Entrepreneurial orientation, organizational capability, and competitive advantage in emerging economies: Evidence from China

Heng Liu¹, Jigang Hou²*, Pianpian Yang² and Xiu-hao Ding³

¹Lingnan college, Sun Yat-Sen University, Guangzhou 510275, China.
²School of Management, Xi’an Jiaotong University, Xi’an 710049, China.
³School of Management, Huazhong University of Science and Technology, Wuhan 430074, China.

Accepted 8 April, 2011

In order to understand how to leverage firm capabilities to support their entrepreneurial strategies in emerging settings, we examine whether the possession of an entrepreneurial orientation and the possession of its complementarities of market and guanxi capabilities, through which the entrepreneurial orientation is deployed into a successful entrepreneurial practice, are the key drivers of firm’s competitive advantages. Based on the data set of 119 Chinese firms, our findings suggest that the higher the level of market and guanxi capabilities, the stronger the positive linkage between entrepreneurial orientation and firm’s competitive advantage; thus, the potential needs for the fit between strategy and capability are highlighted. Meanwhile, we find that the relative moderating effects of market and guanxi capabilities are different in the state owned enterprises (SOEs) and non-SOEs due to the unique institutional environments they face. Theoretical and practical implications of these findings to entrepreneurship literature, capability complementarity perspective, and the studies about firm strategy in emerging economies, are also discussed.

Key words: Entrepreneurial orientation, emerging economy, market capability, guanxi capability, ownership.

INTRODUCTION

Since the external market conditions become more and more competitive and turbulent, entrepreneurial strategy is increasingly becoming a key managerial priority, and firms need to develop entrepreneurship to be responsive to the fast environmental change (Lumpkin and Dess, 1996; Zahra and Nielsen, 2002; Li et al., 2009). Therefore, the high level of organizational entrepreneurship is an essential indicator of high-performing firms in both developed and emerging countries (Wiklund and Shepherd, 2005).

Meanwhile, the studies about how firm’s entrepreneurship develops and works, also grew dramatically during the last 20 years. For example, scholars published more than 370 academic papers on entrepreneurship in 2006 (Sorenson and Stuart, 2008).

Although existing findings on this topic are fluent (Rauch et al., 2009), there are still limitations in present studies. For instance, we know little about whether the premise linkage between EO and firm’s competitive advantage from findings in developed economies is still applicable in emerging settings which have unique institutional back-grounds and resource restraints. In addition, although some scholars indicate the importance of examining the complementary factors that EO may need in settings where the resource is inadequate (Wiklund and Shepherd, 2003), this series of researches are quite limited (for example, too focusing on the technology capabilities due to their Western backgrounds) (Kenney and Burg, 1999). To respond to these research gaps, we examine firm’s market capability and guanxi capability (guanxi is a Chinese phrase for personal connections) as
two complementary capabilities to convert EO into firm’s competitive advantages in China, where fierce market competition requires a sufficient market capability, and intense networking culture asks for a support from guanxi capability (Ambler et al., 1999).

Moreover, one of Chinese firms’ key characteristics is the co-existence of state owned enterprises (SOEs) and non-SOEs due to historical reasons (Peng and Luo, 2000). Since these two kinds of firms face quite different institutional requirement when they pursue entrepreneurial related strategy (Child and Tse, 2001), we argue that the relative moderating strengths of market and guanxi capabilities are different between SOEs and non-SOEs. Nevertheless, although existing literature in strategy and corporate governance has indicated that these two types of firms differ in their behaviors and performance (Peng and Luo, 2000; Hua et al., 2005), little entrepreneurship studies have specifically examined the differences in their capability leverage strategies when SOEs and non-SOEs pursuing their entrepreneurial goals.

To remedy these research limits, we make the following contributions to the theoretical research. Firstly, we contribute to the EO literature by identifying two complementary capabilities to give full scope to the nature of EO endeavors in the transitional settings. In this way, we try to help the managers to better understand how to realize their entrepreneurial potentials by highlighting the importance of complementary capabilities (Rauh et al., 2009), and expand capability complementarity perspective by indicating that, firms with strong EO in emerging countries require both market capability and guanxi capability to be fully functional. Secondly, we contribute to the marketing literature by highlighting the role of market information processing capability to convert EO into firm’s competitive advantages in a highly competitive market (Zhang et al., 2010). Thirdly, we contribute to the emerging country literature by highlighting the importance of guanxi capability in a context where the ‘guanxi’ norms acts as a key factor that involves both opportunities and risks (Pearce et al., 2008). Fourthly, we respond to the institutional theory by highlighting the force of the institutional constrains upon the potential congruent between strategy and capability. We find that there are different moderating roles of market and guanxi capabilities upon the EO- competitive advantage linkages in SOEs and non-SOEs due to these two types of firms facing quite different institutional settings and pursuing different strategic choices in their entrepreneurial transformation (Tan et al., 2005).

