

**Government institutional support, EO, strategic renewal, and firm performance in
transitional China**

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Abstract

Purpose—This research examines how entrepreneurial orientation (EO) and strategic renewal (as a critical dimension of corporate entrepreneurship) might transmit government institutional support and thereby enhance firm performance in a transition economy.

Design/methodology/approach—Multi-respondent data were collected from 230 Chinese-based firms. The hypotheses were tested with structural equation modeling, in combination with a bias-corrected bootstrap method, to assess the significance of the theorized direct and indirect relationships.

Findings—Government institutional support enhances EO and strategic renewal individually, yet EO also fully mediates the relationship between government institutional support and strategic renewal. Moreover, strategic renewal fully mediates the relationship between EO and firm financial performance, and it partially mediates the relationship between EO and firm reputation.

Originality/value—This study contributes to entrepreneurship literature by testing an organization-level model of entrepreneurial phenomena in established firms that identifies EO and strategic renewal as two distinct mechanisms through which government institutional support in a transition economy can enhance organizational effectiveness, which entails the firm's financial performance and reputation. In so doing, this study provides an extended understanding of how EO and strategic renewal might influence a firm's financial and nonfinancial outcomes in different ways.

Keywords— government institutional support, entrepreneurial orientation, strategic renewal, firm performance, firm reputation

Introduction

Research into entrepreneurial phenomena in established firms highlights the role of their entrepreneurial orientation (EO) for their success (Shirokova *et al.*, 2016; Zur, 2013). Such EO is defined as a firm's overall strategic posture, decision-making practices, and managerial philosophies that make it entrepreneurial in nature, reflected in its risk taking, innovativeness, and proactiveness (Covin and Slevin, 1988; George and Marino, 2011; Guth and Ginsberg, 1990; Martens *et al.*, 2016; Miller, 1983; Wales, 2016). Other studies instead emphasize corporate entrepreneurship (CE) activities, or the operational actions, processes, and procedures that established firms use to achieve entrepreneurship, such as corporate venturing, innovation, and strategic renewal (Covin and Miles, 1999; Guth and Ginsberg, 1990; Sharma and Chrisman, 1999; Zahra, 1996). Both EO and CE activities can individually enhance firm performance (Bierwerth *et al.*, 2015; Rauch *et al.*, 2009; Wales *et al.*, 2011; Zahra, 1996), but their simultaneous and distinct influences with regard to organizational effectiveness, as well as external factors that may spur these entrepreneurial phenomena (Anderson *et al.*, 2015; Wales *et al.*, 2011), remain unclear.

First, previous research historically has been marked with some ambiguities in terms of how the EO and CE activities constructs are treated (Kemelgor, 2002; Knight, 1997). In particular, some studies identify firm-level entrepreneurial activities or CE as a focal construct (Barrett and Weinstein, 1998; Liu *et al.*, 2002; Zahra and Covin, 1995), but their operationalizations reflect an EO scale (Covin and Slevin, 1988, 1989). For example, Antoncic and Hisrich (2001) conceptualize firm-level entrepreneurial activities as a combination of EO (orientation toward innovativeness and proactiveness) and CE activities (new business venturing, innovation, and strategic renewal), but then use a scale that combines the EO scale from Covin and Slevin (1989) with the firm-level entrepreneurial activities scale developed and refined by Zahra (1991, 1993). Another illustration of the

aforementioned ambiguities appears in Rosenbusch *et al.* (2013), who incorporate CE activities such as strategic renewal and venturing in their EO meta-analysis. Bruyat and Julien (2000: 166) caution that such “anarchy or epistemological ecumenism may lead to confusion, and the field does not progress.” While more recent studies explicitly distinguish between EO and CE activities (e.g., Hosseini *et al.*, 2018; Klammer *et al.*, 2017; Stambaugh *et al.*, 2017), such studies are relatively rare, revealing the continued need to address these two facets of firm-level entrepreneurship simultaneously and examine their drivers and outcomes in a more comprehensive manner (Hosseini *et al.*, 2018; Smith and Muldrew, 2017).

Second, transition economies often are characterized by institutional voids (Ahlstrom and Ding, 2014)—such that “institutional arrangements that support markets are absent, weak, or fail to accomplish the role expected of them” (Mair and Marti, 2009: 419; Puffer *et al.*, 2010; Stephan *et al.*, 2015)—so their governments are keen to initiate and implement support for their firms’ entrepreneurial endeavors (Eijdenberg *et al.*, 2018; Kautonen and Koch, 2005). Government institutional support refers to the extent to which the government provides firms with incentive programs, policies, and plans to remedy the adverse influences of an inadequate institutional infrastructure or inefficient enforcement during political, economic, and societal transitions (Li and Atuahene-Gima, 2001; Sheng *et al.*, 2011; Shu *et al.*, 2015). For example, the recent rapid growth of the Chinese economy reflects initiatives by its central and local governments to motivate innovation and entrepreneurship (Ahlstrom and Ding, 2014).¹ But rather than addressing how entrepreneurship might depend on external factors, such as government institutional support (Rauch *et al.*, 2009; Wales *et al.*, 2011), prior studies typically focus on how environmental factors, as moderators, influence the extent to which EO or CE activities contribute to firm outcomes (e.g., Wiklund and Shepherd,

¹ Accordingly, a recent Global Entrepreneurship Monitor report (Global Entrepreneurship Research Association, 2018) ranked China 1st in internal market dynamics, 5th in entrepreneurial finance, 16th in government support, 19th in government policies, and 20th in government entrepreneurship programs.

2005; Zahra and Covin, 1995), including in the case of transition economies (Li *et al.*, 2008; Marcotte, 2014; Luu and Ngo, 2018; Su *et al.*, 2015; Tang and Tang, 2012). As a notable exception, Yiu and Lau (2008) examine the effect of government support on CE activities but not on EO. Wales (2016: 9) notes that “factors which explain the organizational genesis or sustenance of EO remain an important area of research,” and though governments clearly promote entrepreneurship in transition economies, empirical studies are scant. Because EO originates within particular societal environments (Thornton *et al.*, 2011), an examination of how EO and CE activities depend on government institutional support may help elucidate the sociocultural roots of entrepreneurial phenomena (Wales *et al.*, 2011).

