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Entrepreneurial Orientation: Assessing the Construct's Validity and Addressing Some of Its Implications for Research in the Areas of Family Business and Organizational Learning

Gregory G. Dess
Brian C. Pinkham
Haibin Yang

Our commentary addresses three papers that we believe make important contributions to the emerging literature on entrepreneurial orientation (EO). The first paper rigorously assesses and enhances the construct validity of EO—an important antecedent to empirical research. The second paper draws on the concepts of identity and social identity and provides a means of predicting how various ownership types of family firms will affect the EO-performance relationship. The third paper synthesizes multiple theoretical perspectives and empirical research to provide insights on the role that EO plays in enhancing a firm's acquisitive and experimental learning. We close with a discussion of EO as an area for theory development.

We would like to thank the editors of this *ETP* Special Issue—Jeff Covin and Tom Lumpkin—for inviting us to comment on these three fine papers on the emerging topic of Entrepreneurial Orientation (EO). Clearly, EO has generated a substantial literature (see Rauch, Wiklund, Lumpkin, & Frese [2009] for a recent meta-analysis) which has important implications for both normative and descriptive theory. In addition, empirical research and theory building in EO have encompassed a wide variety of substantive disciplines such as entrepreneurship, strategic management, organizational behavior, marketing, and operations. This stream includes a wide range of empirical research across many contexts such as small and publicly held family businesses, small firms, large corporations, as well as firms in both Western and non-Western contexts.

Please send correspondence to: Gregory G. Dess, tel.: (972) 883–4439; e-mail: gdess@utdallas.edu, to Brian C. Pinkham at brian.pinkham@utdallas.edu, and to Haibin Yang at haibin@cityu.edu.hk.

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Overall, we believe that the three papers complement each other quite well. While George and Marino (2011) lend impressive insights on how to assess and improve the construct validity of EO, Miller and LeBreton-Miller (2011) provide some interesting insights on how the concepts of identity and social identity can serve to explain why various types of ownership in family firms (e.g., lone founder, post-founder family, and family firm founders) can influence the extent of EO and performance outcomes. Lastly, Kreiser (2011) draws upon, integrates, and advances theory on how EO plays a key role in promoting a firm's level of acquisitive and experimental learning. Thus, the first study addresses concept and measurement, the second one provides both theory and empirical research to propose relationships among types of ownership on EO-performance outcomes, while the third one suggests theoretical relationships among EO and types of learning and networks (range versus closure). In combination, these three papers provide both valuable insights on both the conceptualization and measurement of the EO concept as well as its antecedents and outcomes.

In our commentary, we will first briefly summarize each of the papers and suggest some areas where we believe they might be extended. Then, we will propose some directions for how the EO literature may be further developed and enriched. Given the rigor, insights, and contributions of these three papers—individually and collectively—along with space constraints, we are quite sure that we can't do justice to each one! However, we will try to provide some insights that may be useful to the authors as well as to others who undertake EO research.

The George and Marino (2011), Miller and LeBreton-Miller (2011), and Kreiser (2011) Papers: Some Issues to Consider

One benefit of academic conversation is the ability to highlight particular issues that potentially enrich the discussion of theory, methodology, and relevance. To highlight the unique qualities of each paper, we organize the following in brief discussion points.

The George and Marino Paper

The authors make an important contribution to the EO literature by addressing its construct validity. Clearly, an area of inquiry will have difficulty building on prior findings if there is too much variation in the definition and measurement of the key construct. In particular, George and Marino discusses some important trade-offs associated with conceptualizing and measuring EO with fewer or more dimensions or as a reflective or formative construct. In addition, we found it to be particularly revealing when they discussed, in effect, the rather *implicit* assumptions that scholars make when they add or subtract dimensions from Covin and Slevin's (1989) widely adopted measurement scheme. We also acknowledge their discussion of intension versus extension as well as "concept stretching" e.g., Lumpkin and Dess's (1996) five dimensions as opposed to Covin and Slevin's three dimensions. Perhaps, scholars should make such trade-offs much more *explicit* in their work.

