

## *Casting a wider performance net: The role of entrepreneurial orientation in boosting overall firm stakeholder value*

ALI M SHAHZAD<sup>\*</sup>, WILLIAM J WALES<sup>\*\*</sup>, MARK P SHARFMAN<sup>§</sup> AND CHRISTOPHER M STEIN<sup>¶</sup>

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### **Abstract**

This study offers a broader perspective on the effects of entrepreneurial orientation beyond its well-established implications for firm financial performance. Herein, it is suggested that through higher firm innovativeness, risk taking, and proactiveness entrepreneurial orientation contributes to an increase in the overall value accrued by the firm's base of stakeholders. In doing so, we offer a broader perspective on the significance of an entrepreneurial orientation strategic posture for increasing stakeholder value beyond simply the financial value captured by firm shareholding stakeholders. Results from a comprehensive sample of 1,015 public US corporations indicate significant relationships between the three core dimensions of entrepreneurial orientation (innovativeness, risk taking, proactiveness) and stakeholder value, suggesting that how organizations behave entrepreneurially plays an important role in the firms generation of stakeholder value.

**Keywords:** entrepreneurial orientation, stakeholder value, firm performance, longitudinal research

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During the last three decades, entrepreneurial orientation (EO) has become one of the most influential topics in the entrepreneurship literature, with more than one-hundred studies exploring the concept (Rauch, Wiklund, Lumpkin, & Frese, 2009). EO captures the entrepreneurial aspects of firm strategic posture (Covin & Lumpkin, 2011), and may be characterized as an organization's 'strategy-making practices, management philosophies, and firm-level behaviors that are entrepreneurial in nature' (Anderson, Covin, & Slevin, 2009: 220). The defining components of EO include the manifestation of innovative, risk taking, and proactive firm processes and behaviors (Miller, 1983; Covin & Slevin, 1989; Tang, Kreiser, Marino, Dickson, & Weaver, 2009). Research exploring EO has focused intensely upon its relationship with firm financial performance, with most studies evidencing a positive relationship (Rauch et al., 2009).

Nonetheless, key knowledge voids remain concerning the effects of EO; particularly in the context of the value generated by the firm that does not accrue to shareholders (e.g., Dess, Ireland, Zahra, Floyd,

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\* Department of Management, James Madison University, Harrisonburg, VA, USA

\*\* School of Business, University at Albany, Albany, NY, USA

§ Division of Management and Entrepreneurship, Price College of Business, University of Oklahoma, Norman, OK, USA

¶ Department of Management, College of Business Administration, University of Central Florida, Orlando, FL, USA

Corresponding author: shahzaam@jmu.edu

Janney, & Lane, 2003). It is fair to say that researchers have generally assumed ‘that the primary function of an EO is to enhance financial outcomes rather than to advance other goals that organizations and their managers may pursue’ (Rauch et al., 2009: 780). Because of the increasing importance society ascribes to stakeholders – the set of actors who are impacted by, or are capable of affecting organizational outcomes (Freeman, 1984; Wood, 1991), and their well-being, organizational performance metrics measuring stakeholder value (SV) have become an influential component of the ‘bottom line’ for the firm (Heath & Palenchar, 2009). SV measures the degree to which corporate activities generate value for key stakeholders such as customers, buyers, suppliers, local government, community residents, and the natural environment (Clarkson, 1995; Mitchell, Agle, & Wood, 1997). For example, corporate activities directed towards managing relations (ensuring fair prices, improved work environments, nondiscrimination on the job, customer service, etc.) with employees, buyers, suppliers, community residents, and the government plus strategies which ensure that corporate actions do not inflict harm on the physical environment (reduction in emissions of harmful pollutants, preparation of sustainability reports and policies concerning disclosure of incidents, etc.) evidence greater SV. While firm value has several claimants, the stakeholder groups referenced above hold a salient position in the minds of CEO’s (Agle, Mitchell, & Sonnenfeld, 1999). Increasingly, indicators of SV are being instituted as metrics in the design of reward structures for managers (Berrone & Gomez-Mejia, 2009). In this vein, Dess et al. (2003) also recommend exploring outcomes that benefit groups other than the firm’s financial shareholders when exploring entrepreneurial strategy-making processes. Heeding this call, we posit: Do more entrepreneurially oriented firms generate higher SV?

## EO AND SV

EO is a strategic and managerial posture which has been explored in contexts that are financially driven (Lee & Chu, 2013; Kollmann & Ströckmann, 2014; Saeed, Yousafzai, & Engelen, 2014), as well as nonprofit-oriented contexts where behaving entrepreneurially may help advance the social mission of a nonprofit organization (Morris, Webb, & Franklin, 2011). While the exploration of EO within nonprofit contexts represents a potentially fruitful area of inquiry, this study rather deals with the question of whether EO within commercially motivated enterprises influences the degree to which these institutions generally attend to the needs of their key stakeholder groups thereby increasing the overall value accrued by firm stakeholders.

In their seminal work, Lumpkin and Dess (1996) offered a holistic perspective on possible EO–performance relationships, including proposing an effect of EO on stakeholder satisfaction. Nonetheless, a metaanalysis conducted by Rauch et al. (2009) on the EO–financial performance relationship observes limited prior research of EO on nonfinancial goals. Yet, their analysis suggests that the influence of EO on nonfinancial performance metrics (i.e., managerial goal attainment, satisfaction, global success ratings, etc.) may be comparable in strength to its influence on financial firm performance. As such, the present study examines EO’s effect on SV.