Empirically, by leveraging data from Chinese firms, the study provides new empirical support for the hypotheses by confirming the importance of strategy and capabilities combinations in enabling firms to gain competitive advantages, and gives supporting evidence for institutional theory propositions by analyzing the importance of institutional forces on the relationship between firm’s entrepreneurial behaviors and consequences.

CONCEPTUAL DEVELOPMENT AND LITERATURE REVIEW

Entrepreneurial orientation (EO) refers to the practices and decision-making activities that lead to new entry, principally through risk taking, innovation, and proactive behaviors (Lumpkin and Dess, 1996; Miller, 1983). The radical institutional transition in emerging economies, such as China, makes the emergence and prosperity of entrepreneurship become a key phenomenon that impacts the overall economic development as well as individual firm growth (Zapalska and Edwards, 2001; Tang et al., 2008; Li et al., 2011; Bruton et al., 2008). Some recent studies have examined the role of entrepreneurial orientation in the firm’s operations in the context of emerging economies. For example, Zhou et al. (2005) indicate that entrepreneurial orientation facilitates both market-based and technology-based breakthrough innovations in the context of China’s consumer product categories. Jeong et al. (2006) and Li et al. (2006) both find that entrepreneurial orientation has a positive effect on the improvement of firm’s NPD activities in the context of Chinese manufacturing firms. Using survey data from 165 entrepreneurs in Taiwan, Li et al. (2009) find that entrepreneurial orientation is positively related to firm performance, and knowledge creation process plays a mediating role in this relationship. According to these studies, we find that the inclusion of emerging economies into the mainstream study of entrepreneurship research offers the potential to expand our theoretical understanding of entrepreneurship in general.

Moreover, facing a highly turbulent and fast growing market environment, both SOEs and non-SOEs in China are taking entrepreneurial movements to find ways to innovate and convert their technological ideas into viable commercial products (Li et al., 2008). Therefore, it is important to distinguish the firm’s level of entrepreneurial orientation in order to understand its growing potential in China. However, while some studies show that firms with high EO enjoy better performance (Wiklund and Shepherd, 2005), it is not always the case, and some studies find an insignificant relationship (Stam and Elfring, 2008), or a non-linear relationship between EO and performance (Tang et al., 2008).

In fact, since the pursuing of EO strategy consumes substantial resources (Wiklund, 2008), the productive effect of entrepreneurial strategy may thus be determined by its congruency with other organizational capabilities, especially in China where the firms often have limited internal resources to support the ‘resource-consuming’ need of EO. Therefore, we indicate that while possessing EO may be beneficial, complementary capabilities are also required to deploy the EO (Teese et al., 1997). To support the need of resource-consuming of EO, literature
from capability complementarity perspective highlights the importance of examining economic element of market capability and social element of guanxi capability (Day, 1994; Lorenzoni and Lipparini, 1999; Song et al., 2005). Market capability is characterized as a capability focusing on how to successfully transform firm's products and services into a market success. Guanxi capability, on the other hand, is characterized by a capability to maintain good relationship with external entities or stakeholders (Dyer and Singh, 1998). Since the market mechanism and the guanxi mechanism co-exist in the emerging economies (Nee, 1989), firms need to have both market and guanxi capabilities to deal with the market competition and social requirements when they pursue entrepreneurship. Therefore, we argue that pursuing EO is the strategic orientation that builds firm's competitive advantage through successfully leveraging the market capability and guanxi capability. Without these two complementary capabilities, EO may not produce the desired outcomes.

Meanwhile, an emerging economy is defined as an economy that grows rapidly with structurally changing industries, promising but volatile markets, and a regulatory framework that undergoes drastic and sometime, unexpected, transformations (Hoskisson et al., 2000). In the context of China, there are two leading types of firms, SOEs and non-SOEs, which are facing quite different institutional constrains. Institutional theory has argued that the congruence between strategy and capability is contingent on the institutional settings that the firm competes in, thus we argue that the moderating roles of market and guanxi capabilities may be different in firms with different types of ownership. In particular, China's SOEs are wholly or partially owned by the central or local state. SOEs still contribute a significant share to China's overall economic development (Poncet et al., 2010). This is particularly true for the sectors that the state views as having strategic significance, such as petrochemical, telecommunication, and banking industries. In contrast, non-SOEs are mainly privately-owned firms which are driven by individual entrepreneurs who try to capture the opportunities arising from the growing market demands.