Drawing on Weick (1979), George and Marino's work has salient implications for the trade-offs associated with generalizability, accuracy, and simplicity that are inherent in theory building. We also posit that if we use Martin's (1982) depiction of the research process as a "garbage can," theoretical issues cannot be separated from their methodological considerations and vice versa. For example, theory building and empirical research endeavors which include several variables in the theoretical net would tend to focus on fewer dimensions of EO (or view it as a unidimensional construct). On the other hand, studies which focus on fewer variables or, in the extreme, work that is directed toward exploring the independence of the EO dimensions and their association with organizational outcomes (e.g., Lumpkin & Dess, 2001) would only include a few EO dimensions.

We believe that George and Marino's insightful discussion of EO as a formative or reflective construct has important implications for empirical research. Perhaps, the notion of dialectical inquiry (Schweiger, Sandberg, & Rechner, 1989), i.e., rather than accepting the thesis or antithesis—consider a synthesis, would have relevance. First, assume that a research study uses Covin and Slevin's (1989) summated EO scale. Even if the nine items on the scale are highly correlated with one another, additional insights could be gained by conducting a "supplementary analysis" and running the results with each of the separate dimensions of innovativeness, risk taking, and proactiveness. We would agree with George and Marino that the latter analysis would not adequately represent the EO construct, but it may provide additional insights that may lead to some interesting inductive theory building. (As we will note later, such an analysis was performed in the Miller and LeBreton-Miller paper.)

When operationalizing the EO construct, measurement error can be introduced by any one of three methodological approaches: managerial perceptions, firm behavior, or resource allocations (Lyon, Lumpkin, & Dess, 2000). After all, some managers may respond to the questionnaire items with their firm's intended strategies, while others may use its emergent strategies (Mintzberg, 1978) as their frame of reference. In addition, secondary data (required to measure firm behavior or resource allocations) can be confounded by time frames, variations in accounting practices across firms, etc. Further, for firms with constrained resources, the role of strategic choice (Child, 1972) may be compromised, i.e., firms which are highly leveraged may be so because of their inability to enter capital markets as a means of increasing their equity base—thus, they must take on additional debt to finance operations or expansion. Thus, there are multiple sources of measurement error associated with operationalizing the EO construct that must be acknowledged which are independent of one's theoretical approach.

Lastly, George and Marino provide an interesting example of how additional characteristics can be added to EO to develop new contexts "that share the core elements of EO but are distinct through the addition of these additional elements" (p. 996). They provide an example of modifying Covin and Slevin's definition to develop the concept of "Social Entrepreneurial Orientation (SEO)." We believe that this raises an important issue associated with the transitivity of constructs. That is, if one views EO as primarily associated with economic outcomes and SEO with noneconomic (or social) goals, perhaps, these could be independent constructs as opposed to SEO being a subset of the larger class of firms with a high level of EO. That is, one might assume a 2×2 matrix in which firms could be classified into one of the four cells (i.e., being high or low on the two dimensions). Thus, this might provide an opportunity for both theory and research to investigate how the traditional dimensions of EO would be associated with SEO as well as their association with antecedent and outcome variables.

The Miller and LeBreton-Miller Paper

Governance, succession, and control are central issues in management literature, including an emphasis on the balance of constraints and benefits that arise from concentrated ownership in a family business (Carney, 2005). There is an inherent expectation that family firms have different goals that may guide and limit the deployment of business strategies and influence subsequent performance (Short, Payne, Brigham, Lumpkin, & Broberg, 2009). While previous studies have tended to focus on the risk taking of family firms (Naldi, Nordqvist, Sjoberg, & Wiklund, 2007), we have limited understanding about the entrepreneurial orientation of family firms. Miller and LeBreton-Miller serve to help fill this gap with an insightful study of how various types of leadership (i.e., lone founder; family firm founders; post-founder family owners and CEOs) influence levels of EO and firm performance. The authors incorporate strong theoretical arguments based on identity and social identity theory to develop their hypotheses. In addition, they develop an innovative approach to measuring the EO dimensions based on secondary data—an approach that is rather rare in the EO literature.