Central to the concept of SV is the recognition that key stakeholder groups demand and require managerial attention (Mitchell, Agle, & Wood, 1997). CEO’s of large corporations have been shown to attend to the needs of stakeholder groups such as buyers, suppliers, employees, governmental regulators, and the communities within which the corporation operates (Ahmed, Balzarova, & Cohen, 2014). As these stakeholders control the flow of resources valuable to aiding firms in achieving a competitive advantage, managerial attention devoted to fulfilling their demands and managing good relationships with them is vital to a firm’s legitimacy, success, and survival (Clarkson, 1995; Freeman, Wicks, & Parmar, 2004; Portney, 2008). Managing stakeholder relationships requires the channeling of valuable firm resources such as managerial time and attention devoted to stakeholder communications, and a direct allocation of financial and/or nonfinancial resources to stakeholders’

legitimate causes (Harrison, Bosse, & Phillips, 2010). Thus, when firms invest in stakeholder-related activities they transfer some of the value generated within the firm to stakeholders.

Corporate activities that promote SV have attracted appreciable scholarly interest (Jones, 1995; Jones & Wicks, 1999). Most advances made in this area have approached SV as an outcome of external pressures exerted on an organization by its stakeholders. In this vein, corporations face multiple demands from various actors in the business environment, for example, explicit requirements imposed by governmental agencies or expectations of socially legitimate behavior by society at large to act responsibly (e.g., Cambra-Fierro, Wilson, Polo-Redondo, Fuster-Mur, & Lopez-Perez, 2013). Corporations respond to these external expectations by engaging in activities that enhance SV (Johnson & Greening, 1999; Aguilera, Rupp, Williams, & Ganapathi, 2007; Campbell, 2007). However, it has also been suggested that intrafirm characteristics may be equally, or perhaps even more important in explaining corporate attention to SV (Logsdon & Yuthas, 1997). A key assertion within this line of inquiry is that greater understanding of the organizational-level phenomena that drive SV is needed (Rupp, Williams, & Aguilera, 2011; Aguinis & Glavas, 2012). Accordingly, we explore EO as an influential firm strategic orientation (Covin & Lumpkin, 2011), which may help to explain increases in firm SV.

## **HYPOTHESES**

A growing number of studies have begun to investigate the individual components of EO (i.e., Hughes & Morgan, 2007; Kreiser & Davis, 2010; Pearce, Fritz, & Davis, 2010; Marques, Ferreira, Ferreira, & Lages, 2013). In line with the previously discussed notion that the drivers of firms' SV may be multifaceted, we explore the relationships between each of the three core dimensions of firm EO and corporate SV.

### **Innovativeness**

The combination and recombination of resources into novel means–end relationships is a fundamental characteristic of the entrepreneurial process (Schumpeter, 1934; Shane & Venkataraman, 2000). Innovativeness has long been argued to represent a central element of entrepreneurial firm behavior (Stevenson & Gumpert, 1985; Covin & Miles, 1999). Indeed, Stopford and Baden-Fuller (1994: 522) observe that, 'most authors accept that all types of entrepreneurship are based on innovations.' Pearce, Fritz, and Davis (2010) provide empirical support for the effect of innovativeness upon firm performance within a sample of religious congregations, demonstrating innovativeness to have a stronger influence on performance than either risk-taking or proactive entrepreneurial behaviors.

At its core, innovativeness encourages managers to engage in creativity and experimentation when solving problems (Hamel & Prahalad, 1994). Innovativeness drives the discovery of new resources and opportunities for a wide variety of new organizational initiatives (Williams & Lee, 2009). We expect that SV will increase in tandem with an increase in the intensity of investments towards innovation. Indeed, as firms seek solutions to lower costs, improve the value of products, and remove competitive 'road blocks' including those that come from stakeholders, they may enhance their competitiveness as well as generate additional SV (Porter & Linde, 1995; Pavelin & Porter, 2008). With greater innovativeness, we expect firms to identify more opportunities and rationale for enhancing SV.

Innovativeness manifests as a strong desire to explore new ideas and to exploit emerging opportunities for learning (Cohen & Levinthal, 1989). These ideas are not only internally focused but may also be engendered through interaction with firm stakeholders. Research confirms that innovation-driven exploitation of knowledge gained from such stakeholders not only enhances firm learning capabilities but also signals the mindfulness of the firm towards its key stakeholders thereby

improving relationships with them (Waddock, 2001; Ayuso, Rodríguez, & Ricart, 2006). In sum, innovativeness leads firms to discover new opportunities and rationale for engaging with stakeholders, encourages better stakeholder relationships through dialogs and knowledge transfers, and motivates increased engagement. Given that catering to stakeholder satisfaction and improving relationships with them enhances SV, we hypothesize the following:

Hypothesis 1: Firms with higher degrees of innovativeness within their EO generate greater SV.

### **Risk taking**

Risk is a fundamental aspect of the entrepreneurial process as the rewards of entrepreneurial activity are, by definition, uncertain (Knight, 1921; Arrow, 1974; McMullen & Shepherd, 2006). Risk taking refers to the commitment of a significant portion of organizational assets to uncertain endeavors (Baird & Thomas, 1985). From the perspective of an EO, risk taking has been defined as ‘the extent to which top managers are inclined to take business-related risks’ and/or ‘the degree to which managers are willing to make large and risky resource commitments—i.e., those which have a reasonable chance of costly failure’ (Miller & Friesen, 1978: 923; Covin & Slevin, 1988: 218). Many other authors have adopted definitions that are similar to the ones presented above, all emphasizing the role of corporate managers in choosing less risky or more risky investments in the pursuit of increased financial performance.