Third, firm performance can be captured by distinctive measures (Bierwerth *et al.*, 2015; Combs *et al.*, 2005; Wales *et al.*, 2011), but extant EO research focuses predominantly on financial aspects (Gupta and Wales, 2017; Rauch *et al.*, 2009; Wales *et al.*, 2011; Zur, 2013). Wiklund and Shepherd (2011: 926) recommend advancing the field by “investigating more proximal outcomes.” For example, firm reputation could be a meaningful indicator of nonfinancial performance (Lumpkin and Dess, 1996), but little research examines it as an outcome of firm-level entrepreneurship (Wales *et al.*, 2011). A firm’s reputation summarizes an overall evaluation of its past actions and future prospects, based on stakeholders’ perceptions (Deephouse, 2000; Fombrun, 1996; Lange *et al.*, 2011). Because “reputation is arguably the single most valued organizational asset” (Gibson *et al.*, 2006: 15), failing to address the potential link between firm-level entrepreneurship and firm reputation is an important gap. This point is echoed in a critical review by Zur (2013), who claims that studies of the outcomes of EO have not paid sufficient attention to the nonfinancial aspects of firm performance and underscores the need to understand better how a firm’s public image may be informed by its entrepreneurial endeavors.

In response, this study considers how EO and a specific dimension of CE (strategic

renewal) might work collectively to transform government institutional support into firm performance gains, in the empirical context of China. Consistent with Wales (2016: 4), EO is defined as “a firm’s decision-making practices, managerial philosophies, and strategic behaviours that are entrepreneurial in nature.” Strategic renewal instead refers to the revitalization of a firm’s operations by changing the scope of its business or market moves (Huang, 2009; Zahra, 1993, 1996). Thus, EO is a firm-level construct that reflects attitudes and behaviors that are generally strategic in nature; strategic renewal, somewhat paradoxically, pertains to more tactical activities that take place at the operational level and that firms employ to revitalize themselves.

This study prioritizes the strategic renewal dimension of CE activities, and not the innovativeness or corporate venturing dimensions, in line with a recent meta-analysis that recommends avoiding summed indexes of the three CE subdimensions (Bierwerth *et al.*, 2015). Firms in transition economies face significant changes in their surrounding political institutions and market environments (Global Entrepreneurship Research Association, 2018; Peng, 2003) and must adapt accordingly (Cong *et al.*, 2017; Li and Atuahene-Gima, 2001). Strategic renewal offers an important conduit to achieve such adaptability (Bierwerth *et al.*, 2015; Zahra, 1996). Moreover, the innovation component of CE exhibits strong conceptual overlap with the innovativeness dimension of EO (Lumpkin and Dess, 1996), and Kollmann and Stöckmann (2014) have already investigated the mediating role of innovation in the EO–performance link. Finally, the corporate venturing dimension is more externally oriented and could entail establishing new businesses under different company names (e.g., spinoffs, independent firms), so measuring its impact on a parent company’s performance outcomes is very challenging (Sharma and Chrisman, 1999; Yiu *et al.*, 2007).

To extend EO research, this research thus proposes an organization-level conceptual model of entrepreneurship in which EO and strategic renewal are mediating mechanisms

between government institutional support and firm performance, in a transition economy setting. The resulting insights establish four main contributions. First, this study distinguishes EO and CE activities (strategic renewal) as two aspects of firm-level entrepreneurship. Second, it demonstrates how EO and strategic renewal help transmit the benefits of government institutional support to enhance firm performance. In this sense, it incorporates a specific institutional factor—government institutional support—as a direct enabler of EO and its consequences, rather than focusing on its indirect, moderating role (Li and Atuahene-Gima, 2001). Third, the firm reputation outcome variable is relatively understudied in EO literature (Wales *et al.*, 2011; Zur, 2013), yet it has significant implications for a firm’s future prospects and business dealings (Deephouse, 2000), so this study’s findings shed new light on how EO and strategic renewal might influence a firm’s financial performance and this important type of nonfinancial performance in different ways. Fourth, the empirical context of this study, China, is highly relevant, in that government institutional support can serve as a critical means to counter the adverse effects of institutional voids in transition economies and help firms make effective decisions about which activities to prioritize (Ahlstrom and Ding, 2014; Shu *et al.*, 2015; Stephan *et al.*, 2015).

Theoretical background and hypotheses

Institutional theory and government institutional support

Institutional theory describes the interplay of institutions and organizations (North, 1990; Scott, 1995). Davis and North (1971: 6) define an institutional framework as “the set of fundamental political, social, and legal ground rules that establishes the basis for production, exchange, and distribution.” Institutions consist of the “rules of the game” that directly or indirectly regulate the behaviors, activities, and strategic choices of firms embedded in those institutions (Peng *et al.*, 2009). By responding appropriately to surrounding institutions, firms enhance their chances of survival and success (Suchman, 1995). Institutions can be formal,

such as laws, regulations, and rules, or else informal, in the form of norms, cultures, and ethics (North, 1990). This study focuses on a critical aspect of formal institutions in transition economies, namely, incentive programs, policies, and plans initiated and implemented by central and local governments, which usually take charge of the establishment and enforcement of formal institutions (Bruton *et al.*, 2010).

Previous applications of institutional theory underscore that the government plays a particularly important role in transition economies, in that it directly shapes the speed at which institutional changes take place, as well as makes the rules and guidelines that guide these changes (Ahlstrom and Bruton, 2010; Bruton *et al.*, 2018; Ngo *et al.*, 2016; Peng, 2003). A critical challenge in transition economies is the presence of institutional voids, which are shortcomings or failures in how the institutional environment supports business transactions (Mair and Marti, 2009; Stephan *et al.*, 2015). In these settings, governments often function as gatekeepers that help firms overcome the adverse effects of incomplete institutions, inadequate enforcement of institutional arrangements, or dysfunctional competition (Li and Atuahene-Gima, 2001; Shu *et al.*, 2015; Stephan *et al.*, 2015). Firms can thrive to the extent that they align their strategies and behaviors with the parameters and expectations required to receive government institutional support (Sheng *et al.*, 2011; Shu *et al.*, 2016). As Ngo and colleagues (2016) point out, the support provided by the formal institutional environment tends to have an instrumental impact on firms' ability and motivation to meet their strategic goals in transition economies. Government institutional support then functions as an important formal regulatory mechanism that remedies the adverse effects of institutional voids and helps organize and direct effective business operations (Stephan *et al.*, 2015).