According to the institutional theory (Scott, 1995; Peng, 2002), SOEs and non SOEs have different backgrounds, and their abilities to access institutional resources as well as market resources are quite different (Tang and Tang, 2010). To be specific, non-SOE may face a great liability of newness and may lack enough legitimacy to get support from the government. Non-SOEs often directly face quite fierce market competition. For them, it is important to build strong market capabilities to fulfill their aim of entrepreneurship by competing against their rivals through the market competition. SOEs on the other hand, enjoy better institutional supports and legitimacy since they may be protected by the regulations and government support. For them, it is more important to improve their guanxi capabilities in order to fulfill their aim of entrepreneurship to continue enjoying their institutional advantages. Therefore, we argue that the moderating effects of market capacity and guanxi capability on the EO-competitive advantage linkage may be different for non-SOEs and SOEs.

Based upon the analysis afore mentioned, we provide a conceptual model in Figure 1 to explain the relationship among entrepreneurial orientation, market and relational capabilities, and firm's competitive advantage in both SOEs and non-SOEs in China.

**Hypotheses development**

**Entrepreneurial orientation and firm’s competitive advantage in China**

Entrepreneurial orientation portrays a firm's strategic orientation which acquires specific entrepreneurial aspects of decision-making styles, practices, and methods (Lumpkin and Dess, 1996), and often highlights the firm's propensity of proactiveness, innovativeness, and risk-taking (Miller, 1983; Covin and Slevin, 1989; Lumpkin and Dess, 1996). Proactiveness refers to a strategic posture of anticipating and acting on future needs in the marketplace, thereby creating a first-mover advantage against competitors (Lumpkin and Dess, 1996). By exploiting this first mover advantage in the
market place, proactive firms may enjoy a better position to capture high returns in the highly growing market in China. Innovativeness refers to a firm’s propensity to engage in new idea generation, experimentation, and R&D activities resulting in new products and processes (Lumpkin and Dess, 1996). Innovative firms may win the market competition in China by providing highly innovative products that differentiates them from their competitors. Risk-taking is associated with a willingness to commit large amounts of resources to high-risk and high-return business (Miller and Friesen, 1978). The risk-taking firms may enjoy better competitive positions if they successfully turn the risk-taking initiatives into profitable businesses by appropriately leveraging their complementary skills. In summary, the entrepreneurship literature therefore indicates that:

**H1:** Entrepreneurial orientation is positively related to firm’s competitive advantage in China for both SOEs and non-SOEs.

**Economic element of market capability**

While it has a general agreement that EO may bring beneficial gains to firms in emerging countries, what is less known is how firms leverage appropriate complementary capabilities to support their EO endeavors. As noted earlier, with the development of the market institutions, firm’s market capability becomes increasingly important in emerging economies. The market capabilities often include: pricing capability, product development and management capability, channel management capability, promotion management capability, as well as capabilities concerned with the marketing strategy development and execution (Morgan and Turnell, 2003; Day, 1994). Since the market capability could bring supportive resources to fulfill the need of EO, we argue that a firm with high EO may enjoy better competitive advantage if this firm has a sufficient market capability. First, firms with high market capability could be more able to transform the innovative and proactive product designs into a market success. In particular, since the knowledge of market skills reduces the incompatibility degree between new products and customer needs, the market capability enhances the possibility of innovation success in the market (Cooper and Kleinschmidt, 1987).

Secondly, firms with high market capability can exploit their proactiveness more effectively because they can put their products into the market more quickly in the market place (Marshall, 2004). Firms with high market capability can predict the trends, thus, make their innovation more consistent with market requirements and emerging trends, and thus, the firms’ innovations are more likely to be fit for the need of the customers. Meanwhile, firms with high market capability may enjoy some better position to respond to the challenges from their risk taking endeavors. Srivastava et al. (2001) for instance, indicate that firms with superior market-based capabilities can get faster cash flow turnover and more efficient technology commercialization and thus, are more capable of turning a risky venture into a profitable business. Therefore, we suggest that the market capability is a key moderator that strengthens the linkage between EO and firm’s competitive advantage.

Moreover, we argue that the moderating role of market capability is stronger for non-SOEs than for SOEs. Non-SOEs are born as market-based firms, partially because they cannot enjoy the same level of legitimacy and government protection as SOEs can; therefore, their managers tend to develop a stronger market capability and try to take quicker market actions to respond to competitors’ movements in the fierce market competition (Boisot and Child, 1996). For instance, Wei and Lau (2008) suggest that the capability to win market position is critical for doing business in emerging markets, especially for non-SOEs. Meanwhile, it is difficult for non-SOEs to get credit at a lower cost and timely access, which requires the non-SOE firms to build strong ability to leverage its marketing departments to get money back through quick product sales and high turnover rates. Thus, this market capability is a major factor that differentiates the winners from the losers for non-SOE firms in China, when they pursue their entrepreneurial strategies. Therefore, we suggest:

**H2:** The positive relationship between EO and competitive advantage is stronger when the firm has a higher market capability. In particular, this moderating effect of market capability is stronger for non-SOEs than for SOEs in China.