Risk-taking taxes a firm’s resource base as, by definition, significant portions of the organization’s resources are committed to uncertain opportunities. This suggests that with greater risk taking the organizational resources available to attend to the needs of all key stakeholder groups are diminished. Pursuing such uncertain opportunities demands a higher commitment of organizational resources, including top managers (Selznick, 1957; Barney & Arian, 2001), and managerial attention is itself a limited firm resource (Simon, 1947).

With greater risk taking through deeper investments, managers must devote more of their attention to managing the specific risks associated with the entrepreneurial endeavor at hand. If firms devote a sizable portion of their resources towards a risky initiative, then managers are likely to focus more on that initiative. Working to manage, mitigate, and control the risks associated with the highly risky initiative is likely to be very demanding upon managerial attention. In this type of environment, managers’ attention is also heavily focused on evaluating the possible outcomes (success, failure, or even extinction) for themselves and their firms (March & Sharpira, 1987, 1992) rather than on the implications of their risky decisions for the firm’s stakeholders. As such, firm managers may be less inclined to expand their stakeholder involvement and value creation when risk taking is high.

Risk taking also may occur through the pursuit of additional entrepreneurial investments which serve to annex free resources within the organization plus reduce slack and strategic degrees of freedom. It has long been argued that increased risk taking through the undertaking of additional entrepreneurial initiatives is often symptomatic of managerial hubris (Li & Tang, 2010). In this regard, hubris may be manifest in the form of overconfidence that the organization is capable of high levels of risk taking in terms of undertaking additional entrepreneurial initiatives and the resource requirements which accompany them, while still robustly attending to the multitude of demands placed by extant stakeholders. It is, perhaps, not surprising that overconfident managers tend to underestimate resource necessities (Shane & Stuart, 2002). As such, high levels of firm risk taking may decrease the degrees of freedom within the firm to attend to diverse stakeholder needs and in doing so, lower overall SV. In this vein, many high risk-taking companies often fall into the trap of technological ‘myopia’ or focusing on their technology as opposed to the broader needs of the stakeholders, which influence their products

ultimate adoption (Galbraith, 1967; Unsworth, Sawang, Murray, Norman, & Sorbello, 2012). Therefore, we propose:

Hypothesis 2: Firms with higher degrees of risk taking within their EO generate lower SV.

### **Proactiveness**

The recognition and exploitation of new opportunities ahead of competitors represents a central theme in entrepreneurship research (Shane & Venkataraman, 2000). Proactiveness captures an organization's efforts to act opportunistically and assume an industry leadership role. It is also a strategic posture which positions the firm to preempt competition in the marketplace and shape the development of broader environmental trends (Lumpkin & Dess, 1996). With higher levels of proactiveness, we propose that firms are more likely to attend to the demands of key stakeholders and increase their value accrued as addressing stakeholder issues is a path to marketplace leadership, as well as a potential way to gain or maintain a competitive advantage.

To explain, proactively attending to external stakeholder needs can help organizations enhance their overall social legitimacy (Singh, Tucker, & House, 1986). Such activities facilitate the acquisition of valuable resources and information-based competitive advantages, which enable the organization to more effectively 'influence important stakeholders' (Oliver & Holzinger, 2008: 511). As such, gaining influence with key stakeholders enables firms to achieve better strategic positions in the marketplace from which to shape the development of (as opposed to simply reacting to) external trends. For example, firms with a more proactive strategic posture are more likely to expend efforts lobbying regulatory agencies for the enactment of favorable policies, or to attempt to establish legitimacy through seeking leadership roles in professional associations with the goal of affecting industry rules or norms (DiMaggio & Powell, 1983).

Beyond influencing key stakeholder groups, building upon Buysse and Verbeke (2003), we argue that proactively oriented firms will also be concerned generally with elevating their organization's salience in the eyes of important stakeholders in the hope of compelling these groups to reciprocate by attaching greater importance to the organization, its mission, and offerings – again improving resource acquisition and subsequent performance. Overall, these arguments suggest that a proactive strategic decision-making orientation will favor investing in stakeholder relationships in order to attain and maintain legitimacy, as well as to acquire reputational and competitive advantages. Therefore, we hypothesize:

Hypothesis 3: Firms with higher degrees of proactiveness within their EO generate higher SV.

### **DATA SOURCE AND SAMPLE CONSTRUCTION**

We collected data from two different sources – the Kinder, Lydenburg, and Domini (KLD) database, and EO data from secondary sources. In order to develop a panel data set to provide a robust test of our hypotheses (Hsiao, 2003) we gathered data on all firms, which appeared in the KLD database between 2005 and 2008<sup>1</sup>. KLD Research and Analytics is a MSCI subsidiary that specializes in collecting, analyzing, and providing objective, sector-specific ratings on corporations' management of their stakeholder relationships. 'KLD maintains an independent research staff with industry and issue specialties ... KLD analysis teams also closely follow the evolution of these and other issues within each industry KLD covers' (Kinder, 2007: 4).

<sup>1</sup> The choice of these years was based on the availability of higher quality continuous data from KLD beginning in the year 2005.

KLD analyzes data from a variety of sources including regulatory filings, company websites, direct company communications (e.g., annual surveys), industry and trade associations, government and nongovernment sources (e.g., NGO reports), plus media coverage. Independent expert analysts rate a company's performance on a positive and negative scale to measure strengths and concerns, respectively, on several items within each dimension. As data is collected from corporations operating in different industries, KLD utilizes proprietary technology to assign sector-specific weights to the ratings, and then annually reviews, plus adjusts the weights according to changing risks and opportunities faced by corporations (KLD, 2008). More information on the KLD team of expert analysts is available on their archived website (KLD Web Page, 2009). Numerous studies on the topic of SV have used data from the KLD database because of its comprehensive independent and objective assessment of stakeholder issues (e.g., Waddock & Graves, 1997; Ruf, Muralidhar, & Paul, 1998; Hillman & Keim, 2001; Kacperczyk, 2009; Walls, Berrone, & Phan, 2012). Moreover, the continuous version of KLD data we have used in this study possesses superior measurement characteristics (Hart & Sharfman, 2015) than the binary version that has already seen widespread acceptance as the standard source for SV data.

