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BENCHMARKING STRATEGIC ORIENTATION AND FIRM PERFORMANCE: AN ANALYSIS OF ENTREPRENEURIAL ORIENTATION DIMENSIONS

BENCHMARKING DE ORIENTACIÓN ESTRATÉGICA Y DESEMPEÑO DE LA FIRMA: UN ANÁLISIS DE LAS DIMENSIONES DE LA ORIENTACIÓN EMPRENDEDORA

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Abstract

Learning from other firms is identified as an important resource for firm survival. Benchmarking is a learning mechanism that can aid firms in identifying superior organisational capabilities and behaviours among other firms. Firms that possess stronger benchmarking capabilities and are able to align their strategic posture with those of market leaders, may be more likely to enjoy greater firm performance. One strategic posture that has been shown to lead to higher performance is a firm's entrepreneurial orientation (EO). Notwithstanding, the benchmarking of organisational entrepreneurial postures as a route to enhanced firm performance has received little attention. We empirically examine firm performance implications regarding deviation in key EO dimensions from those of top performing firms. Results suggest that the alignment of various dimensions of EO with those of top-performers are more outstanding than others and that the direction of deviation from the benchmark connotes performance implications. We discuss limitations and potential for future research.

Keywords: Benchmarking, Entrepreneurship**,** Entrepreneurial Orientation**,** Performance

Resumen

El aprendizaje de otras empresas se identifica como un recurso importante para la supervivencia empresarial. La evaluación comparativa es un mecanismo de aprendizaje que puede ayudar a las empresas a identificar capacidades y comportamientos organizacionales superiores entre otras empresas. Las empresas que poseen capacidades de evaluación comparativa más sólidas y pueden alinear su postura estratégica con las de los líderes del mercado, pueden tener más probabilidades de disfrutar de un mayor rendimiento empresarial. Una postura estratégica que se ha demostrado

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que conduce a un mayor rendimiento es la orientación empresarial (EO) de una empresa. Sin embargo, a pesar de este hecho, la evaluación comparativa de las posturas empresariales organizacionales como una ruta para mejorar el desempeño de la empresa ha recibido poca atención. Examinamos empíricamente las implicaciones en el desempeño de la empresa de la desviación entre las dimensiones clave de EO de las de las empresas de mejor desempeño. Los resultados sugieren que la alineación de algunas dimensiones de EO con las de los mejores es más destacada que otras y que la dirección de desviación del punto de referencia tiene implicaciones de rendimiento. Discutimos las limitaciones y el potencial para futuras investigaciones.

Palabras clave: *benchmarking*, emprendimiento, orientación emprendedora, desempeño

Introduction

Firms often follow the lead of other, more prominent, firms in the environment (DiMaggio & Powell, 1983). This notion has been shown to influence a variety of organisational characteristics from structure to strategy (Fligstein & McAdam, 2012; Meyer & Rowan, 1977). Accordingly, a firm's ability to learn from the market is recognised as a key wellspring for sustaining competitive advantage (Slater & Narver, 1995; Vorhies & Morgan, 2005). Empirical and anecdotal evidence suggests that firms may adopt the organisational practices of more successful firms, at least in some variation, for their own benefit (Vorhies & Morgan, 2005; Zairi, 1998), though debate certainly exists regarding the successful adoption and use of outside resources and capabilities (Barney, 1986; Dierckx & Cool, 1989).

One such method of market-based learning that firms can employ is to seek out and replicate the best practices of exemplary firms (i.e., benchmarking [Camp, 1995]). Benchmarking, however, is not just a simple assessment of an organisation's relative position to another whereas it involves an in-depth comparison and analysis of organisational processes and practices (Fitz-enz, 1993; Yasin, 2002). Empirical attention is given to this concept in the marketing capabilities domain (Vorhies & Morgan, 2005), and though it is generally accepted as a tool for motivating organisational improvement, research hasn't fully determined the impact of benchmarking in multiple facets of the organisation (e.g., strategic orientations) and critical outcomes of interest (e.g., performance). Therefore, we seek to rectify the scarcity of attention directed toward the interplay of benchmarking, the strategic orientations of firms, and the broad range of practices and processes that have been shown to influence performance. We do so by using one of the most researched strategic orientations in the strategic entrepreneurship literature: entrepreneurial orientation (EO).

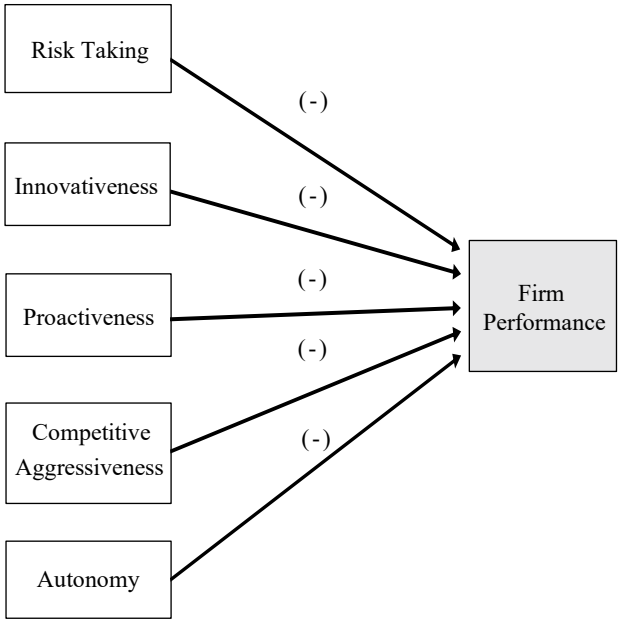
Firms exhibiting greater EO have been shown to experience superior performance compared to more conservative firms (Rauch et al., 2009; Saeed et al., 2014; Tajeddini & Mueller, 2019). In other words, with the inclusion of the five dimensions of EO, firms displaying greater propensity for innovation, proactiveness, risk taking, autonomy, and aggression towards competitors may be viewed as industry leaders and the firms to follow. For example, the consistent product updates and marketing orientation set by Apple has undoubtedly encouraged others to adjust their own EO. In line with the benchmarking literature, we assume that firms view top performers as strategic role models. Such a notion motivates the following research question: (1) Do firms whose strategic orientations deviate from strategic role models suffer with regard to performance? We seek to empirically examine this research question using the well-established EO-performance link.

