, 2000). One can see the role of, or lack of, industry dominant logics (Prahalad and Bettis, 1986; Prahalad, 2004), isomorphism (DiMaggio and Powell 1983), dynamism (Garg, Walters & Priem, 2003) and their implications for forming and tempering executive orientations. Our findings indicate that industry context may be an influence in this sample, affecting the performance relationships with EO and MO. Both EO and MO are correlated to firm performance as we hypothesized, which addresses the performance question we posed at the beginning of this work. A key limitation with our data is that it's single source and not longitudinal. Common method bias is a concern and future work will examine this group of respondents over time. However, we examined the data using Harman's common factor test and found the variance explained to be well below the point of concern. In addition,

we did not find spurious associations with theoretically established non-related variables, which help support the validity of our findings.

Our findings regarding the relationships between entrepreneurial orientation, scanning and firm performance complement existing research. Recall that executives who scored high on EO attended to the challenge of growth and the opportunities of diversification and operations. These factors were not captured as top foci by the overall sample or by those executives who scored low on EO. These EO scanning findings indicate that entrepreneurial oriented executives may perceive the industry environment differently compared to non-EO executives. These findings are directly in line with research on the entrepreneurial mindset that highlights how entrepreneurs see opportunity where others do not (Haynie, Shepherd, Mosakowski & Early, 2010).

We have also discovered that MO mediates the relationship between EO and performance, and that both concepts are related to firm performance in this sample. A fair number of authors have demonstrated the mediation of the EO-performance relationship by several constructs such as marketing information (Keh, Nguyen & Ng, 2007), learning orientation (Wang, 2008) and, directly relevant to this work, market orientation (Idar & Mahmood, 2011). Perhaps encumbering industry contexts (such as being capital intensive, manufacturing based, low technology and mature) are conducive for EO mediation. Whereas less encumbering contexts such as industries that are emerging, highly dynamic and technology intensive are likely to demonstrate an interactive affect with EO since firm and industry structure have yet to take on dominant form.

Building on our findings, the evidence we discovered for the interactive effect of EO and SO on scanning presents an interesting combination. SO is not related to performance in this context as hypothesized. However, the interaction of EO and SO on scanning yields differences by the degree that executives possess EO and SO orientations. The magnitude of these differences is a challenge given our sample size, yet provide evidence of scanning divergence. Future efforts should call for larger samples where coded responses can be empirically contrasted. The incorporation of additional scanning data would also be beneficial. Cohen and Winn (2007) argue that economic opportunities may exist for entrepreneurs that incorporate sustainability in their business models. Future work should examine EO and SO in contexts where the ties between performance and sustainability may be greater.

Market orientation demonstrated some differences, although it did not offer as much contrast compared to the other orientations. However, the scanning direction by degree of MO tells a logical story. In particular, higher MO executives appear to search outward while lower MO executives appear to primarily scan internal operations. The interaction of MO and SO demonstrated some slight differences of scanning as well. Executives in the high MO group demonstrated some unique scanning areas versus low MO executives in both quadrants that represented high and low SO. These findings are suggestive of the unique interplay of orientations and executive scanning.

Small business executives and entrepreneurs would benefit from being aware of their own orientations and by understanding how those orientations can influence information processing. Awareness of the filtering effect of orientations should improve decision-making and perhaps opportunity recognition. Organizations may benefit by developing teams based on contrasting orientations to improve information processing, decision-making and firm performance. Management team facilitation and entrepreneurship pedagogy also has the potential to foster individual awareness of orientation on decision making and opportunity recognition. Individuals are likely to benefit by having knowledge of the various orientations including EO, SO and MO. Knowing the assumptions individuals bring to the table before decision making begins should improve decision quality.

We believe our work makes a contribution by demonstrating the impact of small business executive orientation on scanning and firm performance. Exploring executive orientations and values help us better understand the “black box” of executive cognition and affect as mentioned by Hambrick (2007). Our work represents a modest beginning to unpack executive psychology and its impact on information processing. Improving firm performance and better understanding new business opportunity recognition are two avenues where orientation may yield significant findings. Entrepreneurs can utilize awareness of their own orientations to improve their decision-making and build high performing teams for their

growing concerns. Considering the demands placed in today's competitive environment such as the call to innovate, the pressures of sustainability and the global recession, variety in opportunity scanning is likely to be essential. The very lenses we employ such as EO, SO and MO will select out the avenues for our effectuation and may ultimately determine our long-term success.

## ENDNOTE

1. We include the "no answer" category since we believe it reflects a state of mind in respondents who may not be cognizant of future opportunities for their business. It may be the case that managers who cannot think of or see opportunities are somehow different than those who can.

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