Previous entrepreneurship research notes some different benefits that government institutional support can offer, such as catalyzing decisions to engage in social entrepreneurship (Stephan *et al.*, 2015), facilitating corporate entrepreneurship activities (Yiu

and Lau, 2008), evoking positive effects of a product innovation strategy on new venture performance (Li and Atuahene-Gima, 2001), moderating the relationships of different types of firm patenting motives and patenting behaviors (Shu *et al.*, 2015), or transmitting the benefits of a firm's green management practices to enhance product innovation (Shu *et al.*, 2016). However, a paucity of research examines how government institutional support affects a firm's EO, despite the strong sociocultural roots of this strategic orientation (Wales *et al.*, 2011) and theoretical acknowledgments that institutional factors drive firm-level entrepreneurship (Bruton *et al.*, 2010; Bylund and McCaffrey, 2017; Wales, 2016).

The study's conceptual framework is in Figure 1. It first predicts that government institutional support affects EO and strategic renewal, which then function as mediators, shifting the benefits of such support to enhanced firm performance, as detailed in the next sections.

[Insert Figure 1 about here]

Government institutional support, EO, and strategic renewal

The origin of EO stems from Mintzberg's (1973) concept of an entrepreneurial strategy-making mode and Khandwalla's (1976/1977: 22) definition of management style as the "operating set of beliefs and norms about management held by the organization's key decision makers." Recent reviews (Rauch *et al.*, 2009; Rosenbusch *et al.*, 2013; Wales *et al.*, 2011) suggest that most EO studies identify a firm-level construct with three subdimensions: innovativeness, proactiveness, and risk taking (Covin and Slevin, 1988, 1989).

Innovativeness is the extent to which firms favor changes and rely on different innovations (e.g., technological, managerial, product) to gain competitive advantages. Proactiveness reflects the extent to which they preemptively initiate competitive attacks and pursue competitive footholds in new markets. Risk taking pertains to the extent to which firms are inclined to take business-related risks.

Consistent with Kollmann and Stöckmann's (2014: 1002) assertion that EO reflects "a disposition toward, rather than actual involvement in, entrepreneurial activity" and Rauch *et al.*'s (2009: 763) description of EO as "the policies and practices that provide a basis for entrepreneurial decisions and actions" (see also Lumpkin and Dess, 1996; Wiklund and Shepherd, 2003), it is expected that a firm's strategic EO posture necessitates operational-level CE activities before it can lead to enhanced firm performance. In particular, it may demand strategic renewal, or the tactical activities and processes that revitalize a firm's operations by changing the scope of its business activities, employing novel market moves, and enhancing its capability exploitation (Yiu *et al.*, 2007; Zahra, 1993, 1996).

A firm's EO should be stimulated by the presence of government institutional support, which is a widely used tactic in transition economies (Li and Atuahene-Gima, 2001; Sheng *et al.*, 2011; Yiu and Lau, 2008). Previous applications of institutional theory to the study of entrepreneurship in transition economies pinpoint three key benefits of government support (Shu *et al.*, 2016). First, it tends to be exclusive, available only to firms that comply with government regulations. Second, it provides low-cost resources; the government normally does not require immediate reciprocation. For example, in transition economies, tax breaks might promote export activities in particular industries (Luo *et al.*, 2010). Third, government institutional support aims to overcome market failures or facilitate the development of strategically important industries (Li and Atuahene-Gima, 2001). The Chinese government has steadily increased its R&D spending, rising as a percentage of its gross domestic product (GDP) from 1.4% in 2008 to 2.2% in 2017, and many of its investments prioritize "strategic emerging industries," such as biology and the Internet (OECD, 2018).

According to the premises of institutional theory in relation to the role of government in firms' strategic choices (North, 1990; Scott, 1995; Shu *et al.*, 2015), these three characteristics—exclusivity, low-cost structure, and redistribution to strategic

sectors—should help spur EO. That is, the exclusive nature of government institutional support can facilitate the *innovativeness* dimension of EO. Innovation requires novel resource combinations (Penrose, 1958), so resource exclusivity may enable firms with access to government institutional support to combine a wider set of inputs in innovative ways; counterparts that lack such access cannot easily achieve such combinations. Next, the low-cost resources likely encourage firms to take more *risk*. With fewer resource constraints, firms tend to be willing to take risks, because they can more easily bounce back from any negative outcomes of their risky actions (Singh, 1986). Finally, government institutional support is more accessible and generous in strategic areas, in which firms may already have gained preemptive positions or have the potential to achieve first-mover advantages, if they know they will have access to this support. As such, government institutional support should enhance firms' *proactiveness* in terms of their market entry and competitive moves.

In addition to the positive relationship between government institutional support and EO, EO may facilitate strategic renewal. First, as a firm-level strategic orientation, EO requires particular operational-level activities, processes, and procedures to become manifest (Slater *et al.* 2006; Van de Ven and Drazin, 1985). Strategic renewal involves risky operational activities that depart from the firm's existing operations and generate uncertain outcomes (Guth and Ginsberg, 1999; Kuratko, 2010; Zahra, 1991, 1993). These challenges can be resolved more easily to the extent that the firm possesses a strong EO. That is, an organization-wide strategic posture and philosophy of being entrepreneurial helps legitimate operational activities, even if the strategic renewal deviates from the firm's current product-market paradigm. An entrepreneurially oriented firm likely provides necessary resources, support, and structure to facilitate strategic renewal (Burgelman, 1983; Echols and Neck, 1998; Kuratko *et al.*, 2004). Chung and Gibbons (1997) similarly note that an EO provides an organizational ideology and social structure that support strategic renewal

through obligations, trust, norms, and sanctions.

Second, a firm's EO enhances its strategic learning capability (Anderson *et al.*, 2009), which also facilitates strategic renewal (Stopford and Baden-Fuller, 1994; Zahra *et al.*, 1999b). Two important prerequisites of organizational learning are experimentation, established through the *innovativeness* dimension of EO, and exploration, supported by its *proactiveness* dimension (Anderson *et al.*, 2009; Lumpkin and Dess, 1996). These efforts help firms open their knowledge boundaries, probe unfamiliar knowledge territories, assimilate external knowledge, and generate new knowledge (March, 1991; Wang, 2008). In addition, the *risk-taking* dimension of EO creates an organizational culture that is tolerant of potential learning failures, so firms high in EO likely invest continuously in organizational learning processes that encourage strategic renewal, even in the face of learning failures.

Taken together, these arguments suggest a critical mediating role of EO. That is, an important reason that government institutional support enhances strategic renewal is that it increases firms' propensity to be more innovative, proactive, and risk oriented. Formally,

Hypothesis 1. A firm's entrepreneurial orientation mediates the relationship between government institutional support and its strategic renewal.