In addressing this gap between benchmarking and strategic orientation in the specialised literature, we make a variety of contributions. First, in examining the notion that specific strategic practices and processes are associated with superior firm performance, we attempt to show that the deviation from benchmark performers in these strategic practices explains the variance in performance. Second, with the use of profile deviation, we identify the robust differences in using top performers as benchmarks within and across industries. Third, along with considering the relationships of each dimension of EO to performance, we test the importance of interdependence among the dimensions with regard to performance. Therefore, collectively, our contributions theoretically and empirically identify the relationships between benchmarking, EO, and firm performance. Figure 1 illustrates the research model and the hypothesised relationships.

Our paper is organised as follows. First, we present the relevant literature in order to explicate the relationships between the organisational strategic practices and processes associated with entrepreneurial firms and performance. We rely on the tenets of institutional theory, the resource-based view (RBV) and organisational learning literature. Second, we utilise the literature as a framework to develop our testable hypotheses. Third, we use profile deviation analysis to identify top-performing firms and calibrate their EO profiles as benchmarks, fol-

lowed by an assessment of the impact of deviation from these benchmarks on performance. Finally, we conclude with theoretical and practical implications, and mention opportunities for future research.

Figure 1. Hypothesized Effect of Deviation from Benchmark on Firm Performance



Theory and Hypotheses

Institutional theory suggests that organisations are influenced by their institutional and network context, which may guide what is considered appropriate conduct (DiMaggio & Powell, 1983), thereby leading to social norms or the appropriate decisions in the workplace. Convergence toward such conduct is contended in order to aid in gaining social approval and legitimacy, thus leading to improved odds of survival. We assert that firms view top performers in a number of markets and industries as potential influences on their own strategic practices, procedures, and cognitions. One reason for this is that information regarding such inclinations can be seen by others throughout a multitude of media. For instance, firms often report on their previous year's progress and highlight a number of managerial objectives and strategies employed for achieving them. Others may view these strategies as specialised resources that provide the benchmark firms with a competitive advantage. Using such firms as benchmarks, other firms (even non-rivals in unrelated markets) may use readily available information to set the strategic path of their own organisations. While we do not test for these changes over time, we do predict that deviations from the benchmark's strategic dimensions explain a significant amount of performance variation. As such, firms performing outside of a satisfactory range compared to that of the benchmark may see this as an opportunity to learn from others.

Research suggests that possessing special resources explains interfirm variation in performance (Amit & Shoemaker, 1993; Wernerfelt, 1984). RBV proposes that firms possessing resources that are rare, valuable, inimitable, and non-substitutable are more able to generate superior performance and sustain competitive advantage (Barney, 1991; Wernerfelt, 1984). Such resources are not only limited to tangible assets but also to intangible ones as well (i.e., practices and processes, knowledge, skills and abilities, etc.). Firms undoubtedly observe others within and outside their market space and attribute their performance to a variety of such resources. Thus, firms are likely to compare themselves to exemplary performers and attempt to garner such resources in some fashion for their own benefit. For that matter, higher capabilities at benchmarking would be a valuable resource in itself (Dickson, 1992).

Organisational Learning and Entrepreneurial Orientation

Viewing other organisations as strategic role models and learning about their practices is exemplary of market-based, organisational learning. In particular, this type of organisational learning is related to the exploratory learning presented by March (1991). Explorative learning involves going outside the organisation's knowledge base in order to learn, which is in contrast to the exploitation of existing knowledge that occurs when firms look within the organisation in order to solve problems. With respect to learning, entrepreneurial firms have been found to be more actively engaged in environmental scanning (Daft & Weick, 1984). Consequently, organisational learning and entrepreneurially oriented firms seem to share a mutually beneficial relationship, where EO encourages learning via internal and external exploration (Dutta & Crossan, 2005; Kollmann & Stockmann, 2014; Zhao et al., 2011). This learning enables members to make better use of the knowledge gained, thus supporting entrepreneurial efforts (Anderson et al., 2009; Dutta & Crossan, 2005).

Studies show that both learning and entrepreneurial behaviours have tendencies toward more favorable organisational outcomes (Anderson et al., 2009; Covin et al., 2006; Wales et al., 2013). For example, Zhao and colleagues (2011) examined the relationships among EO, explorative learning, exploitative learning, and firm performance, finding that firms high in EO used exploration

to augment the exploitation of existing knowledge. This led to enhancements in the performance of Chinese firms, however, they also noted that there were limits to the usefulness of the exploration processes.

EO is considered a cornerstone in the specialised literature on firm-level entrepreneurship (Wales et al., 2013). EO captures a firm's strategic posture – general inclination or lasting direction of thought – toward entrepreneurial activity and has been a topic of study for over three decades (Covin & Slevin, 1989; Gupta & Gupta, 2015; Khandwalla, 1976; Lumpkin & Dess, 1996; Mintzberg, 1973; Miller, 1983). Covin and Lumpkin (2011, p. 862) state that "…evolutionary theorists and strategic management scholars recognise the importance of an entrepreneurial strategic posture to the sustainment of firm viability…" (e.g., Burgelman, 1991; Nelson & Winter, 1982). Firm performance is a significant concern among economically motivated organisations; indeed, firms higher in EO have been shown to achieve better performance (Rauch et al., 2009).

Although defining EO has been heavily debated among scholars, there is consensus concerning EO as a firm-level phenomenon and that EO levels can vary widely across organisations, regardless of firm size (Covin & Lumpkin, 2011). However, perhaps ubiquitous in the literature is the notion that "corporate entrepreneurship has two primary aims: the creation and pursuit of new venture opportunities and strategic renewal" (Dess & Lumpkin, 2005, p. 147). In keeping with the ideas developed by Lumpkin and Dess (1996), we treat EO as a multidimensional construct composed of dimensions that are free to vary and interact. In other words, it is not necessary for all five dimensions to have a positive covariance in order for EO to exist. These identified dimensions of EO are risk-taking, innovativeness, proactiveness, competitive aggression, and autonomy.