The authors clearly state that their approach is in contrast to the more dominant emphasis on agency theory in family firm research. Such a perspective, in our view, enables them to make a more original contribution to the EO literature. At the same time, agency conflicts—particularly principal–principal conflicts (Young, Peng, Ahlstrom, Bruton, & Jiang, 2005) should not be discounted. Here, shareholders may have their interests compromised by the "nurturer/protector" role exhibited by ownership in conditions other than those of lone founders according to Miller and LeBreton-Miller. In addition, conflicts could arise between dominant and minority shareholders. In the latter case, expropriation by minority shareholders (defined as activities that enrich the controlling shareholders at the expense of minority shareholders) may occur such as tunneling and intergroup activities and transactions. In addition, a common practice observed is the appointment of family members to the firm's board of directors or to top executive positions. For example, in 2003, 30-year old James Murdoch was appointed CEO of British Sky Broadcasting (BSkyB), Europe's largest satellite broadcaster—in the face of vocal resistance from minority shareholders. His main qualification: His father was Rupert Murdoch, its chairman, who also controlled 35% of BSkyB stock (Young et al.). Future research could explore under what conditions the various types of ownership/management in family firms that Miller and LeBreton-Miller (2011) explore lead to actions that erode the value of minority shareholders. In addition, studies could explore what governance mechanisms are most effective in constraining such actions.

Miller and LeBreton-Miller also have excellent controls in their study—at both the industry (i.e., 2-digit SIC code) and firm (e.g., governance, voting shares, beta, age, size) level. Although Miller and LeBreton-Miller provide sound theory on the influence of identity theory on the level of EO and firm performance, perhaps, the influence of top management team (TMT) demographics (Finkelstein & Hambrick, 1990; Hambrick & Mason, 1984) and psychographics (Frye & Klein, 1974; Wells, 1975) could also be assessed. For example, consistent with prior findings in demographic research, one might speculate that the age of the "lone founder" attenuates her proclivity for EO—particularly for risk taking. In addition, would a TMT team with a high level of heterogeneity (assuming a corresponding level of requisite social integration) embark on more multifaceted strategies which may involve more risk taking to an equal extent under all of the three types of ownership that Miller and LeBreton-Miller propose? With regard to psychographics, how would individual attributes, such as locus of control and risk propensity, affect the influence of ownership types on levels of EO and firm performance? Investigating both main effects and interaction effects could provide some new insights and, perhaps, some innovative inductive theory building.

Finally, it is interesting that Miller and LeBreton-Miller found similar results when rerunning their analysis with each of the three dimensions of EO separately. Such *ad hoc* analysis is commendable and relatively rare in EO research. When summating the dimensions of EO to obtain a composite score, there is, of course, always the chance for aggregation errors. In addition, theoretical arguments could easily be made for the independence of EO. For example, a firm could develop new products and services that would require similar resources and resource combinations (Barney, 1991) that the firm already possesses. The firm may be able to use existing plant capacity. Although such an innovation might require a high level of novelty and originality, it would also tend to not involve a high level of risk taking in terms of resource allocation and utilization of scarce resources (Lumpkin & Dess, 2001). Hence, new insights can be drawn by investigating EO as both a formative as well as a reflective construct.

The Kreiser Paper

Kreiser provides an excellent synthesis of extant literature on the relationship between entrepreneurial orientation and organizational learning. He makes a worthwhile contribution by focusing on the role that EO plays in increasing an organization's level of two types of learning—acquisitive and experimental—and the mediating role of network closure and network range. Strong theoretical arguments are also developed regarding what particular dimensions of EO have the strongest impact on the two learning types, i.e., innovativeness and proactiveness have the strongest impact on experimental and acquisitive learning, respectively.

Contrasting the relative benefits of acquisitive and experimental learning begs the question of how ambidexterity (Gibson & Birkinshaw, 2004) can be attained. That is: How can firms both align resources to take advantage of existing product markets as well as proactively explore new opportunities? Similarly, from a network perspective, firms typically need to provide a balance between acquisitive and experimental learning—the former being enhanced by weak ties which provide variety and nonredundancy of information sources, while the latter is characterized by strong ties which augment trust and implementation processes (Burt, 1992; Coleman, 1988). Drawing on Lawrence and Lorsch's classic study (1967), increased differentiation—a result of network range (or, alternatively, weak ties)—necessitates more sophisticated integrating mechanisms. O'Reilly and Tushman (2004) provide insight in their study of 35 attempts to provide breakthrough innovations by a variety of firms. Their primary finding was that breakthrough efforts were organized by structurally independent units—with each having its own processes, structures, and cultures. However, the units were integrated into the existing senior management structure. Future research could be directed toward what structural mechanisms can be most useful in optimizing the benefits of both types of learning in a variety of organization and industry contexts.