**Social element of guanxi capability**

On the other hand, guanxi is undoubtedly one of the most influential terms used to describe social relations among the Chinese people, the functioning of Chinese society and business, and the operations of Chinese entrepreneurs (Lin et al., 2001). Guanxi is characterized by a long-term commitment to maintaining good relationships. Coordination and flexible choices among guanxi partners may create a network society in which resources flows over time and space to be responsive to market conditions. Accordingly, we argue that a firm with high EO may enjoy better competitive advantage if this firm has a sufficient guanxi capability. First, by building good guanxi with all kinds of stakeholders, valuable business information or knowledge can be mutually exchanged between the organizations. Thus, expenses and risks arising from the entrepreneurial endeavors are reduced (Standifird and Marshall, 2000), which is helpful for EO playing its role. Second, by establishing good guanxi with customers, firms become more efficient in its NPD process, and it is more possible that their new products meet customer needs (Henard and Szymanski, 2001).
Meanwhile, by creating good guanxi with other institutions such as government and banks, firms may become more confident to deal with the resource rarity and distribution disproportion problem which is popular in emerging economy to a great extent. These institutions enable them to effectively access various scarce resources (Westphal et al., 2006), and thus, contribute to the success of firms’ EO process. In a word, the guanxi capability is a key issue that defines the efficiency of EO activities in emerging markets.

Meanwhile, the existing literature documents that, the long-term tradition of doing business by guanxi tends to push SOE managers to adopt more guanxi-based, rather than market competition-based strategies to fulfill their entrepreneurship goals (Gu et al., 2008), especially if some of the SOEs have a strong capability of influencing the government officials. Among China’s state-owned enterprises, it is quite common for executives to spend a lot of their energy and attention to develop its social ties if the firm wants to start a new business or try to introduce an innovative project (Molz and Wang, 2006). SOEs turn to leverage more guanxi capability than non-SOEs in their entrepreneurial processes since they have longer inertia and tradition of doing business by guanxi-orientation and less practice in direct market competition. Therefore, we suggest:

**H3:** The positive relationship between EO and competitive advantage is stronger when the firm has a higher guanxi capability.

In particular, this moderating effect of guanxi capability is stronger for SOEs than for non-SOEs in China.

**METHODS**

**Pretest and data collection**

We use the existing literature where available, as references to develop our questionnaire. All the constructs are well developed and previously validated. The questionnaire is first prepared in English and then translated into Chinese. The Chinese-version of the questionnaire is back-translated into English by a third party to check the consistency. The questionnaire is pre-tested with 10 part-time M.B.A or E.M.B.A students from a reputable business school in the Shaanxi province, China. Feedback from this process is used to improve the measurements. The sampling sets are selected to comprise a broad spectrum of industries, technologies, ownership types and business sizes. Questionnaires are then sent to the random sampling senior managers, with an explanation of the research objectives and the requirements of this survey. During the data collection processes, the respondents are instructed to consult with other knowledgeable members when fulfilling the questionnaire. The data collection process lasted about 4 months, from October, 2009 to February, 2010. After we remove the incomplete questionnaires with missing data or doubt answers, a total of 119 usable questionnaires are achieved, constituting a 59.5% response rate. Early and late (or none) respondents are compared as a test of non-response bias, and no significant differences are found.

The Harman’s one-factor test is then conducted to check the common method variance, where all the constructs are entered into a single factor analysis (Podsakoff and Organ, 1986). Neither a single factor nor a general factor that could account for the majority of the covariance emerges in the analysis. This provides evidence that common method variance is not a serious problem in this study. Meanwhile, in order to minimize the social desirability bias, we maintain full anonymity for all respondents throughout the survey process. We also follow the measures suggested by Fisher (1993) and use more specific and less direct questioning to reduce the social desirability bias.

**Measures**

Multi-item scales are used to operationalize all the constructs in the instrument. The measurements adopt the 5-point Likert scales with the end points of ‘strongly disagree’ and ‘strongly agree’. The correlations, means and the standard deviations for all the constructs are indicated in Table 1. Entrepreneurial orientation is measured by 5 items which are based on the study of Hult et al. (2007), and Rhee et al. (2010). The 5 items include: 1) our firm has a high-risk proclivity; 2) our firm is proactive towards uncertainty and external opportunities; 3) our firm often initiates strategic actions first in the industry; 4) our firm often introduces new techniques faster than its competitor; and 5) leaders in our firm often emphasize the importance of R&D and technological leadership.