EO, strategic renewal, and firm performance

Both EO and strategic renewal can individually enhance firm performance (Bierwerth *et al.*, 2015; Rauch *et al.*, 2009; Zahra, 1996), but their *collective* influence on firm performance is largely unexplored, with the notable exception of Hosseini and colleagues (2018), who investigate the performance effects of EO and corporate entrepreneurship in the context of the internationalization of small and medium-sized enterprises. Moreover, there is a continued need to investigate how firm-level entrepreneurship, whether conceptualized as EO or CE activities, may impact a firm's financial *and* nonfinancial performance (Wales *et al.*, 2011; Zur, 2013). To address these gaps, it is argued that strategic renewal mediates the relationship of a firm's EO with both its financial performance and reputation.

First, previous studies that examine the link between firm-level entrepreneurship and financial performance have drawn from the resource-based view (Barney, 1991) to conceptualize EO and CE activities as critical, intangible resources (Hossemi *et al.*, 2018; Shirokova *et al.*, 2018). To the extent that these resources are valuable, rare, inimitable, and non-substitutable, they can serve as sources of a firm's sustainable competitive advantage and superior financial performance (Wiklund and Shepherd, 2011; Zahra and George, 2002). The current study extends this research tradition by explicating the links among these different phenomena. In particular, an EO guides the firm's strategy formulation; its strategic renewal represents strategy implementation at the operational level (Narayanan *et al.*, 2011). Before a formulated strategy can enhance financial performance, it must invoke operational processes and activities that reflect the strategic objectives. Because EO resides in a firm's strategic activities, it requires specific operational actions that enable it to generate actual financial performance outcomes (Lumpkin and Dess, 1996), such as strategic renewal efforts that enact and implement an entrepreneurial philosophy. Kuratko *et al.* (2004: 24) thus refer to CE activities as "the conduit through which entrepreneurship is practiced in companies of all types," and Khandwalla (1976/1977) asserts that an entrepreneurial management style needs to be translated into actual activities to affect firm performance. Therefore:

Hypothesis 2. A firm's strategic renewal mediates the relationship between EO and firm financial performance.

In turn, this study predicts that strategic renewal mediates the relationship between EO and firm reputation. That is, a good corporate reputation has been conceptualized as a generally positive feature for firms (Lange *et al.*, 2011; Roberts and Dowling, 2002; Walker, 2010), and this outcome can be influenced in important ways by firm-level entrepreneurship. Both EO and strategic renewal can help firms differentiate themselves from their competitors (Covin and Slevin, 1989; Zahra, 1993), which should enhance their reputation. According to Fombrun (1996: 393), "[t]he more a company pursues a strategy that differentiates it from

rivals with each of its major constituent groups, the more likely are constituents to ascribe a strong reputation to the company.” The extent to which the firm takes unique or novel actions also may attract more attention from external stakeholders, which should reinforce positive evaluations and enhance its reputation (Rindova *et al.*, 2007). Because firms rely on strong market signals to build good reputations (Fombrun and Shanley, 1990; Lange *et al.*, 2011; Rindova *et al.*, 2007), firms with high EO likely rely on particular activities, such as strategic renewal, to leverage and substantiate their entrepreneurial nature. That is, even though firms with a strong EO may build favorable reputations, doing so requires specific entrepreneurial activities, processes, and procedures that take place at the operational level (Lumpkin and Dess, 1996). Therefore:

Hypothesis 3. A firm’s strategic renewal mediates the relationship between EO and firm reputation.

Methodology

Sampling and data collection

Data were collected from companies operating in China, a country whose political, economic, and societal transitions have continued since the late 1970s and whose government still interferes with economic activities. China has achieved remarkable economic growth, driven largely by entrepreneurship. As various Global Entrepreneurship Monitor reports (2009–2018) show, China’s rate of entrepreneurship in established businesses even exceeds that of the United States.²

A stratified sampling procedure was used to accommodate China’s geographic fragmentation. Specifically, the 31 Chinese provinces were segmented into three regions, on the basis of their 2009 rankings by GDP. In each region, 500 firms were randomly selected from lists of names provided by local governments and administrative bureaus. Professional interviewers were then tasked to call these firms and reach senior managers. Of the 1,500

² These reports can be found at www.gemconsortium.org.

firms in the sampling frame, 490 agreed to participate after learning about the study's research purpose and confidentiality policy. Trained interviewers were sent to these firms with structured questionnaires to conduct on-site interviews, because "sending out blind questionnaires is hazardous: interviews are preferred" when studying corporate entrepreneurship (Miller, 2011: 887). After the senior managers completed the survey (Questionnaire A), they were asked to select another manager in their firm, in charge of entrepreneurial activities, to fill out the same survey (Questionnaire B). The average scores of the two surveys were used to measure the study's constructs; enlisting "two respondents per firm when obtaining subjective performance assessments" is highly recommended for studies on firm-level entrepreneurship (Bierwerth *et al.*, 2015: 270).

The structured interviews took about an hour on average. After eliminating responses with too much missing data and firms that had been in business for less than five years (i.e., not established firms), 230 pairs of responses were obtained (two respondents from each firm), for a valid response rate of 15.3% (230/1,500). Among the respondents, 21.1% were CEOs/chairs of the board of directors, 47.6% were senior managers, 22.0% were middle-level managers, and the rest (8.7%) were managers from other organizational levels. Their average work experience was 10 years, and their average position tenure was 6.5 years, indicating that the participants should be knowledgeable about the focal issues.

Several methods were employed to enhance data quality. First, by applying a translation/back-translation procedure (Brislin, 1970), the validity of the Chinese version of the questionnaires was ensured. Second, face-to-face interviews were conducted, which helped avoid confusion and assess the suitability of the respondents. Third, the wording of the measures was refined, when needed, through in-depth interviews with 20 managers from 10 firms, to ensure their relevance and clarity in the Chinese context, before finalizing the surveys. Fourth, to reduce social desirability bias, the respondents were informed that there

were no right or wrong answers and that all their answers would be kept confidential.