A related issue is the role of diminishing returns to both types of learning. One might speculate that a higher level of acquisitive learning is required in a complex and dynamic competitive environment, while more experimental learning would be more salient in a stable and simple competitive environment. But, in either case, at some point, the second derivative becomes zero. Thus, empirical testing of Kreiser's propositions should incorporate squared terms to test for curvilinear relationships. Two reasons for such diminishing returns come to mind. First, the acquisition of information for effective learning would involve the participation of individuals in a firm's internal and external networks. Over time, as the network expands, the demands for reciprocity (Fu, Tsui, & Dess, 2006) would require the expenditures of scarce resources in order to maintain the participation of individuals. Second, drawing on the behavioral theory of the firm (e.g., Cyert & March, 1963), individuals have limited information processing capability. As networks expand and informational inputs increase, the potential for the accumulation of such vast depositories of information may well exceed the information processing capabilities of key organizational members.

Lastly, one of the challenges that is inherent in EO research—whether the EO concept itself or its relationships to antecedents, mediators, moderators, or outcomes—is spuriousness. For example, in the present context, studies that explore the relationship between EO and types of learning may involve variables that share a common component (Rosenberg, 1968), thus making the correlations artificially high. For example, if one hypothesizes that proactive behaviors enable firms to develop new knowledge to anticipate changing market conditions or that firms with higher EO are more likely to embrace the risk associated with experimentation, would not the EO dimension and the outcome share a common component? Similarly, Hornsby, Kuratko, and Zahra (2002) developed a 48-item Corporate Entrepreneurship Assessment Instrument (CEAI) which suggested five stable *antecedents* to entrepreneurial actions. They were: top management support, work discretion/autonomy, rewards/reinforcement, resource availability, and boundaries. Drawing on extant measures of EO such as Covin and Slevin's (1989) scale, items on the CEAI are likely to share common components with this popular EO scale. Future EO theorizing and empirical work need to exercise caution as concepts and measures are unique and do not have conceptual or operational overlap. Similarly, recall Murray Davis's well-known admonition that interesting research must "deny part of the reader's assumption base" (1971).

Looking Ahead: Suggested Directions for EO Research

We move now to two broader concepts that we feel are important for the future of EO research. First, we consider the descriptive and theoretical *generalizability* of EO. Second, we identify the *context* of EO research as an important basis for future studies in EO. To highlight its importance, we provide two specific examples of how context in EO research may enrich the current stream of literature. These are (1) family firms, and (2) a different institutional setting in an emerging economy (China).

Generalizability and EO Research

As noted in George and Marino, there is some discussion of whether to treat the EO construct as unidimensional or multidimensional (Rauch et al., 2009). Unidimensionality (which, of course, benefits from parsimony) may suffer from aggregation effects that multidimensional treatment may avoid (Lumpkin & Dess, 1996). In addition, viewing EO as a unidimensional construct does not capture the potential independence among the dimensions of EO and how they relate to performance outcomes (Lumpkin & Dess, 2001).

Within this discussion is the potential for developing descriptive and theoretical generalizability. *Descriptive generalization* refers to the extension of findings in a given sample to the broader population (Rosenberg, 1968, p. 223). For example, Miller and LeBreton-Miller found that lone founder firms from the Fortune 1000 exhibit higher EO relative to other firms. A descriptive generalization would be that all lone founder firms will exhibit higher EO relative to other firms. *Theoretical generalization* refers to the declaration of a "principle which encompasses a variety of situations" (Rosenberg, p. 222). Consistent with Miller and LeBreton-Miller, Short and colleagues found that family firms on the S&P 500 exhibit lower proactiveness relative to nonfamily firms (2009, p. 18). We could interpret this finding such proactiveness represents the broader construct of EO. Based on previous work that views EO as a multidimensional construct (Lumpkin & Dess, 1996, 2001), this is an inappropriate theoretical generalization, and may distract and mislead future research.

Much of the EO research to date draws on descriptive generalization (e.g., Rauch et al., 2009). We consider this an important driver for EO research, particularly as researchers look beyond the traditional contexts of the West (United States and E.U.) (Rauch et al.) and nonfamily firms (Short et al., 2009). Rosenberg (1968) cautions researchers in generalizing a narrow construct (such as EO) to a much broader construct. To this point, much less of the research focuses on the theoretical generalizability of EO—an acceptable state for literature (Rosenberg) that has underemphasized theoretical underpinnings (Miller & LeBreton-Miller, 2011). Below, we consider how the context in EO research may help future studies and further descriptive generalization in the literature.