Market capability is measured by 4 items following the study of Su et al. (2009). The 4 items include: 1) our firm has efficient

### Table 1. Correlation matrix and discriminate validity.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive advantage</td>
<td>0.830</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial orientation</td>
<td>0.581**</td>
<td>0.836</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market capability</td>
<td>0.734**</td>
<td>0.591**</td>
<td>0.914</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guanxi capability</td>
<td>0.469**</td>
<td>0.431**</td>
<td>0.544**</td>
<td>0.788</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>0.098</td>
<td>0.095</td>
<td>0.195*</td>
<td>-0.138</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product life cycle</td>
<td>0.091</td>
<td>-0.052</td>
<td>-0.016</td>
<td>0.059</td>
<td>-0.291**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental munificence</td>
<td>0.106</td>
<td>0.159</td>
<td>0.137</td>
<td>0.155</td>
<td>0.088</td>
<td>0.053</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Strategic type</td>
<td>-0.468**</td>
<td>-0.382**</td>
<td>-0.462**</td>
<td>-0.381**</td>
<td>-0.062</td>
<td>-0.132</td>
<td>-0.034</td>
<td>1</td>
</tr>
<tr>
<td>Mean</td>
<td>3.36</td>
<td>3.30</td>
<td>3.60</td>
<td>3.68</td>
<td>1.45</td>
<td>2.54</td>
<td>3.05</td>
<td>1.94</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0.88</td>
<td>0.86</td>
<td>0.97</td>
<td>0.70</td>
<td>0.49</td>
<td>0.66</td>
<td>1.01</td>
<td>0.91</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; Diagonal elements (in bold) are the square roots of AVE values; Off-diagonal elements are the correlations of the main variables of interest of this study.
operation of its distribution systems; 2) our firm has a better marketing or sales capability than its competitors; 3) our firm has a better reputation for service and logistic support than its competitors; and 4) our firm is more customer-oriented than its competitors.

Guanxi capability is measured by 4 items which are adapted from the study of Li et al. (2008). The 4 items include: 1) our firm has a strong capacity to build good relationships with consumers; 2) our firm has a strong capacity to build good relationships with suppliers; 3) our firm has a strong capacity to build good relationships with competitors; and 4) our firm has a strong capacity to build good relationships with government institutions.

Competitive advantage is defined as a company occupies some strategic position where the competitors cannot copy its successful strategy, and the company can gain sustainable profits from this strategy (Barney, 1991; Porter, 1981). It is measured by 4 items which are based on the study of Chen et al. (2008). The 4 items include: 1) our firm enjoys lower cost advantage than its competitors; 2) our firm has better management practices than its competitors; 3) our firm earns higher profitability than its competitors; and 4) our firm occupies an important strategic position in the industry.

Firm ownership is largely classified as state of enterprises (SOEs) as 1 and non-SOEs as 2. This way of ownership measurement can also be found in the existing literature (Peng and Luo, 2000; Park and Luo, 2001). Meanwhile, we also add three importance control variables: product life cycle, environmental munificence and strategic type, since they may also make contributions to the firm’s competitive advantages. Product life cycle has to do with the life of a product in the market with respect to business/commercial costs and sales measures (Anderson and Zeithaml, 1984). The four main stages of a product life cycles are introduction stage, growth stage, maturity stage and saturation/decline stage (Rink and Swan, 1979). Prior studies have indicated that firms in the different stage of their product life cycle may have different performance expectations. For instance, at the early stages of product life cycle, the firms are expecting to grow faster and their competitive advantage can be relatively easy to reconstruct; while at the later stage of product life cycle, the performance of the firms are expecting to be more stable. The environmental munificence can be recognized as the extent to which the external environment can support sustained growth of the firms (Castrogiovanni, 1991). Thus, environmental munificence provides a buffer to firms for aggressive competitiveness, and we measured environmental munificence by a five-Likert scales as ‘there is a big difference between unit price and unit cost of a product in this industry’. The study about the relationship between environmental munificence and firm’s performance can be found in Keats and Hitt (1988) and Zahra (1993). Meanwhile, Miles and Snow (1978) identified four archetypes of how firms approach their product-market domains. Prospectors seek to locate and exploit new opportunities, while defenders attempt to seal off a portion of the total market. Analyzers occupy an intermediate position by following prospectors into a new domain while simultaneously protecting a stable set of markets, and reactors do not have a consistent response to the emerging problem (Slater et al., 2007). These four strategies are different from each other dramatically, and they contribute to firm’s competitive advantages differently. For example, the prospector and the analyzer strategy are more active and opportunity oriented, while the defender strategy is more passive and invert-looking oriented, and the firms adopting different strategy are expecting to have significant performance differences (Slater et al., 2007).

Reliability and validity

For reflective constructs (entrepreneurial orientation, competitive advantage, and market capability), convergent and discriminant validity are assessed. Composite reliability (CR) and Cronbach’s α for each construct exceed the suggested minimum of 0.70 (Hair et al., 1995). The average variance extracted (AVE) for each construct is greater than the suggested minimum of 0.50 and is greater than the squared correlation between construct pairs (Fornell and Larcker, 1981; Hair et al., 2009), thus confirming the convergent and discriminant validity.