The participating firms had the following age distribution: 5–10 years (12.6%), 10–20 years (46.5%), 20–30 years (14.8%), and more than 30 years (26.1%). The number of employees in the firms ranged from less than 100 (11.7%) to 100–500 (37.8%), 500–1,000 (11.3%), 1,000–2,000 (15.7%), 2,000–5,000 (11.3%), and to more than 5,000 (12.2%). The firms represented a variety of industries, including manufacturing (4.8%), automotive (6.5%), aerospace (3.0%), chemical and engineering (60.0%), electronics (11.3%), energy (0.4%), drug (0.9%), information technology (3.0%), food (8.3%), clothes (0.9%), and others (0.9%).

For confidentiality and privacy reasons, the local governments did not provide any firm information other than contact phone numbers. The representativeness of the participating firms was therefore assessed in relation to the whole population of firms in China by comparing firm sizes between the study's sample and the data available from the *2011 China Statistical Yearbook* (National Bureau of Statistics of China, 2011), because the data were collected in 2010 (Armstrong and Overton, 1977). These comparisons also showed that the sample had similar proportions of firms in different industries relative to those in the *Yearbook* across the automotive (6.5% versus 4.6%), electronics (11.3% versus 9.4%), and food (8.3% versus 9.1%) industries, but firms were over-sampled from chemical and engineering industries (60.0% versus 12.7%) and under-sampled from the machine manufacturing (4.8% versus 19.3%), energy (0.4% versus 11.3%), and clothing (0.9% versus 13.4%) industries. The under-sampling of firms from the machine manufacturing and energy industries likely is due to the strategic importance of these industries, which might make them more protective and likely to decline to participate in research. The under-sampling of firms in the clothing industry might have occurred because firms in that industry are relatively less entrepreneurial in general, so they might have declined on-site interviews after the research team informed them of the research objectives.

The average number of firm employees by industry, calculated from the *2011 China Statistical Yearbook*, was 269, whereas the average number of firm employees in the sample was 7,397, so the sampled firms are substantially larger than the general population. This difference reflects this study's research objective, to examine firm-level entrepreneurship in *established* firms. Considering the difficulties of collecting survey data in transition economies (Hoskisson *et al.*, 2000), the sampled firms offer a good representation of important aspects of the population of firms in China.

[Insert Table 1 about here]

Measures

The measurement scales are detailed in the Appendix; they use Likert-type response categories, ranging from 1 ("strongly disagree") to 7 ("strongly agree").

Firm financial performance. A three-item scale was used to assess firm financial performance (Dess *et al.*, 1997). Three items capture respondents' perceptions of their firms' current profitability, return on investment, and return on assets.

Firm reputation. This construct uses a four-item scale adapted from Fombrun *et al.* (2000). Although firm reputation is often measured by media rankings, such as *Fortune's* Most Admired Companies or *Financial Times's* World's Most Respected Companies, most of the firms in the study's sample are not large enough to appear on the *Fortune* 1000 list, and media rankings rely heavily on firm financial performance (Chun, 2005). Furthermore, measurement scales based on brand equity or corporate image relate closely to firm marketing strategies, such as product quality, advertising effectiveness, and store image (Caruana and Chircop, 2000; Zeithaml, 2000). Fombrun *et al.*'s (2000) scale also is largely consistent with media ranking scales (Chun, 2005).

Entrepreneurial orientation. The EO measure used Covin and Slevin's (1988, 1989) well-accepted scale, which offers stable validity and reliability across different cultures

(Rauch *et al.*, 2009). The study relied in particular on the EO measure provided by Tang *et al.* (2008), which offers good reliability and validity in China specifically.

Strategic renewal. This study used three items from Zahra (1996) to measure strategic renewal. As Zahra (1991: 272, italics in original) establishes, the CE activities scale, including the strategic renewal dimension, is distinct “from the Miller [EO] index. This latter measure only gauged a firm’s *disposition* toward, rather than actual engagement in, corporate entrepreneurship activities.”

Government institutional support. A four-item scale was adopted from Li and Atuahene-Gima (2001) to measure government institutional support. In China, both the central and local governments can initiate incentive and redistribution programs, policies, and plans. Consistent with previous studies (Li and Atuahene-Gima, 2001; Sheng *et al.*, 2011; Shu *et al.*, 2015), the scale assessed managerial perceptions about the support their firm received from central and local governments in the previous three years.

Control variables. Previous studies suggest that EO, strategic renewal, and firm performance may be influenced by several other factors, which were included as control variables (Bernerth and Aguinis, 2016; Bierwerth *et al.*, 2015; Rauch *et al.*, 2009; Wales *et al.*, 2011). Both EO and strategic renewal might vary with firm age and size (Rauch *et al.*, 2009; Wales *et al.*, 2011), so this study controlled for *firm age* (logarithm of a firm’s years in operation) and *firm size* (logarithm of its number of employees). *Firm ownership* might influence a firm’s operations and strategies in China (Tan and Tan, 2005), so a dummy variable was included to represent state-owned enterprises (SOE = 1) and non-SOEs (= 0). In addition, a firm’s past performance might affect its EO, strategic renewal, and current performance (Zahra, 1991). The study controlled for firm sales (measured in 10,000 RMB) in 2007, because the survey-based measures of firm financial performance and firm reputation rely on managers’ perceptions of the 2008–2010 period. The *firm 2007 sales* variable was

transformed by its logarithm to ensure normality. Firm-level entrepreneurship varies across industries (Lomberg *et al.*, 2016), so the study also controlled for industry types with two dummy variables: *high-technology industry* (1 = yes) and *manufacturing industry* (1 = yes).

The answers of the two responding managers from each firm were averaged for the studied variables, to capture these more comprehensive assessments. The correlations for all studied variables across Questionnaires A and B are significant ($p < .001$), and the interrater agreement is high (James *et al.*, 1993) (i.e., $r_{WG(J)} = .90$ for government institutional support, $r_{WG(J)} = .96$ for EO; $r_{WG(J)} = .86$ for strategic renewal, $r_{WG(J)} = .92$ for financial performance, and $r_{WG(J)} = .91$ for firm reputation). Thus, the pairs of respondents from each firm strongly agreed in their assessments (LeBreton and Senter, 2008).