Dimensions of EO and Benchmarking

Risk-Taking. The risk-taking dimension of EO represents the leveraging of organisational resources in hopes of generating above average outcomes. Accordingly, risk-taking is considered the intensity with which a firm and its management are willing to commit resources toward uncertain projects with varying outcomes and potential for substantial loss (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). Risk-taking suggests that the firm has placed its assets at risk in an attempt to achieve better than average returns, and has been associated with daring, rash, or potentially reckless actions. However, both higher and lower levels of this type of behaviour can have mixed performance results and may, on average, even cancel each other out. For example, Naldi and colleagues (2007) find that risk-taking was negatively related to firm performance among family firms due to differences between internal and external performance pressures. Another study finds that CEOs are incentivised to take risks, via stock options (Sanders & Hambrick, 2007). They often make high-variance bets and typically deliver more losses than gains. However, firms that are too risk averse are likely to miss out on valuable opportunities. Such arguments illuminate the posited curvilinear relationship between risk-taking and performance (Begley & Boyd, 1987), meaning that top firms are those that take on calculated risks at nearly optimal levels.

We theorise the current highest performing firms that the lower performing firms aspire to be, were successful first movers because they accurately assessed the risk and balance of their risky actions (Suarez & Lanzolla, 2007), whether through firm-level resources and capabilities, allowing firms to exploit first mover advantage (FMA) (e.g., Robinson et al., 1992), or relationships between the environment and a competitive advantage in market entry (e.g., Lambkin, 1988). First movers allow other firms to evaluate their successes and failures. We sustain that firms with a new, innovative, or highly researched product or service offering, that take on the appropriate level of risk to match that of a successful firm's risk level under similar competitive circumstances will produce positive performance outcomes because they were able to evaluate the successes and failures of previous firms (cf. Anderson, 2013). On the other hand, firms that deviate from the benchmark level of risk-taking are likely to experience lower performance.

> *H1*: Firms that deviate from the benchmark value of risk-taking perform worse, on average.

Innovativeness. Firms are under immense pressure to deliver new products and services to customers while simultaneously improving existing operational efficiency. This act of innovation is displayed in a firm's commitment to supporting creativity and the generation of new or novel ideas regarding products, services, and practices (Lumpkin & Dess, 1996), or in displaying the "exhibition of experimentation, exploration, and creative acts" (Hernández-Linares, R., & López-Fernández, 2018, p. 319). Increased commitment to innovation not only improves organisational knowledge, it also leads to greater market opportunities which firms can exploit (Lumpkin & Dess, 1996; Zahra & Garvis, 2000). A meta-analysis on the innovation-firm performance link in small and medium enterprises found a positive and signif-

icant relationship (Rosenbusch et al., 2011). Firms flagging in new product development and the exploitation of new operational opportunities may fall behind those leading the charge. However, those firms that excessively over-allocate resources to innovativeness will likely experience diminishing returns in performance as well (Laursen & Salter, 2006; Schueffel, 2014). For these reasons, firm deviation from the benchmark's innovativeness is expected to be negatively related to firm performance.

H2: Firms that deviate from the benchmark value of innovativeness perform worse, on average.

Proactiveness. Proactiveness best reflects the act of causing something to happen rather than reacting to a stimulus, and is akin to opportunity-seeking, forward-thinking, and demand speculation (Rauch et al., 2009). It includes the engagement in forward-thinking actions meant to target or anticipate future circumstances, and thereby, the exploration or exploitation of opportunities (Covin & Wales, 2012). Proactive behaviours can lead to competitive economic benefits when considering the advantages related to innovative processes, improved corporate reputation, and relationships among stakeholders (Sharma & Vredenburg, 1998). Proactive firms often benefit from such forward-thinking by being first movers in their markets and thus gain competitive advantage (Lumpkin & Dess, 2001; Wiklund & Shepherd, 2005).

However, a firm that is too proactive faces market challenges as well. A common outcome for a first to market firm is first to fail (Robinson & Min, 2002). First movers regularly disappear or hang on as commercial after-thoughts after poorly analysing technical characteristics, market segments or pricing strategies required for a launch strategy (Videl & Mitchell, 2013). Firms which follow others tend to perform below average and are reactive to events in their environments (Kotey & Meredith, 1997). Such strategies often attempt to avoid risk and involve little innovation (Karagozoglu & Brown, 1988). For this reason, firms that lack initiative and are less future oriented may tend to fall behind others in the market possessing such strategic qualities.

H3: Firms that deviate from the benchmark value of proactiveness perform worse, on average.

Competitive Aggressiveness. Competitive aggressiveness (CA) captures the idea of 'beating competitors to the punch' (Miller, 1983). It is perhaps best described as the tenacity and intensity with which firms often need to compete and combat with incumbent and emerging rivals (Lumpkin & Dess, 1996). Early work on CA finds that established firms tend to display a greater aggressiveness in competing for limited resources and that this aggressive behaviour predicted better performance (Lumpkin & Dess, 2001), which may lead to challenges or conflict in order to achieve the firm's goals. The higher performers may set more aggressive goals and take bold steps to achieve them (MacMillan & Day, 1987; Venkatraman, 1989).

Further, reactive strategies are often imitative of superior firms in the industry, but the imitation is often mistimed or mismatched in many respects (Hambrick, 1983; Steiner et al., 1986). Indeed, firms with lower values of CA than the benchmark will most likely perform worse, relatively speaking. However, given the potential expense of maintaining a high CA, firms with higher CA may reduce their performance in terms of operational efficiency. In light of this potential, we propose the following hypothesis.

H4: Firms that deviate from the benchmark value of competitive aggressiveness perform worse, on average.

Autonomy. Autonomy is perhaps best defined as "independent action by an individual or team aimed at bringing forth a business concept or vision and carrying it through to completion" (Lumpkin & Dess, 2001, p.431). In stark contrast to greater bureaucracy and layers of rules, entrepreneurial firms benefit from more flexible decision-making and strategic initiative at the operational levels of the organisation (Burgelman, 1983). This notion of individuals bringing forth new ideas and implementing them through self-directed action suggests that organisations may hinder their own way with policy and restrictive rules (Lumpkin & Dess, 1996). Greater flexibility to make decisions, act independently, and proceed with using available resources allows organisations to prevent or react to shocks in a timely and critical manner. Greater levels of autonomy may enable entrepreneurial firms to better compete with others and manage potentially harmful events in ways that help to improve performance.