Formative construct (guanxi capability) requires different approaches for validation, because the assessment of convergent validity is not meaningful for them (Petter et al., 2007). First, we establish the content validity through carefully specifying indicators to capture the domain of the construct. To achieve this, we reviewed the literature and interviewed the managers and validated the measures through pilot tests. To evaluate discriminant validity for formative constructs, we examine the item-to-construct correlations and correlations with other constructs. All loadings and cross-loadings across the two data sets demonstrate on an adequate level of discriminant validity. Overall, the measurement instruments exhibit sufficiently, psychometric properties to support valid testing of the proposed hypotheses. Meanwhile, reliability assesses the inter-item consistency of the constructs. As we can see from Table 2, the Cronbach’s alpha and composite reliabilities (CRs) exceed the recommended minimum of 0.7 (Cronbach, 1951).

ANALYSIS AND RESULTS

The hypotheses are tested with a multi-step hierarchical regression analysis (Aiken and West, 1991). An initial regression is run with the control variables (Model 1); the entrepreneurial orientation is then added to determine the main effects (Model 2). The two-way interaction items of ‘EO × market capability’ and ‘EO × guanxi capability’ are added in Model 3. The three-way interaction items that relate to ownership’s moderating effect are finally added in Model 4. We mean-center all the variables in the regression model to minimize the potential threat of multicollinearity (Aiken and West, 1991). The VIF (variance inflation factor) values are well below the cut-off value of 10 (Neter et al., 1985), indicating that multi-collinearity is not a problem. Table 3 presents the regression results.

The results from Model 2 show that the EO is positively related to competitive advantage (β = 0.462, p < 0.001), thus supporting hypothesis 1. The results from Model 3 show that the coefficient of ‘EO × market capability’ is positive (β = 0.207, p < 0.001), thus, market capability plays a positive moderating effect on the EO - competitive advantage linkage. We can also see from Model 4 that the market capability has a stronger moderating effect on the EO – competitive advantage linkage than for non-SOEs, since the coefficient of ‘ownership × EO × market capability’ is positive (β = 0.505, p < 0.001), thus supporting hypothesis 2. Meanwhile, the results from Model 3 show that the coefficient of ‘EO × guanxi capability’ is positive (β = 0.207, p < 0.001), thus, guanxi capability plays a positive moderating effect on the EO – competitive advantage linkage. We can also see from Model 4 that the guanxi capability has a stronger moderating effect on the EO – competitive advantage linkage for SOEs than for non-SOEs, since the coefficient
Table 2. Constructs, reliability and validity.

<table>
<thead>
<tr>
<th>Construct</th>
<th>α</th>
<th>Loading</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive advantage</td>
<td>0.849</td>
<td>0.898</td>
<td>0.690</td>
<td></td>
</tr>
<tr>
<td>Lower cost advantage</td>
<td></td>
<td>0.716</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better managerial practice</td>
<td></td>
<td>0.860</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher profitability</td>
<td></td>
<td>0.871</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important strategic position</td>
<td></td>
<td>0.867</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entrepreneurial orientation</td>
<td>0.892</td>
<td>0.920</td>
<td>0.699</td>
<td></td>
</tr>
<tr>
<td>High-risk proclivity</td>
<td></td>
<td>0.890</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proactive towards uncertainty</td>
<td></td>
<td>0.760</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initiate actions first</td>
<td></td>
<td>0.846</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduce new techniques fast</td>
<td></td>
<td>0.811</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emphasize R&amp;D and technological leadership</td>
<td></td>
<td>0.869</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market capability</td>
<td>0.935</td>
<td>0.953</td>
<td>0.837</td>
<td></td>
</tr>
<tr>
<td>Efficient operation of distribution systems</td>
<td></td>
<td>0.928</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better marketing or sales capability</td>
<td></td>
<td>0.925</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better reputation for service and logistic support</td>
<td></td>
<td>0.933</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More customer-oriented</td>
<td></td>
<td>0.873</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

α refers to Cronbach’s alpha; CR refers to composite reliability; AVE refers to average variance extracted.

Table 3. Regression results (N = 119).

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product life cycle</td>
<td>-0.194**</td>
<td>0.040</td>
<td>0.073</td>
<td>0.072</td>
</tr>
<tr>
<td>Environmental munificence</td>
<td>0.332***</td>
<td>0.103</td>
<td>0.072</td>
<td>0.101*</td>
</tr>
<tr>
<td>Strategic type</td>
<td>-0.403***</td>
<td>-0.323***</td>
<td>-0.150**</td>
<td>-0.156**</td>
</tr>
<tr>
<td>Entrepreneurial orientation (EO)</td>
<td>0.462***</td>
<td>0.217***</td>
<td>0.235***</td>
<td></td>
</tr>
<tr>
<td>Market capability (MC)</td>
<td>0.491***</td>
<td>0.425***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guanxi capability (GC)</td>
<td>0.116***</td>
<td>0.216***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO × MC</td>
<td>0.207***</td>
<td>0.460***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EO × GC</td>
<td>0.169***</td>
<td>0.422***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>0.088</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership × EO × MC</td>
<td>0.505***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership × EO × GC</td>
<td>-0.523***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R square</td>
<td>0.315</td>
<td>0.456</td>
<td>0.690</td>
<td>0.722</td>
</tr>
<tr>
<td>Adj. R square</td>
<td>0.264</td>
<td>0.393</td>
<td>0.579</td>
<td>0.604</td>
</tr>
<tr>
<td>F value</td>
<td>6.214***</td>
<td>7.208***</td>
<td>6.229***</td>
<td>6.108***</td>
</tr>
</tbody>
</table>