We supplemented our data on SV with financial data extracted from the Compustat database for the years 2004 to 2007. The 1 year lag in collecting objective data to construct EO variables is intentional and by design allows us to explore the impact of prior EO on current levels of SV<sup>2</sup>. Use of secondary data to operationalize EO follows the conceptual organizational resource allocations approach (Lyon, Lumpkin, & Dess, 2000) and recent empirical precedent where researchers use archival data to create valid measures for EO (Miller & Le Breton-Miller, 2011). Measuring how firms allocate scarce resources provides a conceptually valid and reliable proxy for firms' strategy-making processes (Miller & Friesen, 1978) as it can 'more clearly capture emergent or realized entrepreneurial behavior' (Lyon, Lumpkin, & Dess, 2000: 1075). Specifically, because the choice of measurement approach should coincide with the theoretical perspective appropriate for a given research question (Boyd, Dees, & Rasheed, 1993); in this instance, given that SV is tightly coupled with an organization's resource endowments (McWilliams & Siegel, 2011), adopting a relative resource allocation perspective may provide a 'more meaningful indicator of EO' (Lyon, Lumpkin, & Dess, 2000; 1077). From an empirical perspective as well, this direction builds upon recommendations by Miller (2011) to explore alternative operationalizations of EO using objective indicators for each of its components.

As the years of our objective indicators range from 2004 to 2007, the measurement of our independent variables begins and ends 1 year before the measurement of our dependent variable (i.e., 2005–2008). While most research on EO has been cross-sectional (Rauch et al., 2009), prior research suggests that the effects of EO can take some time to manifest (Zahra & Covin, 1995; Wiklund, 1999). By introducing a lag of 1 year between EO and SV, the present study creates assurances that EO has been permitted time to affect the dependent variable and that the direction of causality is from EO to SV. After retaining observations for which information on all study variables was available on each firm for at least 2 consecutive years<sup>3</sup>, we arrived at a panel data set of 1,015 public US firms in 53 industries<sup>4</sup> (based on two-digit SIC codes) over 5 years. Appendix lists the industry composition of sample firms.

<sup>2</sup> As a robustness check, we also constructed the SV measure using KLD data from the years 2006 to 2009. We used the original EO variables that were constructed using Compustat data between 2004 and 2007. In doing so we separated the EO and SV variables by 2 years allowing previous EO to impact future SV. Results from this investigation closely follow what we have presented in this study and are available from the authors.

<sup>3</sup> The group of firms excluded from our sample because data on all EO variables were unavailable for them was not statistically different on assets or sales from the group of firms included in our sample.

<sup>4</sup> As a robustness check we excluded those firms in our sample that operated in the financial and utilities sectors. The results remain the same. We thank an anonymous reviewer for this suggestion.

## VARIABLES

### SV

SV is reflected in corporate activities directed towards managing relations with stakeholders. Consistent with previous strategic management literature (e.g., Berman, Wicks, Kotha, & Jones, 1999; Hillman & Keim, 2001), we use the ratings on five dimensions of attention to primary stakeholder groups compiled by KLD within the categories of *community*, *diversity*, *employees*, *product*, and *environment* to measure SV<sup>5</sup>. These areas encompass community relations (e.g., charitable giving, support for education and housing, compliance with federal, state, or local government), employee relations (e.g., worker health and safety plus union issues), product quality (a proxy for customer relations), workforce diversity (e.g., record on minority discrimination, treatment of the differently abled), and environmental performance.

In the continuous version of the data we used, KLD rates the various items within each stakeholder dimension on a scale ranging from 0 to 30 for strengths, and -30 to 0 for concerns. Using data from the years 2005 to 2008, we computed the average of nonmissing strengths and concerns ratings separately to construct two sets of scores for each of the five SV dimensions. The standardized scale reliability coefficient Cronbach's  $\alpha$  (Cronbach, 1951) for the strengths and concerns scores computed over 1 year was 0.8 and 0.7, respectively. In social sciences research, Cronbach's  $\alpha$  values approaching 0.7 are indicative of acceptable levels of reliability of a composite variable (Nunnally & Bernstein, 1994). The Cronbach's  $\alpha$  for a 2-item scale comprising the strengths and concerns scores was 0.7. The interitem correlation ( $r = 0.52$ ,  $p < .0001$ ) among the strengths and concerns groups was well above 0.3, signaling good internal consistency, and convergence (Van de Ven & Ferry, 1980; Mitchell & Jolley, 1988). Assured that the strengths and concerns dimensions are sufficiently correlated in our data and represent a singular underlying construct (Griffin & Mahon, 1997), we continued by following recommendations in prior research and subtracted the concerns scores from the strengths scores to arrive at a composite measure of SV.

While we have followed the empirical precedent within SV research of creating a composite measure of SV, our approach is supported by other methodological experts who suggest that in situations where multiple indicators are correlated with each other, the use of an aggregated variable may alleviate multicollinearity problems in regression-based analyses (Kennedy, 2003). Moreover, an aggregated SV measure constructed using multiple dimensions will enhance the generalizability of results (Chatterji, Levine, & Toffel, 2009).