Data analyses

Confirmatory factor analysis. A confirmatory factor analysis (CFA) was applied to assess the validity and reliability of the five focal constructs. Following Shook *et al.*'s (2004) recommendation, the models were evaluated with three fit indices: DELTA2, the comparative fit index (CFI), and root mean square error of approximation (RMSEA). The CFA of the five-factor model fit the data well ($\chi^2(200)^3 = 391.62, p < .001, DELTA2 = .95, CFI = .95, RMSEA = .07$). All items significantly loaded on the constructs they were designed to measure. As the Appendix shows, the Cronbach's alphas for all constructs were greater than the suggested cut-off value of .70 (Nunnally, 1978), and internal consistency, as reflected by the composite reliabilities, was greater than .85 for all constructs (Fornell and Larcker, 1981). To check for convergent validity, the average variances extracted (AVE) were assessed (Fornell and Larcker, 1981). As the results in Table 1 show, all the values of the square roots of the AVEs were greater than .70. Finally, the results in Table 1 support the presence of discriminant validity, because the square roots of the AVEs were greater than the

³ The number in the parentheses is the degrees of freedom.

corresponding correlations. A series of pairwise chi-square difference tests offers further support for the presence of discriminant validity.⁴

Common method bias. Several statistical methods were applied to mitigate and assess the potential influence of common method bias (CMB; Podsakoff *et al.*, 2003). First, as described in the data collection section, data were collected from two informants in each firm. Obtaining information from multiple informants reduces CMB considerably. Second, a marker variable used to assess CMB was conceptually unrelated to the study's focal constructs (Lindell and Whitney, 2001): *political influence*, or the degree to which firms can affect political activities (Luo and Junkunc, 2008). This construct was measured with four items: "In the past three years, our company has attempted to (1) regularly participate in political and regulatory activities to influence the government, (2) use lobbying and other activities to influence the government in terms of upgrading rules and regulations, (3) regularly participate in legislation activities to influence the passage of laws and regulations, and (4) regularly participate in industrial ministries or departments to influence the legislation process of rules and regulations." The zero-order correlations among the study's constructs were recalculated after controlling for political influence. The results showed that none of the significant correlations became insignificant after the adjustment, so CMB was unlikely to be a serious concern.

Results

⁴ With five reflective scales, it was possible to conduct 10 pairs of chi-square difference tests, with the following results: (1) $\Delta\chi^2(1) = 20.55$ ($p < .001$) between EO and strategic renewal; (2) $\Delta\chi^2(1) = 33.45$ ($p < .01$) between EO and government institutional support; (3) $\Delta\chi^2(1) = 23.19$ ($p < .001$) between strategic renewal and government institutional support; (4) $\Delta\chi^2(1) = 99.23$ ($p < .001$) between firm financial performance and firm reputation; (5) $\Delta\chi^2(1) = 110.60$ ($p < .001$) between EO and firm financial performance; (6) $\Delta\chi^2(1) = 38.49$ ($p < .001$) between EO and firm reputation; (7) $\Delta\chi^2(1) = 78.32$ ($p < .001$) between strategic renewal and firm financial performance; (8) $\Delta\chi^2(1) = 29.59$ ($p < .001$) between strategic renewal and firm reputation; (9) $\Delta\chi^2(1) = 86.99$ ($p < .001$) between government institutional support and firm financial performance; and (10) $\Delta\chi^2(1) = 39.68$ ($p < .001$) between government institutional support and firm reputation.

Hypotheses tests

To test the hypotheses about the mediating roles of EO and strategic renewal, a comparison of different structural equation models was undertaken, combined with a bias-corrected bootstrap method to assess the significance of the corresponding direct and indirect relationships (Aguinis *et al.*, 2017; MacKinnon *et al.*, 2004). As suggested by Aguinis *et al.* (2017) and Mathieu and Taylor (2006), this study compared three types of structural models: full mediation, partial mediation, and non-mediated models.

Regarding the government institutional support–EO–strategic renewal link in Hypothesis 1, the *full mediation model* indicates that government institutional support has a relationship with strategic renewal solely through EO. The *partial mediation model* includes one additional direct path, from government institutional support to strategic renewal; the other relationships remain unchanged relative to the full mediation model. The *non-mediated model* contains only one direct link between government institutional support and strategic renewal, excluding all other relationships that appear in the full mediation model. The model fits are as follows: full mediation $\chi^2(181) = 457.48$, partial mediation $\chi^2(180) = 455.37$, and non-mediated $\chi^2(182) = 627.62$. According to the chi-square difference tests, the full and partial mediation models fit the data better than the non-mediated one ($\Delta\chi^2(1) = 170.14$, $p < .001$; $\Delta\chi^2(2) = 172.25$, $p < .001$, respectively), whereas no difference in fit was found between the full and partial mediation models ($\Delta\chi^2(1) = 2.11$, *ns*). The bias-corrected bootstrap analysis for the partial mediation model reveals that government institutional support has a significant indirect relationship with strategic renewal ($b = .33$), and the 95% confidence interval does not contain 0 [.22, .53], whereas the direct relationship is not significant ($b = .10$, [-.01, .29]). That is, when the mediating role of EO is included, government institutional support no longer has a significant direct relationship with strategic

renewal, indicating full mediation by EO in the link between government institutional support and strategic renewal. These findings support Hypothesis 1.

Similarly, for the EO–strategic renewal–firm financial performance link, the fits for the full, partial, and non-mediated models were $\chi^2(164) = 422.18$, $\chi^2(163) = 421.17$, and $\chi^2(165) = 583.26$, respectively. The chi-square difference tests identify the full and partial mediation models as superior to the non-mediated model ($\Delta\chi^2(1) = 161.08$, $p < .001$; $\Delta\chi^2(2) = 162.09$, $p < .001$, respectively), with no significant difference between them ($\Delta\chi^2(1) = 1.01$, *ns*). In the partial mediation model, the direct relationship of EO with firm financial performance is not significant ($b = -.09$, $[-.36, .04]$), but the indirect relationship is ($b = .14$, $[.07, .50]$). Therefore, strategic renewal fully mediates the relationship between EO and firm financial performance, in support of Hypothesis 2.

For the EO–strategic renewal–firm reputation link, the full, partial, and non-mediated models produce fit values of $\chi^2(184) = 481.88$, $\chi^2(183) = 469.80$, and $\chi^2(185) = 638.30$, respectively. The former two models again achieve better fit than the non-mediated model ($\Delta\chi^2(1) = 156.42$, $p < .001$; $\Delta\chi^2(2) = 168.50$, $p < .001$, respectively), but in this case, the chi-square difference test also indicates a better fit of the partial mediation model compared with the full mediation model ($\Delta\chi^2(1) = 12.08$, $p < .001$). The bootstrap analysis reveals that both the direct ($b = .39$, $[.08, .81]$) and indirect ($b = .23$, $[.01, .57]$) relationships of EO with firm reputation through strategic renewal are significant. Thus, strategic renewal partially mediates the relationship between EO and firm reputation, consistent with Hypothesis 3.