*p < 0.05; **p < 0.01; ***p < 0.001. Standardized coefficients are reported.

of ‘ownership × EO × guanxi capability’ is negative (β = -0.523, p < 0.001), thus supporting hypothesis 3.

DISCUSSION

The empirical results of this study show that entrepreneurial orientation has a positive effect on the firm’s competitive advantage in China, and this positive linkage is stronger under the contingency factors of higher market capability and guanxi capability. Moreover, the moderating effect of market capability is stronger for non-SOEs than for SOEs, while the moderating effect of guanxi capability is stronger for SOEs than for non-SOEs. Therefore, all the hypotheses are supported in this study. This study makes contributions by joining the debates about the nature of EO strategy in emerging economies through considering the EO – competitive advantage linkage in the context of the different market and guanxi capabilities in both SOEs and non-SOEs in China. As
such, it should provide guidance to scholars in their research endeavors and to managers as they manage their entrepreneurial activities.

Theoretical contributions

This study contributes to the theoretical literature in the following aspects. First, the findings confirm a positive relationship exists in the EO – competitive advantage linkage in the Chinese setting, therefore, the paper contributes to entrepreneurship literature by giving empirical evidences that Chinese context supports the Western scholar’s notion that the entrepreneurial orientation plays a key role in shaping firm’s competitive advantages (Lumpkin and Dess, 2001; Rauch et al., 2009). Both SOEs and non-SOEs, though they face quite different competitive conditions, tend to adopt entrepreneurial strategies in order to adapt to external market change and to pursue fast growth. This result therefore partially responds to the requirement of Lumpkin and Dess (2001) for more comparative studies about EO – performance linkage in different economic and institutional contexts.

Secondly, similar to Hult et al. (2007) who argue that strategic EO only have the potential value, and realize this potential value requires the complements with other elements, this study shows that both economic element of market capability and social element of guanxi capability positively moderate the EO – competitive advantage relationship. Thus, this finding supports the notion of capability complementary perspective which focuses on the ways of how organizational capabilities could change the efficiency of organizational resource deployments. Meanwhile, we find that both market capability and guanxi capability are important in performing successful entrepreneurial strategies. This finding highlights the co-existence nature of redistributive mechanism (which needs guanxi maintenance skills) and the market mechanism (which needs market competition skills) in the emerging economies. Our findings add to the existing literature of entrepreneurship in emerging countries because we find that both guanxi elements and market elements of organizational capabilities contribute to firm’s success in entrepreneurship in this context of both high redistributive mechanism and high market mechanism.

Thirdly, our findings also contribute to the knowledge of the boundary of the dynamic capability theory. Scholars adopting a contingent dynamic capability view, suggest that the relative role of capability’s efficiency to support the firm’s strategy is conditioned by contextual factors (Aragon-Correa and Sharma, 2003). Our focus on China’s emerging economy gives us a unique position to respond to this research progress. The findings suggest that the relative moderating effects of market capability and guanxi capability are contingent on the firm’s ownership. In other words, we suggest that performance implication of EO endeavors is contingent on the ‘fit’ between capability endowment and ownership structure. In particular, the moderating effect of market capability is stronger for non-SOEs than for SOEs, while the moderating effect of guanxi capability is stronger for SOEs than for non-SOEs. Recently, studies which focus on the Chinese firm strategies have indicated that due to the institutional background differences and historical evolution processes, the SOEs and non-SOEs may play different competing strategies when they find new opportunities or lead to new entries (Phan et al., 2010). This study joins in this line of research by further suggesting that ownership does impact the efficiency of market vs. guanxi strategies when the firm needs complementary resources to fulfill its entrepreneurship aims.