### EO

We focused on three dimensions of EO, innovativeness, risk taking, and proactiveness. The present study extends prior research by measuring EO using a more objective, secondary measure – a measurement approach which recently has been advocated as an important avenue to advancing the EO literature (Covin & Lumpkin, 2011) given that the vast majority of prior research has been reliant on primary data (Lyon, Lumpkin, & Dess, 2000). All EO variables used in this study were constructed using objective indicators (Miller, 2011). A description of each indicator's suitability for assessing a component of EO is discussed by Miller and Le Breton-Miller (2011: 1061–1065), and we briefly outline each below.

#### *Innovativeness*

We measured this variable as the ratio of a firm's research and development (R&D) expenses to its sales, a measure that is consistent with prior EO research (Deeds, DeCarolis, & Coombs, 1998; Miller & Le Breton-Miller, 2011). Intriguingly, data on R&D expenses is available for far fewer firms

<sup>5</sup> The KLD data contains consideration of government as a stakeholder, but does not create a separate category for it.

than data on other accounting items such as firm revenues, or assets. Moreover, many firms do not spend measurable amounts of capital on R&D; hence, their R&D expenses are reported as zero. The challenge of collecting data on R&D in accordance with Miller and Le Breton-Miller (2011) therefore reduces the overall sample size, limiting statistical power to detect effects of the hypothesized variable(s) on the outcomes of interest (Cohen, 1992). In our initial sample over 52% of firms reported R&D expenditures allowing a reasonably large number of observations over which to conduct our analyses. Nevertheless, in order to address the abovementioned challenge posed by missing R&D observations, we followed prior research (Hanlon, Rajgopal, & Shevlin, 2003) and re-ran our analysis by filling the missing values of the innovativeness variable with zeroes. Following the recommendations of Hall and Reenen (2000) we also created an indicator variable which took on values of 1 if missing R&D values were filled in with a zero, and 0 otherwise. Results from our supplemental analysis replicated our principal analysis; all statistically significant results retained their hypothesized direction and statistical significance. Moreover, the indicator variable failed to achieve statistical significance providing further assurances for the manner in which we constructed the innovativeness measure.

### ***Risk taking***

As investments made in the pursuit of uncertain opportunities have a higher chance of turning out to be costly for the firm (Miller & Friesen, 1978), risk taking is usually reflected in the unsystematic (or idiosyncratic) risk faced by the firm. Consistent with prior research, we approached a firm's risk-taking behavior by observing the fluctuations in its market-valuation compared to other firms in its industry (Miller & Le Breton-Miller, 2011). When firms embark on risky projects, enter new untested markets, or invest aggressively, their stock price is likely to exhibit more volatility in comparison to that of their more cautious industry counterparts. Indeed, higher unsystematic risk reflects the bold initiatives taken by a firm's management in the pursuit of uncertain opportunities for financial gain (Miller & Le Breton-Miller, 2011). Following Miller and Le Breton-Miller (2011), we measured this variable as the unsystematic component of a firm's stock price fluctuations which are reflective of corporate managers' strategic decision-making (Sanders & Carpenter, 2003; Sanders & Hambrick, 2007). We computed this variable for each firm by taking a rolling 5 year average of its monthly stock price volatility for each of the 4 years from 2004 to 2007.

### ***Proactiveness***

We followed prior EO research and measured proactiveness by the percentage of profits reinvested in the firm each year adjusted for industry competition. The variable was constructed by first calculating the mean industry level of percentage of profits reinvested per year for each firm's industry, excluding the focal firm's reinvested profits. Consistent with past research (e.g., Miller & Le Breton-Miller, 2011), the variable we computed *proactiveness* by subtracting this industry average from each firm's percentage of reinvested profits. The measure thus provides an overall proxy for the constructive moves made by management in pursuit of opportunities, calculated over time, adjusted for any industry-level factors or trends driving the decision to re-invest profits.

### ***Control variables***

We included several variables in our models to control for alternative influences upon a corporation's SV. Larger firms, due to their sheer size, are more visible to stakeholders and hence have to create more SV (Orlitzky, 2001). To control for size effects, we computed firm size as the natural logarithm of a firm's total assets<sup>6</sup>. We also controlled for corporate governance which may have a direct impact on

<sup>6</sup> As a robustness check, we used alternate operationalizations such as the natural logarithm of firm sales or the natural logarithm of the total number of employees, and found similar results.



firm strategies concerning the handling of stakeholder issues (Coffey & Wang, 1998; Johnson & Greening, 1999). We approached the corporate governance variable by utilizing the items in the corporate governance dimension within the KLD data<sup>7</sup> and constructed the measure by taking the mean of both the aggregated strengths and concerns scores in this category<sup>8</sup>.

Heterogeneous firm-level endowments can also explain variations in firm activities directed at enhancing SV. From an organizational slack perspective, a corporation's SV may be driven by excess physical and financial resources available to managers that may be used to invest in attending to the needs of key stakeholders (McGuire, Sundgren, & Schneeweis, 1988). We accounted for munificence-driven explanations for attention to stakeholders by controlling for several firm-level variables. We operationalized firm slack using both the quick and current ratios. Results are similar using either operationalization; in order to maintain consistency in the presentation of results all models used the current ratio operationalization of firm slack computed as the ratio of current assets to current liabilities. The firm performance variable we created using the return on assets ratio calculated by dividing net income by total assets. Using return on sales as an alternate measure, computed by dividing firms' net income by sales, does not alter our results. To control for the impact of strategic allocation of resources on a corporation's attention to stakeholders (Russo & Fouts, 1997) we created the variable capital intensity by first subtracting, for a given year, the current assets of a firm from its total assets, and then divided it by the total number of employees for that year.