Table 2 summarizes the results for a structural equation model that reflects the conceptual framework in Figure 1, with the addition of a direct path between EO and firm reputation, in light of the partial mediation of strategic renewal in the link between EO and firm reputation. The statistical fit of this model is good ($\chi^2(334) = 728.58$, $p < .001$, DELTA2 = .90, CFI = .90, RMSEA = .07). According to these results, government institutional support

relates positively to EO ($b = .54, p < .001$), EO relates positively to strategic renewal ($b = .84, p < .001$), strategic renewal relates positively to both firm financial performance ($b = .20, p < .05$) and firm reputation ($b = .15, p < .05$), and EO also relates positively to firm reputation directly ($b = .54, p < .0001$). These findings provide support for the theorized chain of relationships, from government institutional support to EO, to strategic renewal, and finally to firm financial performance and firm reputation.

[Insert Table 2 about here]

Post hoc analyses

Several post hoc analyses were conducted to assess whether (1) government institutional support has differential relationships with EO and strategic renewal, (2) EO has differential relationships with financial performance and firm reputation, (3) strategic renewal has differential relationships with financial performance and firm reputation, (4) EO and strategic renewal have differential relationships with firm financial performance, and (5) EO and strategic renewal have differential relationships with firm reputation. To conduct these post hoc analyses, the fit of unconstrained and constrained structural models was compared using chi-square difference tests (Savalei and Kolenikov, 2008). In the unconstrained models, all parameters are free to vary, but in the constrained model, the regression coefficients of the compared relationships are restricted to be the same.

First, government institutional support reveals positive relationships with both EO ($b = .42, p < .001$) and strategic renewal ($b = .52, p < .001$). The unconstrained and constrained models achieve model fit values of $\chi^2(181) = 554.61$ and $\chi^2(182) = 556.03$, respectively. According to the chi-square difference test, the two models do not differ significantly from each other ($\Delta\chi^2(1) = 1.42, ns$), so government institutional support appears to have similar, positive relationships with both EO and strategic renewal.

Second, in the test of the link of EO with financial performance and firm reputation, in the unconstrained model, EO shows a marginally positive relationship with firm financial performance ($b = .15, p < .10$) and a significantly positive relationship with firm reputation ($b = .77, p < .001$). The unconstrained and constrained models generate fits of $\chi^2(184) = 462.95$ and $\chi^2(185) = 493.78$, respectively. Based on the chi-square difference test ($\Delta\chi^2(1) = 30.83, p < .001$), the positive relationship of EO with firm reputation is significantly greater than that with firm financial performance.

Third, strategic renewal has significant, positive relationships with firm financial performance ($b = .20, p < .01$) and firm reputation ($b = .55, p < .001$). The fit values for the unconstrained and constrained models are $\chi^2(96) = 329.08$ and $\chi^2(97) = 345.35$, respectively. The chi-square difference test reveals that, similar to the case of EO, the relationship of strategic renewal with firm reputation is significantly greater than that with financial performance ($\Delta\chi^2(1) = 16.27, p < .001$).

Fourth, considering the relationships of EO and strategic renewal with firm financial performance, in the unconstrained model ($\chi^2(170) = 596.30$), strategic renewal has a significantly positive relationship with firm financial performance ($b = .24, p < .001$), but this link is weaker for EO ($b = -.08, p < .10$). The constrained model achieves a model fit of $\chi^2(171) = 599.12$. The chi-square difference test is weakly significant ($\Delta\chi^2(1) = 2.82, p < .10$), indicating that strategic renewal has a marginally stronger relationship with financial performance than does EO.

Fifth, with respect to the relationships of EO and strategic renewal with firm reputation, in the unconstrained model, both EO and strategic renewal have significant, positive relationships with firm reputation ($b = .53, p < .001, b = .27, p < .01$, respectively), and the model fit is $\chi^2(190) = 645.27$. When equivalence constraints were imposed, the model produces poorer fit ($\chi^2(191) = 648.14$), and the chi-square difference test is weakly significant

($\Delta\chi^2(1) = 2.87, p < .10$). That is, EO appears to have a marginally stronger positive relationship with firm reputation than does strategic renewal.

Discussion

This study investigated the distinct roles of a firm's EO and strategic renewal, by testing a firm-level model of how they transform the benefits of government institutional support into enhanced firm financial performance and reputation. The results indicate that EO fully mediates the relationship between government institutional support and strategic renewal (Hypothesis 1), strategic renewal fully mediates the relationship between EO and firm financial performance (Hypothesis 2), and it also partially mediates the relationship between EO and firm reputation (Hypothesis 3). These results offer several contributions to entrepreneurship literature.

Studies of EO and CE activities are prominent in firm-level entrepreneurship literature, but previous research often treats these two manifestations of entrepreneurship as interchangeable. Firms need specific activities, processes, and procedures to manifest their entrepreneurial *orientation*, but having an entrepreneurial strategic posture is different from *behaving* entrepreneurially at the operational level. As such, firm-level "entrepreneurship and EO differ in nature greatly" (Miller, 2011: 878; Lumpkin and Dess, 1996). To the extent that entrepreneurship scholars fail to distinguish EO from specific CE activities, such as strategic renewal, or even regard them as the same concepts, the field will continue to struggle with conceptual confusion around these two different phenomena (Covin and Lumpkin, 2011; Covin and Wales, 2012; Miller, 2011).

In particular, the results in the post hoc analyses show that even though government institutional support relates to EO and strategic renewal in similar ways, EO and strategic renewal have different influences on subsequent links. That is, EO fully mediates the relationship between government institutional support and strategic renewal: To enhance a

firm's entrepreneurial activities at the operational level, government institutional support first must shape the firm's strategic posture. Government institutional support is low-cost, exclusive, and directed toward certain strategic industries (Li and Atuahene-Gima, 2001; Sheng *et al.*, 2011; Shu *et al.*, 2015), so firms that receive such support likely adopt a strategic orientation that is innovative, proactive, and risk taking. A firm's EO then stimulates its operational-level entrepreneurial activities, including its strategic renewal. The distinct roles of EO and strategic renewal also are manifest in their links to different types of firm performance. On the one hand, strategic renewal, as opposed to EO, has a stronger positive relationship with firm financial performance, but the relationship of EO with firm reputation is stronger than that of strategic renewal with this outcome measure.