However, as suggested by the principal-agent theory (Eisenhardt, 1989; Jensen & Meckling, 1976), when left unchecked, high degrees of discretion may create a situation where managers misappropriate available resources for personal agendas instead of those of the organisation. For example, autocratic leaders may champion some products over others and force the firm into less economically beneficial outlets. Therefore, we hypothesise the following.

H5: Firms that deviate from the benchmark value of autonomy perform worse, on average.

Methodology

Following similar samples in the strategic management literature (e.g., Hult et al., 2003; Zahra, 1996), the hypotheses are tested by drawing from the 2007-2008 list of Fortune 500 firms. We chose this sampling period because, while our research is exploratory in nature and likely captures some of the 2008 recession, we wanted to concentrate on a more conventional year (2007) of business in relation to macroeconomic conditions. Indeed, we posit that the macroeconomic conditions of 2007, which portended major economic shifts to households and industries alike, may be generalisable to current global economic conditions. Furthermore, this setting is appropriate as large established firms may be more inclined to feel pressures from the surrounding competitive landscape to adopt an entrepreneurial mindset (Bettis & Hitt, 1995). The majority of the firms are publicly traded, therefore, making performance and other firm-level data easily accessible via secondary sources. Doing so aids in reducing potential issues related to common-method bias as compared to primary measures based on the same source (Podsakoff et al., 2003).

The two primary data sources included the letters to shareholders found in annual reports via the Mergent database and COMPUSTAT. Shareholder letters allow researchers to tap into managerial cognitions as they "provide a means for reconstructing perceptions and beliefs of authors" (Short et al., 2010, p. 334). Such letters contain themes and major topics that management communicate to a number of stakeholders (Barr et al., 1992), often "capturing elements of top management's values, beliefs, and ideologies (which include entrepreneurial orientations)" (Short et al., 2010, p.334). Other than being the most widely read portion of the annual report (Courtis, 1982), shareholder letters are believed to reflect the voice of the CEO (Amernic et al., 2007) and have been shown to be related to organisational actions (Michalisin, 2001). Second, the COMPUSTAT database contains financial, statistical and market information on thousands of firms across the globe dating back to 1950. Ordinary least squares estimation is used to test the hypotheses.

Measures

Performance. Our dependent variable, *firm performance*, is measured as the 2008 return on assets (ROA). The financial information necessary to calculate the ROA was obtained from COMPUSTAT. ROA has been proclaimed as a better metric of financial performance than others (i.e., return on equity and return on sales) because it takes into account the assets used to support business activities (Hagel et al., 2010). Therefore, ROA may offer a better purview of management's ability to strategically utilise existing assets.

Entrepreneurial Orientation. For our key independent variables, *EO dimension deviations*, we relied on firm shareholder letters as the source of measurement for each of the EO dimensions (e.g., risk-taking, innovativeness, proactiveness, autonomy, and competitive aggression) using established dictionaries (Short et al., 2010). Computer-aided text analysis (CATA) enables researchers to leverage archival documents (e.g., shareholder letters) and count the number of times specific words are mentioned. Dictionaries, or lists of specific words created by experts, represent each key dimension of a construct (see McKenny et al., 2012). See Table 1 for a list of keywords relating to each dimension.

Following prior studies on firm performance, we compare firm counts for each of the five dimensions of EO with that of the profile firm (O'Sullivan & Abela, 2007; Vafeas, 1999). Specifically, we take the difference between the value of a *dimension* for *firmi* and the value of the same dimension for the profile firm (i.e., highest performer).

$$\text{Deviation}_{i,\,j} = |x_{i,\,\text{Firm j}} - x_{i,\,\text{Profile firm}}|$$

Where $x_{i,\,\text{Firm j}}$ = the value for j^{th} firm in the study sample on the i^{th} dimension, $x_{i,\,\text{Profile Firm}}$ = the value for the profile firm along the i^{th} dimension, and i = the number of profile dimensions (1, 2, …, 5). The absolute value of the deviation score is used as the regressor to explain variance in firm performance. Therefore, this deviation represents the gap between EO dimensions of the benchmark firm and those of the others in the sample.

Controls. It is common in the EO literature to incorporate or control for firm size (e.g., Covin et al., 2006; Stam & Elfring, 2008; Wiklund & Shepherd, 2003) as it has been argued that smaller firms may represent higher levels of EO, however, higher levels of EO can be a resource draining strategy that firms with larger stocks of assets are able to exploit. Accordingly, using COMPUSTAT, we control for firm size by taking the natural log of firm total assets. Because prior successes may influence resource availability and future performance, we also control for prior year performance using 2007 ROA.

Results

Table 2 includes the descriptive statistics and correlations for the variables in the regression model. The multicollinearity diagnostics for the independent variables and

Table 1. EO Dimensions, Keywords, and Definitions

EO Dimension	Keywords	Definition
Risk-taking	adventurous, audacious, bold-spirited, brash, brave, courageous, danger, dare, dauntless, enterprising, fearless, gamble, incautious, rash, reckless, risky, uncertain, venturesome, wager	intensity with which a firm and its management are willing to commit resources, including outcomes that may have substantial loss; may put current assets at risk
Innovativeness	adroit, change, clever, conceive, create, creative, discover, dream, envisage, imagination, improvise, innovation, inspiration, invention, novel, original, recast, resourceful, vision	the willingness or implementation of innovation towards a business operation, produict, or service; experimentation or exploring creative acts
Proactiveness	anticipate, envision, exploration, forecast, foreknow, foresee, inquire, investigate, look-into, opportunity-seeking, probe, prospect, research, scrunity, search, study	through forward-thinking or investigating, causing something to happen rather than reacting to a stimulus; the exploration of opportunity
Competitive Agressiveness	achievement, aggressive, ambitious, antagonist, battle, challenge, combat, competition, conflicting, contest, cutthroat, defend, engage, exploit, intense, opponent, rival, strive, tussle	the tenacity and intensity with which firms often need to compete with opponents or rivals; achievement or agression to defend one's position
Autonomy	authority, authorizartion, autonomic, autonomous, do-it-yourself, freedom, free-thinking, prerpgative, self-directed, self-rule, sovereign, unattached, unconfined, unregulated	in contrast with bureaucracy and rules, it is a self-directed action by an individual or team in bringing a business concept or vision to completion