Context and EO Research

There is a continuing call for testing boundary conditions in the EO literature (Rauch et al., 2009; Short et al., 2009). Different contexts may have important implications for the boundary conditions and the expectations of research in EO. Often, EO studies look at outcomes rather than the EO process (Miller & LeBreton-Miller, 2011). For this reason, context may play a role in our expectations of EO outcomes. Generally, we expect high EO to result in higher firm performance relative to low EO (Lumpkin & Dess, 1996). Building on the descriptive generalizability of EO, we propose that context may change our general expectation of EO-performance outcomes.

If we consider EO in the context of organizational stress (Haveman, 1992) and decline (Hambrick & D'Aveni, 1988), low EO may result in better performance (e.g., survival). In this sense, the context of a firm's distress may challenge our expectations of the EO-performance relationship. Similarly, if we develop an EO study outside the typical U.S.-E.U. environment and execute it in a developing economy, the context will emphasize the need for institutional analysis (North, 1990). While a recent meta-analysis suggests that the EO construct is "robust" in Asia, there is still more institutional work to be done (Rauch et al., 2009). For these reasons, we expect context to play a central role in the EO research to come. The following are two examples of how context may enrich our understanding of EO.

Several studies consider EO dimensions individually, such as risk taking (Zahra, 2005) and innovativeness (Morck, Strangeland, & Yeung, 2000). However, viewing EO as a unidimensional construct does not capture the potential independence among the dimensions of EO and how they relate to performance outcomes (Lumpkin & Dess, 2001). This is particularly salient in the context of family firms where heterogeneity is high (Dyer, 2006) and outcomes of EO (when viewed as a construct in which the underlying dimensions do not covary) if different configurations are examined (Short et al., 2009).

The Family Firm Context in EO Research. Recent research calls for the exploration of *boundary* conditions of the EO-performance relationship in the context of family firms (Short et al., 2009). In 2009, Short and colleagues began to address the EO-performance relationship in family firms in two ways. First, their study accounts for the limitations of previous studies by including five dimensions of EO in a sample of family and nonfamily firms. Second, their focus on the S&P 500 engages the large family firm population in contrast to traditional work, which focuses on small family firms (Short et al.).

Given Short and colleagues' finding that family firms differ from nonfamily firms, do these differences necessarily lead to reduced EO? The recent macroeconomic instability provides a natural experimental setting for exploring firm-level effects (EO) of family firms in a turbulent environment (Eisenhardt, 1989; Haveman, 1992). The crisis context is "interesting" (Davis, 1971) for two reasons. First, it allows us to consider changes in EO over time. Second, we can emphasize a specific context where EO constraints typified by family firms (e.g., low autonomy) may benefit the firm. We will now consider the effects of crisis on the family firm, where crisis is best captured by sampling before and after a market shock event (Peng & Jiang, 2010).

Family firms possess several unique qualities that may distinguish them from nonfamily firms, particularly under strategic stress. First, family firms tend to be more conservative and have long-term orientations—deemphasizing risk-taking actions. Thus, family firms would tend to exploit current resource bases rather than explore new product markets (Short et al., 2009). Under crisis conditions, low risk taking will persist in the family firm with a likelihood of increased withdrawal from risk-taking activities as the firm begins to require resources for defensive activities. Similarly, a family firm will maintain a defensive position toward competition, rather than an aggressive position—even when provoked (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007).

Second, the family firm's emphasis on defensive postures (Daily & Thompson, 1994) suggests a lack of proactiveness (Martin & Lumpkin, 2003). Typically, proactiveness leads to higher performance such that market leaders are able to account for future and changing market demand (Short et al., 2009). Under crisis, when a period of unanticipated shock or market jolt occurs, proactiveness is unlikely to increase, and low proactiveness may benefit the firm. When market demand is more volatile, and is likely to shrink, crisis will limit the payoffs for market growth-planned investments. Since family firms are less likely to commit resources to anticipating market needs, the impacts of volatility in the market-based payoffs may be less intense for the family firm.