Membership in different industries may have a significant impact on the level of SV generated by firms (Griffin & Mahon, 1997). We controlled for time-invariant industry effects by introducing dummy variables, constructed using the two-digit SIC codes in Compustat. Industry fixed-effects control for variation in other study variables across industries; for example, the nature and reporting of R&D expenditures may vary across competitors in different industries and using industry dummies helps account for such differences. To control for time-varying industry effects we computed for each firm the variable mean industry SV by taking the average level of the dependent variable for each firm's industry, per year, excluding the focal firm and included this as an explanatory variable. To control for the impact of business cycles, and to mitigate potential problems from contemporaneous correlation, we introduced year dummy variables which greatly improve the accuracy of panel data regression estimators in the presence of serial correlation (Certo & Semadeni, 2006). As firms in KLD data are listed on different stock exchanges and confront varying degrees of risks and stakeholder pressures (Aupperle, Carroll, & Hatfield, 1985; Rehbein, Waddock, & Graves, 2004), we constructed dummy variables for the stock exchange membership for each firm. All sets of dummy variables were found to be jointly statistically significant; we ran all models retaining them as controls. We inspected all variables for extreme deviation from normality and where necessary transformed them using division by a constant to make the means and standard deviations similar (Cohen, Cohen, West, & Aiken, 2003).

## ANALYSIS AND RESULTS

We adopted a random-effects panel data estimation technique to test our hypotheses. Using the random-effects estimator is intuitively appealing not only because we use a sample of a larger population (Wooldridge, 2002) of public US corporations but also because random-effects estimation yields relatively more efficient estimates compared to those generated by comparable panel data estimators

<sup>7</sup> As a robustness check, we re-ran our model excluding the corporate governance variable to ensure that this particular variable was not 'driving' our results. Results indicated that dropping the corporate governance variable from our analysis had no impact on the direction and significance of the effect of our hypothesized variables.

<sup>8</sup> We used an alternate operationalization by subtracting the aggregating concern score from the strengths score and found similar results.

(Greene, 2008)<sup>9</sup>. The Hausman (1978) difference-in-variance test which is generally employed by researchers to help make the choice between fixed-effects and random-effects estimation was inconclusive because our sample failed to meet the strict asymptotic assumptions of the test; a somewhat common occurrence in modern panel data sets (Davidson & MacKinnon, 1993; Wadhwa & Kotha, 2006). However, we found statistically significant random-effects ( $\chi^2 = 324$ ,  $p < .0001$ ) in our sample using the Breusch and Pagan (1980) Lagrange-Multiplier test and proceeded with the random-effects estimator<sup>10</sup>. We estimated all models using STATA statistical software.

In Table 1 we present pair-wise correlations for corporations' SV, the three dimensions of EO, and the control variables used in the study. As we use panel data, correlations were computed for the year 2007 (the year with the most observations); using another year for producing the correlation matrix yields qualitatively similar results. We inspected the condition index of the design matrix and the variance inflation factors after regressions. Both the condition number and the mean variance inflation factor never exceeded the critical limits of 30 and 2, respectively, indicating a low likelihood of misestimations due to multicollinearity (Belsley, Kuh, & Welsch, 1980; Neter, Wasserman, & Kutner, 1996; Greene, 2008).

In Table 2 we provide the random-effects regression estimates for the impact of the EO dimensions on SV. Model 1 includes all of the control variables in our study. Results indicate that as evidenced in prior research, firm size is a significant predictor ( $p < .001$ ) of firms' SV. In Model 2 we tested the unique impact of innovativeness on SV. The coefficient was positive and statistically significant ( $p < .05$ ), which supports Hypothesis 1; innovativeness has a positive effect on SV. The positive relationship between innovativeness and SV remains consistent in all the models. Moreover, because we report standardized coefficients, the magnitude of the effect of innovativeness on SV is very similar to that of corporate governance on SV. In Model 3, we introduced risk taking as a predictor of SV. The coefficient of risk taking is negative and statistically significant ( $p < .05$ ) providing support for Hypothesis 2. Firm risk taking is indeed negatively related to managing primary/salient stakeholder relationships resulting in lower SV. The coefficients remains negative and statistically significant in all models providing consistent support for Hypothesis 2. Finally, in Model 4 we tested the relationship between proactiveness and SV. Model 4 is also the full model in which all predictor variables plus control variables are included. The coefficient of proactiveness is positive and statistically significant ( $p < .01$ ). This result provides strong support for Hypothesis 3; proactiveness positively impacts SV. In addition, the impact of proactiveness on SV appears to be similar in magnitude to the effects of slack or financial performance on SV.

## DISCUSSION

We proposed and tested a relationship between EO and SV using longitudinally collected secondary data from 1,015 public US firms. We advance prior research methodologically by going beyond cross-sectional investigations of EO–outcome relationships, expressly incorporating the notion that the effects of EO take time to manifest (Zahra & Covin, 1995; Wiklund, 1999). We also extend prior research by employing secondary measures of EO which build upon observations that subjective and objective measures of entrepreneurial behavior are comparable (Jennings & Young, 1990), and that

<sup>9</sup> We also computed robust estimates for the standard errors using the Huber-White (1980) sandwich estimator, which provides consistent estimates in the presence of heteroskedasticity.

<sup>10</sup> In a separate unreported analysis, we deployed the fixed-effects estimator, but the model exhibited relatively poor fit statistics. In the fixed-effects model, while the hypothesized variables retained their statistical significance, other variables (including well-researched explanatory variables such as firm size) reflected a nonsignificant impact on stakeholder value.