Practical implications

Our findings also have some practical implications for managers in emerging economies. First, managers in developed countries have long believed that it is important to improve the organization’s technology and market capabilities in order to seize the external opportunities. While managers in emerging countries on the other hand, have got used to expending significant efforts in building social networks. As shown by our findings, firms should pay both attention to building market-related competences and guanxi-related capabilities in order to capture the opportunities from the entrepreneurial attempts. Second, due to the difference in institutional backgrounds and business traditions, managers in SOEs and non-SOEs are advised to leverage guanxi-orientated vs. market competition-orientated strategies accordingly when they participate in entrepreneurial practices. Our results also inform that the extent to which firms can benefit from their market and guanxi capability depends upon the institutional conditions they face. Therefore, under the resource limited situations, the SOEs may give priority to their guanxi capabilities, while the non-SOEs should pay attention to build on their market capabilities. Third, our results also inform that the managers that firms should try to make a match between EO attempts and the supportive capability foundations. If there is a mismatch, EO may even hurt firm’s competitive advantage. Both the SOEs and non-SOE should pay special attention to the match between EO and respective supporting capabilities of guanxi or marketing skills.

LIMITATIONS AND FUTURE DIRECTIONS

This study has several research limitations that give directions for future study. First, it would be interesting to examine how the roles of market capability and guanxi capability play differently in other competing settings, such as high-technology industries vs. low-technology
industries, or service-oriented vs. manufacture-orientated sections. Thus, the extension of this study to different industries or different contexts would give additional theoretical implication for understanding the true synergistic needs between EO and complementary capabilities. Second, our study is limited to our sample from Chinese SOE and non-SOE firms. A viable extension of our study is to compare the findings from our study to other settings within emerging economies and between developed and emerging economies. Fine-grained research in multi-setting comparison will provide additional insights on this EO-performance relationship. Third, some data issues should also be improved in the future. The cross-sectional data in this study do not allow for causal interpretations among the key constructs. Future studies can benefit from a longitudinal research design or the experimental or simulation tools. Meanwhile, some objective measures could also be introduced to make the empirical testing more sounding. In particular, the measurement of the SOE and non-SOE classification should be improved. For instance, identifying the fundamental characteristics between SOEs and non-SOEs, and measure them accordingly. Such measurement would add more contributions as the findings can be generalized to other countries. Forth, this study only considers the moderating effects of market capability and guanxi capability on the EO-performance linkage, and some mediating factors such as human resource management capability, operations management capability and R&D, and strategy should be considered to open the black box of the internal process by which EO is contributed to performance in the future research.

Conclusion

Based on a cross-sectional sample of 119 firms in the context of China’s emerging economy, this study develops a research model concerning the relationships among entrepreneurial orientation, market and guanxi capabilities, and firm’s competitive advantage in both SOEs and non-SOEs. The study confirms that entrepreneurial orientation has a positive effect on firms’ competitive advantage in emerging settings, and market and guanxi capabilities have positive moderating effects on relationship between entrepreneurial orientation and firms’ competitive advantage, which means that implementing entrepreneurial strategy needs supplementary capabilities. In addition, this study finds that the moderating effect of market capability is stronger for non-SOEs than for SOEs while the moderating effect of guanxi capability is stronger for SOEs than for non-SOEs in China, which means that firms’ ownership plays an influencing role among the strategy-capability congruent process. In summary, the study is therefore crucial to a better understanding of a variety of topics, ranging from entrepreneurship prosperous to firm capacity leveraging. Understanding these processes is essential in shaping the directions of how to promote entrepreneurship in the emerging economies.

REFERENCES

Appendix

Measurement items

Please mark the number that best characterizes your firm. Mark “1” if you strongly disagree with the statement, and mark “5” if you strongly agree with the statement. If your firm is somewhere in the middle, select the number which represents that position.

1. Competitive advantage (Chen et al., 2009; Cronbach $\alpha = 0.849$)
   i. Our firm enjoys lower cost advantage than its competitors.
   ii. Our firm has better managerial practice than its competitors.
   iii. Our firm earns higher profitability than its competitors.
   iv. Our firm occupies an important strategic position in the industry.

2. Entrepreneurial orientation (Hult et al., 2007; Rhee et al., 2010; Cronbach $\alpha = 0.892$)
   i. Our firm has a high-risk proclivity.
   ii. Our firm is proactive towards uncertainty and external opportunities.
   iii. Our firm often initiates strategic actions first in the industry.
   iv. Our firm often introduces new techniques faster than its competitor.
   v. Leaders in our firm often emphasize the importance of R&D and technological leadership.

3. Market capability (Su et al., 2009; Cronbach $\alpha = 0.935$)
   i. Our firm has efficient operation of its distribution systems.
   ii. Our firm has a better marketing or sales capability than its competitors.
   iii. Our firm has a better reputation for service and logistic support than its competitors.
   iv. Our firm is more customer-oriented than its competitors.

4. Guanxi capability (Li et al., 2008)
   i. Our firm has a strong capacity to build good relationships with consumers.
   ii. Our firm has a strong capacity to build good relationships with suppliers.
   iii. Our firm has a strong capacity to build good relationships with competitors.
   iv. Our firm has a strong capacity to build good relationships with government institutions.