*A full list of keywords for the EO dimensions can be found in Short, Broberg, Cogliser, and Brigham (2010).

the control variables on Table 3 indicate that the maximum value of variance inflation factor (VIF) is less than 2.0. The values are less than the threshold value of 10, therefore, multicollinearity is not a significant threat to our regression models (Wooldridge, 2016). The results of the regression analysis are available on Table 4. The dependent variable in the main analysis is 2008 ROA. Model 1 includes only the control variables and Model 2 is the full model including independent variables.

Model 1 reports that our control variables are in the expected direction and statistically significant and therefore, economically meaningful. Model 2 reports results for each hypothesis. Hypothesis 1 proposes that a firm's deviation from the benchmark in the risk-taking dimension would not be beneficial for firms with regard to financial performance. Our results support this hypothesis ($\beta = -0.0051$, $p < 0.05$). We do not find support for hypothesis 2, which examines whether the firms deviating from the benchmark's innovativeness would perform worse. Hypothesis 3 suggests that deviation from the benchmark with respect to proactiveness would impair firm performance. Contrary to the prediction, the estimate for the deviation from proactiveness is positive but not statistically significant. When a firm deviates from the bench-

Table 2. Summary Statistics

Variable	Mean	SD	1	2	3	4	5	6	7	8
(1) 2008 ROA	-0.04	0.25	1							
(2) Δ Risk Taking	0.89	0.70	-0.01	1						
(3) Δ Innovation	5.34	4.62	0.05	-0.05	1					
(4) Δ Proactivity	2.35	2.94	-0.22	0.01	0.08	1				
(5) Δ Competitive Aggressiveness	2.50	1.39	-0.14	0.03	-0.08	0.08	1			
(6) Δ Autonomy	1.01	0.89	-0.00	0.04	-0.02	0.04	0.02	1		
(7) Firm Size	7.56	1.84	0.28	0.09	0.07	-0.13	-0.09	0.05	1	
(8) 2007 ROA	0.30	0.17	0.48	0.02	0.07	-0.17	-0.07	-0.03	0.28	1

Note: Δ *dimension* is the absolute value of the difference between the benchmark firm value for dimension *i* and the focal firm.

Table 3. Multicollinearity Diagnostics

Variable	VIF	1/VIF
2007 ROA	1.12	0.895
Firm Size	1.12	0.896
Δ Proactivity	1.05	0.949
Δ Innovation	1.03	0.974
Δ Competitive Aggressiveness	1.02	0.979
Δ Risk Taking	1.01	0.986
Δ Autonomy	1.01	0.991
Mean VIF	1.05	

Table 4. Regression Analysis

Outcome: 2008 ROA		
Variables	**Model 1**	**Model 2**
Diff. from Benchmark Risk-Taking		-0.0051**
Diff. from Benchmark Innovation		-0.0114
Diff. from Benchmark Proactivity		0.0121
Diff. from Benchmark Competitive Aggressiveness		-0.0044
Diff. from Benchmark Autonomy		-0.0046
Firm Size	0.0198***	0.0198***
Prior year ROA	0.6084***	0.6084***
Constant	-0.2271***	-0.1055***
Observations	239	239
R^2	0.2530	0.2795

Standard errors in parentheses. *** p < 0.01; ** p < 0.05; * p < 0.1

mark in competitive aggressiveness, Hypothesis 4 posits that firm performance decreases. The results are not significant; hence, we do not find support for Hypothesis 4. Lastly, we also do not obtain significant results for Hypothesis 5, meaning that we cannot say that deviation from the benchmark in autonomy reduces firm performance. Table 5 summarises both the direction of each hypothesis and the results of the analysis.

Table 5. Results of Hypothesis Testing

EO Dimension (Hypothesis)	Predicted Association with Firm Performance	Actual Finding
Risk-taking (H_1)	Negative	Negative, significant
Innovativeness (H_2)	Negative	Negative, not significant
Proactiveness (H_3)	Negative	Positive, not significant
Competitive Aggressiveness (H_4)	Negative	Negative, not significant
Autonomy (H_5)	Negative	Negative, not significant

*See ad hoc results

Post hoc Analysis

Although our initial analysis shows little support for the theorised predictions, and primarily tests the performance impact of bilateral deviation among the EO dimensions of the profile firm, we wanted to explore a more fine-grained approach regarding the dimensional deviation of the sampled firms. For example, regression analysis on Table 4 shows that deviation in the risk-taking dimension is negative and statistically significant, however, the analysis on Table 6 suggests that only one side of the deviation is detrimental to performance. Indeed, firms that 'underemphasise' risk-taking compared to the profile firm experience lower performance as indicated by the statistically significant estimate (B = -0.061, p = 0.048) of *Risk-taking < 0*. Furthermore, as noted on Table 5, the aggression dimension of EO appears to have more to indicate than that purported in the primary analysis. For instance, deviation on either side of the aggression dimension appears to negatively impact deviant firms' performance (e.g., *Aggression < 0:* B = -0.116, p = 0.001 and *Aggression > 0*: B = -0.066, p = 0.019). Indeed, this more detailed test not only reveals that lower and higher levels of deviation from the profile firm in terms of aggression are detrimental to the focal firm, it also suggests that firms may want to balance competitively aggressive rhetoric in public facing documents. Lastly, although the post hoc analysis did not uncover many additional findings, it certainly highlights empirical concerns regarding the analysis of the absolute deviation and therefore, losses of valuable and telling information regarding deviation effects.