TABLE 1. MEANS, STANDARD DEVIATIONS, AND CORRELATIONS<sup>a</sup>

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Stakeholder value	-0.13	1.07									
2. Firm size	6.77	1.83	0.107***								
3. Firm slack <sup>b</sup>	0.31	0.27	-0.001	-0.501							
4. Performance	0.04	0.14	0.064*	0.401***	-0.130						
5. Capital intensity <sup>b</sup>	0.24	1.26	0.010	0.025	-0.017	-0.008					
6. Corporate governance	-0.77	1.72	0.021	-0.285***	0.132***	-0.064*	-0.013				
7. Mean industry stakeholder value <sup>b</sup>	-2.19	2.98	0.242***	-0.193***	0.141***	-0.001	-0.031	0.066*			
8. Innovativeness	0.67	8.40	0.004	-0.303***	0.110***	-0.244***	0.002	0.010	-0.001		
9. Risk taking	4.20	4.72	-0.035	0.174***	-0.032	0.175***	-0.016	-0.051	-0.110***	-0.033	
10. Proactiveness <sup>b</sup>	-0.08	4.99	-0.029	-0.039	0.047	-0.029	-0.010	0.007	-0.010	0.011	0.050

Note. Means and standard deviations are computed over the entire sample of 3,796 observations.

<sup>a</sup> n = 1,015 (year = 2007—the year with the most observations).

<sup>b</sup> Variable multiplied or divided by a constant.

\*p < .05; \*\*p < .01; \*\*\*p < .001.

TABLE 2. RESULTS OF RANDOM-EFFECTS REGRESSION ON STAKEHOLDER VALUE<sup>A</sup>

Variables	Model 1	Model 2	Model 3	Model 4
Hypothesized entrepreneurial orientation variables				
Innovativeness		0.025 (0.0013)*	0.026 (0.0013)*	0.026 (0.0013)*
Risk taking			-0.020 (0.0023)*	-0.021 (0.0023)*
Proactiveness				0.005 (0.0004)**
Control variables				
Firm size	0.200 (0.0194)***	0.220 (0.0203)***	0.225 (0.0206)***	0.225 (0.0205)***
Firm slack	0.007 (0.0048)	0.009 (0.0048)	0.010 (0.0048)	0.010 (0.0048)
Firm performance	-0.004 (0.0086)	-0.003 (0.0086)	-0.001 (0.0086)	-0.001 (0.0086)
Capital intensity	0.017 (0.0070)*	0.017 (0.0070)*	0.017 (0.0070)*	0.017 (0.0070)*
Corporate governance	0.024 (0.0091)	0.025 (0.0091) <sup>†</sup>	0.026 (0.0091) <sup>†</sup>	0.026 (0.0091) <sup>†</sup>
Mean industry stakeholder value	-0.054 (0.0111)	-0.054 (0.0111) <sup>†</sup>	-0.055 (0.0109) <sup>†</sup>	-0.056 (0.0110) <sup>†</sup>
Firm random-effects	Yes	Yes	Yes	Yes
Industry fixed-effects	Yes	Yes	Yes	Yes
Year fixed-effects	Yes	Yes	Yes	Yes
$\chi^2$	267.3***	271.2***	270.8***	276.2***
F	4.73***	4.78***	4.78***	4.91***
R <sup>2</sup>	0.0761	0.0779	0.0792	0.0793

Notes. Constant term included, coefficients not reported.

Standardized  $\beta$  estimates shown.

Heteroskedasticity-robust standard errors are in parentheses.

<sup>a</sup> $n = 3,796$  observations.

<sup>†</sup> $p < .10$ ; \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

their use enhances the comprehensiveness of EO research (Miller, 2011). Thus, this work addresses previous calls for greater research exploring secondary measures of EO (Lyon, Lumpkin, & Dess, 2000).

A principal implication of this study is that the relationship between firm-level EO and SV is not homogenous, but rather complex and divergent. In line with Lumpkin and Dess (1996), a core contribution of this study lies in the explication of how the individual dimensions of EO might either contribute to constructive implications for SV (i.e., in the case of innovativeness and proactiveness), or adverse implications (i.e., in the case of risk taking). This nuanced relationship is in contrast to the vast majority of prior research exploring the dimensions of EO individually which has frequently observed the effects of the dimensions to be in the same direction – often with one or more components of EO manifesting a nonsignificant effect upon the dependent variable of interest (i.e., Covin, Green, & Slevin, 2006; Hughes & Morgan, 2007; Pearce, Fritz, & Davis, 2010). In only a few studies have relationships been demonstrated in which dimensions of EO actually manifest divergent implications for the outcome of interest (e.g., Short, Broberg, Cogliser, & Brigham, 2010).

Moreover, there is on-going debate in the stakeholder literature as to the antecedents of corporation's choices when dealing with its stakeholders (e.g., Chiu & Sharfman, 2011). While a variety of studies have posited internal and external antecedents to SV, the present results take this research in potentially a new direction. Our results suggest that internal EO behaviors have direct implications for stakeholder-related initiatives (i.e., nonfinancial outcomes). This set of results shows that rather than being separate issues, SV levels are critically intertwined with the entrepreneurial strategic orientation

which permeates the firm. As such, analyzing the firm's past entrepreneurially oriented behavioral patterns can give some insight into the firm's present and likely near-term overall level of SV being generated. In doing so, we offer an additional, holistic firm performance variable to future studies examining the outcomes of EO.