Third, family firms exhibit a strong preference for survival. An emphasis on survival is likely to constrain autonomy and innovativeness. In crisis, strategic response favors firms with consolidated control (Hambrick & D'Aveni, 1988) in part due to the speed of responsiveness (Short et al., 2009). Given the family firm's preference for survival, one could expect them to be better equipped to deal with and weather intense periods of crisis. The ability to consolidate and monitor within the family firm provides an advantage in the sense that when faced with crises they can overcome complacency (Hambrick & D'Aveni; Tushman & Romanelli, 1985; Whetten, 1980). In this way, autonomy may decrease during times of crisis.

Family firms vary in terms of innovativeness under normal conditions (Short et al., 2009). Drastic changes in innovativeness are strategically taxing on the firm (Haveman, 1992). While lower innovativeness lends to easier coordination and control, and less challenge to the status quo (Hambrick & D'Aveni, 1988), firm culture may also play a large role in the innovativeness of the firm, particularly in the case of family firms founded on innovation (Short et al.).

Exploring EO in a Non-Western (Chinese) Context. To date most research on EO has been conducted in the United States where the institutional development is well established. Since institutions define the rules of the game for economic activities (North, 1990), it remains intriguing how EO may vary in dramatically different institutional contexts such as transition economies. With the transition from planned economies to market economies, the flux of institutional changes introduces a plethora of entrepreneurial opportunities and also imposes significant challenges for entrepreneurial firms. Taking China as an example, we discuss the potential directions of EO research in a non-Western context.

Since its open door policy in 1978, China has gone through a profound institutional transformation from a planned economy to a market economy. The coexistence of socialist and market-based capitalist systems features an interesting comparison with that of the United States: China is "manifested in strong government intervention, insufficient legal protection, regional controls with fragmented bureaucracy, and weak market monitoring mechanisms" (Lin, Peng, Yang, & Sun, 2009, p. 1117). However, despite the underdeveloped institutional development, China has quickly emerged as the second largest economy in the world in 2010. Part of this economic shift comes from the enormous entrepreneurial opportunities released during its institutional transition. Firms are increasingly engaging in entrepreneurial behaviors to address scarce resources and dynamic competitive challenges (Tan & Tan, 2005). This unique context of institutional transition abounds with many unresolved research questions for us to explore. We now discuss three major areas that hold promise for EO research in a transition economy.

The economic landscape in China features a variety of firm governance categories such as state-owned enterprises (SOEs), collectively owned enterprises (COEs), legal-person enterprises (LPEs), private firms, etc. SOEs are those firms owned by central and local governments, while COEs are those firms nominally owned by local governments but often run like private companies and constitute a hybrid between SOEs and private firms (Peng, Tan, & Tong, 2004). LPEs are firms owned by domestic institutions such as joint stock companies and nonbank financial institutions. They are "roughly analogous to institutional shareholder identity" in the Western context (Delios, Zhou, & Xu, 2008).

Firms with different ownership types may demonstrate varying degrees of EO given their historical influences and motivations. SOEs, to a large extent, represent the interests of governments and often operate their businesses under the protection of preferential policies such as monopoly in certain key industries, such as telecommunications, electricity, and transportation (Bai, Du, Tao, & Tong, 2004). Managers in SOEs are highly motivated to fully exploit the conferred institutional benefits and tend to forgo risk-taking behaviors in the market. In contrast, private firms must manage their way in underdeveloped institutions in order to seize opportunities in niche markets. Unless they are proactive, risk taking, and innovative, they are likely to be driven out of the market. In this sense, private firms tend to have a very high degree of EO. As a hybrid form of governance, COEs operate as a free market force but at the same time can easily gain support from local governments. They tend to adopt a strategy that falls between defenders and prospectors (Peng et al., 2004). LPEs often have intrinsic knowledge of both institutions and markets because of experienced institutional investors, but they may not have close relationships with governments as COEs do. Thus, firms in China may demonstrate varying degrees of EO due to their ownership differences.

In addition to firm ownership, the way firms structure their organizations may also affect their degree of EO. As centralization and formalization are two important dimensions of organizational structure, the locus of decision making and existence of formal rules and regulations tend to influence a firm's EO. Specifically, we argue that centralization promotes EO, while formalization constrains EO in China. Due to a high power distance in the Chinese culture, lower-level managers are accustomed to following orders from above and tend to decline or be incapable of shouldering responsibilities (Lin & Germain, 2003; Lu & Child, 1996). Centralization shifts the accountability of firm performance to top managers rather than lower-level units or employees—the latter are therefore more comfortable and devote more effort in implementing high-variance activities. Centralization also facilitates managers to take actions for major breakthroughs in either market or technology development (Child, 1972). In contrast, formalization places restrictions on how, where, and by whom tasks are to be performed. Employees are less likely to innovate when they are confined to their existing job domains.