Table 6. Results of Ad Hoc Testing

DV: 2008 ROA		
EO Dimensions	**Estimate**	**p-value**
Risk-taking < 0	-0.061	0.048
Risk-taking > 0	0.002	0.965
Innovative < 0	0.046	0.296
Innovative > 0	-0.015	0.785
Proactive < 0	0.095	0.146
Proactive > 0	0.080	0.317
Autonomy < 0	-0.048	0.515
Autonomy > 0	-	-
Aggression < 0	-0.116	0.001
Aggression > 0	-0.066	0.019
FirmSize	0.022	0.317
ROA	0.628	0.003
Constant	-0.162	0.139
Observations	239	
R^2	0.3058	

Note: Baseline is zero difference between profile firm and focal firms on EO dimension (i.e., *EO dimension i* = 0). There were no observations for Autonomy >0.

Discussion

Our study sought to explore the theoretical and empirical relationships between benchmarking, strategic orien-

tation, and firm performance by utilising the dimensions of EO. In doing so, we examined the notion that specific strategic practices and processes are associated with superior firm performance and attempted to show that the deviation from benchmark performers in these strategic practices explains a significant variance in performance. Second, using profile deviation, we identified differences between constituent firms and top performers within and across industries. Lastly, we tested the performance implications of deviation among the EO dimensions.

First, we hypothesised that increased deviation among EO's dimensions lead to lower performance. Yet, our results find only some dimensions to be influential. Indeed, we find a negative relationship between firm performance and deviation from the focal firm's risk-taking. When facing lower relative performance, firms may be more prone to risk-seeking even though this may further exacerbate poor performance (Bromiley, 1991). Our post-hoc analysis suggests that more risk averse firms tend to suffer in terms of performance compared to their more risk-seeking counterparts. Risk-taking above the benchmark appears to produce statistically equal performance to that of the benchmark firm, whereas more conservatively postured firms underperform. While we do not test the performance effects of extreme risk-taking, our results highlight the concreteness of the risk-reward tradeoff associated with more entrepreneurially oriented firms.

Second, at first glance, deviation along the EO dimension – competitive aggression toward rivals – appears to be unimpactful. However, additional analyses suggest that measuring absolute deviation from the profile firm conceals the more nuanced nature of the dimension. For example, when we compared the benchmark firm's competitive aggression to those that report lower and higher aggressive rhetoric toward their rivals, we find that balance becomes a very salient capability. Indeed, our post hoc analysis reveals that firms above and below the benchmark for competitive aggression experience reduced performance. This finding has interesting implications for both theory and practice in the sense that organisational leaders must be mindful of how they present themselves among their peers and counterparts. Signaling lower levels of competitive aggression may inadvertently be interpreted as weakness, whereas higher levels may be interpreted as a misappropriation of power, abusive, or competitive bullying among key stakeholders.

Our results highlight the prominence of a firm's strategic posture and suggest that others can learn from leaders in the environment. We acknowledge that experimentation among the various EO dimensions may take place under different economic conditions and that circumstances may change the salience of some dimensions over others. Our findings suggest that organisations operating in sluggish economic environments with somewhat dismal economic forecasts may benefit from reducing search and explorative efforts among all five EO dimensions and instead focus on accurately assessing their stance on risk-taking and competitive aggression. Given that a contracting economy likely intensifies competition among organisational incumbents, reducing the strategic scope to these two critical dimensions should help organisational leaders with the allocation of resources and ultimately to weather the economic storm.

Limitations and Future Research

Our study is not free from limitations. First, the research setting is 2007-08 which is the period before and during the financial crisis. The empirical validations obtained using this sample cannot be generalised for more stable periods of the economy. Therefore, future studies can incorporate different years to include considerations in economic change. Second, our sample comes from a pool of mature and established firms which can sometimes be lacking in several dimensions of EO (Lechner & Gudmundsson, 2014). We can measure the EO dimensions more comprehensively in small, entrepreneurial firms and can get a more comprehensive idea regarding the relationship between different constructs. Therefore, as an extension to this study, there is an opportunity to examine the contingencies that affect the EO-firm performance relationship for large, established firms as well as for small, new ventures and contrast their differences. Third, along with including both large and small firms, the study has an opportunity for greater data points in general, such as the use of more controls. While the current study only utilises firm size, future research can incorporate other controls, such as industry, firm age, or firm structure.

Successively, we did not find significant results for all the relationships theorised. We have an opportunity to collect more data or delve into benchmarking or EO research to attain a deeper understanding behind these relationships. For example, we found no support for hypothesis 2 regarding innovativeness. A future study could explore innovativeness along an explorative-versus-exploitative learning continuum, as these two types of learning and innovativeness are presented as opposites of one another (March, 1991). These differences influence organisational learning and the choices made between current and new technology (March 1991; Quintana-Garcia & Benavides-Velasco, 2008). Whether a firm adopts explorative or exploitative learning, may influence their innovative-

ness in relation to benchmarking. It may also be useful to examine our insignificant result using qualitative or case study data (e.g., Corrêa et al., 2021).

In addition, there are a variety of other optional variables to consider when exploring EO and benchmarking. For example, governance and the role of the board of directors will likely have a moderating effect on the analysis, particularly with regard to risk (i.e., how top management views risk or the tolerance level). Therefore, future research could examine how their decisions or structure influence the perceptions of EO and its dimensions. EO and benchmarking might also have different perceptions or outcomes if the firm is family owned or operated. For example, family firms tend to be less innovative (Rondi et al., 2019) or differ in how they behave regarding their pursuit of non-financial goals (Swab et al., 2020). Other fruitful areas of research on benchmarking and EO may have to do with CEO compensation (Miller et al., 2002) or the persistence of entrepreneurial behaviours in regards to resource availability (Marshall et al., 2020). Lastly, firms that are considered successful in terms of benchmarking may in fact be mimicking a different firm's entrepreneurial orientation. This may be an important consideration concerning how larger firms continue adapting and innovating.

Conclusion

The study empirically examined the relationship between benchmarking and strategic orientation utilising the five dimensions of EO: risk-taking, innovativeness, proactiveness, competitive aggression, and autonomy. We examined how these processes and deviations affect firm performance using a sample in a time period of dismal economic conditions. Though we found support for some of our hypotheses, and a post-hoc analysis revealed nuances among specific dimensions, we encourage more in-depth studies on benchmarking in organisational science literature. The study has valuable theoretical and practical implications that can be used to further our understanding of benchmarking, strategic orientation, and EO.