Findings of this study also have managerial implications<sup>11</sup>. Given the rise in both the pressure on firms to enhance SV and the increased efforts firms are spending on this activity, managing such efforts effectively becomes paramount. Our results lead to some ideas managers could implement to enhance their SV creation efforts. Given that our first and third hypotheses confirmed positive relationships between innovativeness plus proactiveness and SV, it might seem that firms would simply want to be as innovative and proactive as possible. However, given that there is some evidence (Tang, Tang, Marino, Zhang, & Li, 2008) that the relationship between EO and firm financial performance is at times curvilinear, managers first must be careful to implement additional innovation and proactivity efforts consistent with peers and organizational norms. While some outdistancing of competitors may be warranted for competitive purposes, managers must be sure that these efforts are not distracting from key firm and stakeholder-related initiatives.

Second, given that innovative and proactive activities are related to enhanced SV, it is incumbent on management to insure that stakeholders are aware of these efforts. Given the vast increase in social media use across all manner of firms, those techniques might be quite helpful in informing stakeholders of specific innovative or proactive efforts by the firm. Finally, because risk taking was negatively related to SV, firms must be careful in how such efforts are portrayed. It is conventional wisdom that firms, particularly global firms, must take risks. However, firms have the ability to portray those risks in ways that will not affect stakeholders perhaps as negatively. Specifically, risks taken to preserve gains or to take advantage of opportunities, likely will be seen less negatively by stakeholders (Berman & West, 1998). This is not to say that managers should falsely 'spin' risk-taking actions but if there is an opportunity that can be highlighted managers may find stakeholders more supportive or at least less resistive.

Implications notwithstanding, the contributions of this study should be considered in light of its research limitations. While additional dimensions of EO have been suggested within the literature, for the sake of parsimony, and consistency with recent research, the present study focused upon the three most often used dimensions of EO, which incidentally have been commonly included across the various alternative conceptualizations of EO (Wales, Gupta, & Mousa, 2013). It is of course possible that the effects of additional dimensions of being entrepreneurial may also be significant and serve to further refine our understanding of this important relationship, such as those proposed by Lumpkin and Dess (1996) and Antoncic and Hisrich (2003), among others. Moreover, while the measurement of EO at an organizational resource allocation level was relevant to our research question and empirically appropriate in our research setting, future research may find it valuable to evaluate these results through complementary operationalization and measurement of EO (Lyon, Lumpkin, & Dess, 2000) or through analysis within a contingency framework (Van de Ven & Drazin, 1985) to help enhance the validity and generalizability of the results.

Future research may extend the present study by exploring the extent to which the relationship between EO and SV is moderated by various organizational and environmental variables (Covin & Slevin, 1991; Lumpkin & Dess, 1996). While the present study broadens the boundaries of EO research to include outcomes concerning SV, questions for future research remain concerning the possibility of contextual influences upon the strength of the EO–SV relationship. In particular, factors such as economic prosperity, environmental uncertainty, and complexity may have meaningful impact on the relationships proposed within this study. While beyond the scope of the present study, examining a more extensive spectrum of outcomes from EO in future research including moderating

<sup>11</sup> We thank an anonymous reviewer for suggesting these additions.

influences, alternative social value indicators, and broader ethical considerations will ultimately provide an even better picture of EO's effects upon meaningful firm outcomes beyond its well-established financial implications.

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## APPENDIX

### Industry composition of sample firms

SIC code	Description	Number of unique firms
1	Agricultural production – crops	1
12	Coal mining	1
13	Oil and gas extraction	5
14	Mining and quarrying of nonmetallic minerals, except fuels	4
16	Heavy construction, except building construction – contractors	1

**Appendix** (*Continued*)

<i>SIC code</i>	<i>Description</i>	<i>Number of unique firms</i>
17	Construction – special trade contractors	1
20	Food and kindred products	17
21	Tobacco products	2
22	Textile mill products	2
23	Apparel, finished products from fabrics, and similar materials	4
24	Lumber and wood products, except furniture	2
25	Furniture and fixtures	9
26	Paper and allied products	15
27	Printing, publishing, and allied industries	2
28	Chemicals and allied products	157
29	Petroleum refining and related industries	6
30	Rubber and miscellaneous plastic products	11
31	Leather and leather products	4
32	Stone, clay, glass, and concrete products	6
33	Primary metal industries	13
34	Fabricated metal products, except machinery and transport equipment	17
35	Industrial and commercial machinery and computer equipment	96
36	Electronic, electrical equipment and components, except computer equipment	136
37	Transportation equipment	35
38	Measurement/analyze/control instruments; photo/med/opt goods; watches/clocks	107
39	Miscellaneous manufacturing industries	10
47	Transportation services	2
48	Communications	9
50	Wholesale trade – durable goods	19
51	Wholesale trade – nondurable goods	13
52	Building materials, hardware, garden supply, and mobile home dealers	4
53	General merchandise stores	16
54	Food stores	10
55	Automotive dealers and gasoline service stations	11
56	Apparel and accessory stores	32
57	Home furniture, furnishings, and equipment stores	6
58	Eating and drinking places	23
59	Miscellaneous retail	23
60	Depository institutions	1
61	Nondepository credit institutions	1
62	Security and commodity brokers, dealers, exchanges, and services	2
63	Insurance carriers	1
67	Holding and other investment offices	8
70	Hotels, rooming houses, camps, and other lodging places	4
72	Personal services	1
73	Business services	119
75	Automotive repair, services, and parking	1
78	Motion pictures	1
79	Amusement and recreation services	10
80	Health services	18
83	Social services	2
87	Engineering, accounting, research, management, and related services	13
99	Nonclassifiable establishments	1