Entrepreneurs are not only constrained by institutional and cultural forces in the institutional environment but also proactively shape their institutions (Bruton, Ahlstrom, & Obloj, 2008). The institutional void in China has given rise to many creative substitutes of formal institutions, such as extensive networks of informal ties and relational governance (Boisot & Child, 1996; Lau & Busenitz, 2001; Peng & Heath, 1996). Managerial networking is an effective way for entrepreneurial firms to access otherwise unavailable resources and legitimacy.

Firms often develop two types of managerial networking: business networks with buyers, suppliers, and competitors and institutional networks with government agencies and officers (Peng & Luo, 2000). These two different networking behaviors may divert firms' attention to dramatically different business opportunities: market versus institutional opportunities. Firms with a strong business network are able to understand the current and potential needs of their business partners, discovering more opportunities for entrepreneurial actions. However, firms with a strong institutional network are more likely to exploit their institutional linkages with government officials because the returns from institutional resources are certain. Also, the rotation of government officials in China makes it urgent for firms to exploit the available institutional connections as these benefits are fleeting. Thus, firms with a strong institutional network are likely to exploit institutional resources while sacrificing their entrepreneurial behavior (Sheng, Zhou, & Li, 2011).

The configuration of entrepreneurial networks also carries significant implications for a firm's EO. Originating from the debate between network closure and network brokerage (Burt, 2001), network configuration remains an interesting topic for us to explore in the Chinese context. Which network configuration (closure vs. brokerage) promotes EO? Limited research on networks in China has suggested that in the Chinese context, brokers are often viewed negatively because they are considered as "out-group"—which is disadvantageous given the collective culture (Xiao & Tsui, 2007). Lin and associates (2009) also suggest that broker firms in China may enjoy transitory benefits. However, they are subject to high risks and bigger costs and are thus less likely to acquire other firms. We expect that broker firms in China will demonstrate a lower degree of EO compared to broker firms in the United States because the social environment may impose higher costs for resource manipulation. In contrast, firms in a close network in China may demonstrate a higher degree of EO compared with similar firms in the United States because of the internal support Chinese firms may get for their entrepreneurial activities.

There is a large variation of regional development across China. Coastal areas have benefited from the preferential policies enacted since the advent of the open-door policy and have developed sound infrastructures, including intellectual right protection (IRP). In contrast, backward regions in the inner provinces still lag far behind in economic development. As a result, firms in different regions of China tend to govern their entrepreneurial behavior differently. For example, in developed regions, such as Beijing and Shanghai, intellectual rights are properly protected by law, and firms are highly motivated to innovate and take proactive actions in both market expansion and technology development. However, since the implementation of IRP is difficult in underdeveloped regions, firms are motivated to copy existing technologies from outside, and they lack both incentives and capabilities to innovate. Some local governments also engage in local protectionism. It is not rare to see many counterfeited products, called "*Shanzhai*," in the

Chinese market. Thus, we argue that firms in developed regions are likely to demonstrate a high degree of EO, while firms in underdeveloped regions are likely to demonstrate a low degree of EO in China.

Conclusion

As we noted at the beginning of our commentary, we feel that all the three papers represent promising avenues for future EO research. These papers collectively address the construct validity of EO as well as provide insights into an emerging research context (family business) and an interesting concept (organizational learning) that has spurred conceptual development and empirical research across several theoretical disciplines.

We also identify two issues which we believe have important implications for future EO research. First, we suggest that future research in EO explicitly consider the theoretical and descriptive generalizability (Rosenberg, 1968) of their theoretical arguments. Second, we propose that context should play a more significant role in both theoretical development and research design. We hope these contributions encourage further scholarly inquiry, and that such efforts provide useful insights for both academics and practicing managers.

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Gregory G. Dess is a Professor and the Cecil Chair, School of Management, University of Texas at Dallas, Richardson, TX, USA.

Brian C. Pinkham is a Doctoral Candidate, School of Management, University of Texas at Dallas, Richardson, TX, USA.

Haibin Yang is an Associate Professor, Department of Management, City University of Hong Kong, Kowloon, Hong Kong.

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