References

Amernic, J., Craig, R., & Tourish, D. (2007). The transformational leader as pedagogue, physician, architect, commander, and saint: Five root metaphors in Jack Welch's letters to stockholders of General Electric. *Human Relations*, *60*(12), 1839-1872.

Amit, R., & Schoemaker, P. J. (1993). Strategic assets and organizational rent. *Strategic Management Journal*, *14*(1), 33-46.

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

Anderson, T. (2013). The second-mover advantage, *Kellogg Insight*, www.insight.kellogg.com

Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, *17*(1), 99-120.

Barney, J. B. (1986). Strategic factor markets: Expectations, luck, and business strategy. *Management Science*, *32*(10), 1231-1241.

Barr, P. S., Stimpert, J. L., & Huff, A. S. (1992). Cognitive change, strategic action, and organizational renewal. *Strategic Management Journal*, *13*(S1), 15-36.

Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and businesses. *Journal of Business Venturing*, *2*(1), 79-93.

Bettis, R. A., & Hitt, M. A. (1995). The new competitive landscape. *Strategic Management Journal*, *16*(S1), 7-19.

Bromiley, P. (1991). Testing a causal model of corporate risk taking and performance. *Academy of Management Journal*, *34*(1), 37-59.

Burgelman, R. A. (1983). Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science*, *29*(12), 1349-1364.

Burgelman, R. A. (1991). Intraorganizational ecology of strategy making and organizational adaptation: Theory and field research. *Organization Science*, *2*(3), 239-262.

Camp, R. C. (1995). *Business process benchmarking: Finding and implementing best practices*. Asq Press.

Corrêa, V. S., Queiroz, M. M., & Shigaki, H. B. (2021). Social capital and individual entrepreneurial orientation: Innovativeness, proactivity, and risk-taking in an emerging economy. *Benchmarking: An International Journal*, *28*(7), 2280-2298

Courtis, J. K. (1982). Private shareholder response to corporate annual reports. *Accounting & Finance*, *22*(2), 53-72.

Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice*, *35*(5), 855-872.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, *10*(1), 75-87.

Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation–sales growth rate relationship. *Entrepreneurship Theory and Practice*, *30*(1), 57-81.

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Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice*, *36*(4), 677-702.

Daft, R. L., & Weick, K. E. (1984). Toward a model of organizations as interpretation systems. *Academy of Management Review*, *9*(2), 284-295.

Dickson, P. R. (1992). Toward a general theory of competitive rationality. *The Journal of Marketing*, 69-83.

Dierickx, I., & Cool, K. (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science*, *35*(12), 1504-1511.

DiMaggio, P., & Powell, W. W. (1983). The iron cage revisited: Collective rationality and institutional isomorphism in organizational fields. *American Sociological Review*, *48*(2), 147-160.

Dutta, D. K., & Crossan, M. M. (2005). The nature of entrepreneurial opportunities: Understanding the process using the 4I organizational learning framework. *Entrepreneurship Theory and Practice*, *29*(4), 425-449.

Eisenhardt, K. M. (1989). Agency theory: An assessment and review. *Academy of Management Review*, *14*(1), 57-74.

Fitz-Enz, J. (1993). *Benchmarking staff performance: How staff departments can enhance their value to the customer*. Pfeiffer.

Fligstein, N., & McAdam, D. (2012). *A theory of fields*. Oxford University Press.

Gupta, V., & Gupta, A. (2015). The concept of entrepreneurial orientation. *Foundations and Trends® in Entrepreneurship*, *11*(2), 55-137.

Hagel, J., Brown, J. S., & Davison, L. (2010). The best way to measure company performance. *Harvard Business Review*, *4*(6), 56-60

Hambrick, D. C. (1983). High profit strategies in mature capital goods industries: A contingency approach. *Academy of Management Journal*, *26*(4), 687-707.

Hernández-Linares, R., & López-Fernández, M. C. (2018). Entrepreneurial orientation and the family firm: Mapping the field and tracing a path for future research. *Family Business Review*, *31*(3), 318-351.

Hult, G. T. M., Snow, C. C., & Kandemir, D. (2003). The role of entrepreneurship in building cultural competitiveness in different organizational types. *Journal of Management*, *29*(3), 401-426.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, *3*(4), 305-360.

Karagozoglu, N., & Brown, W. B. (1988). Adaptive responses by conservative and entrepreneurial firms. *Journal of Product Innovation Management*, *5*(4), 269-281.

Khandwalla, P. N. (1976). Some top management styles, their context and performance. *Organization and Administrative Sciences*, *7*(4), 21-51.

Kollmann, T., & Stöckmann, C. (2014). Filling the entrepreneurial orientation–performance gap: The mediating effects of exploratory and exploitative innovations. *Entrepreneurship Theory and Practice*, *38*(5), 1001-1026.

Kotey, B., & Meredith, G. G. (1997). Relationships among owner/manager personal values, business strategies, and enterprise performance. *Journal of Small Business Management*, *35*(2), 37-64.

Lambkin, M. (1988). Order of entry and performance in new markets. *Strategic Management Journal*, *9*(S1), 127-140.

Laursen, K., & Salter, A. (2006). Open for innovation: The role of openness in explaining innovation performance among UK manufacturing firms. *Strategic Management Journal*, *27*(2), 131-150.

Lechner, C., & Gudmundsson, S. V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal*, *32*(1), 36-60.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, *21*(1), 135-172.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing*, *16*(5), 429-451.

Dess, G. G., & Lumpkin, G. T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *Academy of Management Perspectives*, *19*(1), 147-156.

MacMillan, I. C., & Day, D. L. (1987). Corporate ventures into industrial markets: Dynamics of aggressive entry. *Journal of Business Venturing*, *2*(1), 29-39.

March, J. G. (1991). Exploration and exploitation in organizational learning. *Organization Science*, *2*(1), 71-87.

Marshall, D. R., Meek, W. R., Swab, R. G., & Markin, E. (2020). Access to resources and entrepreneurial

well-being: A self-efficacy approach. *Journal of Business Research*, *120*, 203-212.

McKenny, A. F., Short, J. C., & Newman, S. M. (2012). CAT Scanner (Version 1.0) [Software]. http://www.amckenny.com/CATScanner/.

Meyer, J. W., & Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American Journal of Sociology*, *83*(2), 340-363.

Michalisin, M. D. (2001). Validity of annual report assertions about innovativeness: An empirical investigation. *Journal of Business Research*, *53*(3), 151-161.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, *29*(7), 770-791.

Miller, J. S., Wiseman, R. M., & Gomez-Mejia, L. R. (2002). The fit between CEO compensation design and firm risk. *Academy of Management Journal*, *45*(4), 745-756.

Mintzberg, H. (1973). Strategy-making in three modes. *California Management Review*, *16*(2), 44-53.

Naldi, L., Nordqvist, M., Sjöberg, K., & Wiklund, J. (2007). Entrepreneurial orientation, risk taking, and performance in family firms. *Family Business Review*, *20*(1), 33-47.

Nelson, R. R., & Winter, S. G. (1982). The Schumpeterian tradeoff revisited. *The American Economic Review*, *72*(1), 114-132.

O'Sullivan, D., & Abela, A. (2007). Marketing performance measurement ability and firm performance. *Journal of Marketing*, *71*(2), 79-93.

Quintana-García, C., & Benavides-Velasco, C. A. (2008). Innovative competence, exploration and exploitation: The influence of technological diversification. *Research Policy*, *37*(3), 492-507.

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, *33*(3), 761-787.

Robinson, W. T., Fornell, C., & Sullivan, M. (1992). Are market pioneers intrinsically stronger than later entrants? *Strategic Management Journal*, *13*(8), 609-624.

Robinson, W. T., & Min, S. (2002). Is the first to market the first to fail? Empirical evidence for industrial goods businesses. *Journal of Marketing Research*, *39*(1), 120-128.

Rondi, E., De Massis, A., & Kotlar, J. (2019). Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system. *Journal of Family Business Strategy*, *10*(4), 100236.

Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, *26*(4), 441-457.

Saeed, S., Yousafzai, S. Y., & Engelen, A. (2014). On cultural and macroeconomic contingencies of the entrepreneurial orientation–performance relationship. *Entrepreneurship Theory and Practice*, *38*(2), 255-290.

Sanders, W. G., & Hambrick, D. C. (2007). Swinging for the fences: The effects of CEO stock options on company risk taking and performance. *Academy of Management Journal*, *50*(5), 1055-1078.

Schueffel, P. (2014, August). The effects of entrepreneurial orientation on innovation performance, open innovation proclivity and openness. In 2014 Annual Meeting of the Academy of Management (1-5).

Sharma, S., & Vredenburg, H. (1998). Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. *Strategic Management Journal*, *19*(8), 729-753.

Short, J. C., Broberg, J. C., Cogliser, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA) an illustration using entrepreneurial orientation. *Organizational Research Methods*, *13*(2), 320-347.

Slater, S. F., & Narver, J. C. (1995). Market orientation and the learning organization. *The Journal of Marketing*, *59*(3), 63-74.

Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra-and extraindustry social capital. *Academy of Management Journal*, *51*(1), 97-111.

Steiner, G. A., Miner, J. B., & Gray, E. R. (1986). *Management policy and strategy: Text, readings, and cases*. Macmillan Publishing Company.

Suarez, F. F., & Lanzolla, G. (2007). The role of environmental dynamics in building a first mover advantage theory. *Academy of Management Review*, *32*(2), 377-392.

Swab, R. G., Sherlock, C., Markin, E., & Dibrell, C. (2020). "SEW" what do we know and where do we go? A review of socioemotional wealth and a way forward. *Family Business Review*, *33*(4), 424-445.

Tajeddini, K., & Mueller, S. (2019). Moderating effect of environmental dynamism on the relationship between a firm's entrepreneurial orientation and financial performance. *Entrepreneurship Research Journal*, *9*(4), 1-13.

Vafeas, N. (1999). Board meeting frequency and firm performance. *Journal of Financial Economics*, *53*(1), 113-142.

Venkatraman, N. (1989). The concept of fit in strategy research: Toward verbal and statistical correspondence. *Academy of Management Review*, *14*(3), 423-444.

Videl E., & Mitchell W. 2013. When do first entrants become first survivors? *Long Range Planning, 46*(4), 335-347.

Vorhies, D. W., & Morgan, N. A. (2005). Benchmarking marketing capabilities for sustainable competitive advantage. *Journal of Marketing*, *69*(1), 80-94.

Wales, W. J., Gupta, V. K., & Mousa, F. T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, *31*(4), 357-383.

Wales, W. J., Parida, V., & Patel, P. C. (2013). Too much of a good thing? Absorptive capacity, firm performance, and the moderating role of entrepreneurial orientation. *Strategic Management Journal*, *34*(5), 622-633.

Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, *5*(2), 171-180.

Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, *24*(13), 1307-1314.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: A configurational approach. *Journal of Business Venturing*, *20*(1), 71-91.

Wooldridge, J. (2016). *Introductory Econometrics, 6e.* Cengage Learning.

Yasin, M. M. (2002). The theory and practice of benchmarking: Then and now. *Benchmarking: An International Journal*, *9*(3), 217-243.

Zahra, S. A. (1996). Governance, ownership, and corporate entrepreneurship: The moderating impact of industry technological opportunities. *Academy of Management Journal*, *39*(6), 1713-1735.

Zahra, S. A., & Garvis, D. M. (2000). International corporate entrepreneurship and firm performance: The moderating effect of international environmental hostility. *Journal of Business Venturing*, *15*(5), 469-492.

Zairi, M. (1998). *Benchmarking for best practice: Continuous learning through sustainable innovation*. Routledge.

Zhao, Y., Li, Y., Lee, S. H., & Chen, L. B. (2011). Entrepreneurial orientation, organizational learning, and performance: Evidence from China. *Entrepreneurship Theory and Practice*, *35*(2), 293-317.