Overall, this study contributes to extant research by distinguishing between two related but different aspects of firm-level entrepreneurship, EO and strategic renewal (Hosseini *et al.*, 2018; Klammer *et al.*, 2016), and explicating how they help transmit the benefits of government institutional support to spur firm performance. In support of the proposed conceptual model, the benefits of government institutional support appear to be transmitted *through* EO and strategic renewal to generate positive performance outcomes. That is, EO fully mediates the link between government institutional support and strategic renewal, but strategic renewal also fully mediates the relationship between EO and financial performance, and it partially mediates the relationship between EO and firm reputation. To generate positive performance outcomes, government institutional support needs to spur an entrepreneurial orientation and subsequent strategic renewal activities. In terms of the explanation of firm financial performance, government institutional support operates solely through enhanced EO and strategic renewal. For firm reputation, this study identifies two possible mechanisms: (1) an indirect path through both EO and strategic renewal and (2) a partial indirect path through EO, which also relates positively and directly to firm reputation.

In so doing, this study provides a critical contribution by investigating a long-proposed but rarely examined outcome of firm-level entrepreneurship—the firm’s reputation. Several studies call for extended investigations of the nonfinancial performance outcomes of firm-level entrepreneurship, yet they remain rare (e.g., Gupta and Wales, 2017; Lumpkin and Dess, 1996; Wales *et al.*, 2011; Zur, 2013). This study considers how EO and strategic renewal might inform this underexplored outcome, both directly and indirectly, and thereby underscores the need to study *both* financial and nonfinancial performance outcomes of firm-level entrepreneurship (Bierwerth *et al.*, 2015; Dess and Lumpkin, 1995; Gupta and Wales, 2017; Rauch *et al.*, 2009; Wales *et al.*, 2011). A somewhat unexpected finding is that both EO and strategic renewal exhibit stronger positive relationships with firm reputation than with firm financial performance. This finding is interesting in light of the typical focus on the financial benefits of firm-level entrepreneurship; it also is consistent with Bierwerth *et al.*’s (2015) argument that strategic renewal is more pertinent to nonfinancial than to financial performance. Moreover, this finding aligns with the general argument that intangible issues such as corporate image or reputation can be instrumental outcomes of firms’ strategic choices to act entrepreneurially, over and beyond the short-term financial benefits (Wales *et al.*, 2011; Zur, 2013).

Limitations and future research

This study has some limitations that suggest avenues for future investigations. First, this study is cross-sectional. It was planned and executed with great care, including methods to control for potential CMB, but the cross-sectional research design, in which the respondents reflect on the situation of their company and its environment in the past three years, inherently limits the ability to make strong claims about causality in the proposed government institutional support–EO–strategic renewal–firm performance chain. Further research could apply longitudinal designs to test explicitly for the time-based effects implied

by this study's hypotheses. Second, the study relied on a subjective measure of firm financial performance, which might introduce biases due to social desirability, memory decay, or common method variance. Rauch *et al.* (2009) show that subjective and objective measures have similar validity though, so the study's findings should not be biased by this measure. Nonetheless, studies that assess the relationships of EO and strategic renewal with *objective*, archival firm performance data could be a useful complement. Third, due to its importance to transition economies and its critical role in the implementation of a firm's strategic entrepreneurial posture (Bierwerth *et al.*, 2015; Li and Atuahene-Gima, 2001; Zahra, 1996), this study's focus was on strategic renewal to exemplify CE activities; further research could consider other manifestations of CE too. Fourth, the well-established but somewhat generic scale to measure government institutional support has been used in previous studies on the role of government in spurring entrepreneurship in transition economies (Li and Atuahene-Gima, 2001; Shu *et al.*, 2015), but future research could disentangle which specific types of government support might be perceived as most beneficial to overcome the challenges of certain institutional restrictions or voids (Ahlstrom and Ding, 2014).

Practical implications

This article provides important implications for managerial practice. First, the popular press regularly calls on companies to be more entrepreneurial, so a critical question for managers is whether to adopt an entrepreneurial posture and develop specific activities that implement this posture. This study offers a fine-grained model to help them find an answer. In particular, it shows that entrepreneurship phenomena at the firm level have two distinct elements: EO and strategic renewal (or CE activities). Strategic renewal can enhance firm performance outcomes directly; EO likely enhances firm performance through the renewal activities. Therefore, taking on a strategic posture that emphasizes entrepreneurship and acting entrepreneurially at the operational level are not interchangeable phenomena; to

enhance firm performance, managers must translate the proclivity, decision-making styles, and philosophy associated with a strategic entrepreneurial posture into specific activities, such as strategic renewal.

Second, the performance outcomes of EO and strategic renewal may depend on the specific performance measure, whether financial or nonfinancial. Although managers are usually evaluated in financial terms—prompting them to place greater emphasis on the financial gains of their firms—nonfinancial measures, such as the firm’s reputation among key stakeholders, also should be taken into account (Gibson *et al.*, 2006; Lange *et al.*, 2011). In doing so, this study shows that both EO and strategic renewal exhibit stronger positive relationships with firm reputation than with financial performance. Because nonfinancial performance can help firms gain financial benefits, managers should balance their emphasis on financial and nonfinancial performance outcomes.

Third, this research provides implications for government officials and policymakers in transition economies. Governments across the globe seek to leverage their institutional support to incentivize, direct, and regulate business operations. This study reveals some specific mechanisms that governments can use to enhance the performance of firms within their borders. If the ultimate goal is to enhance firm financial performance and reputation, government institutional support must first be transformed into an entrepreneurial orientation that operates at the strategic level, and then firms must be able to rely on specific renewal activities that take place at the operational level, to realize the benefits of that support. To spur firm performance, central and local governments in transition economies would be well advised to design supportive policies, programs, and plans to include measures that spur entrepreneurship specifically.

Conclusion

This study extends previous understanding of how firm-level entrepreneurship relates to

firm performance by distinguishing two underlying aspects (an entrepreneurial posture and specific renewal activities), as well as by revealing the roles of these two aspects in channeling an external factor, government institutional support, to two performance measures: firm financial performance and firm reputation. In so doing, this research contributes to EO literature by identifying and incorporating an understudied institutional factor, which informs the manifestation and outcomes of EO. It is hoped then that this study's findings can be used as a platform for further investigations of how firms can leverage their strategic entrepreneurial posture into positive performance outcomes.

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Figure 1: Conceptual framework

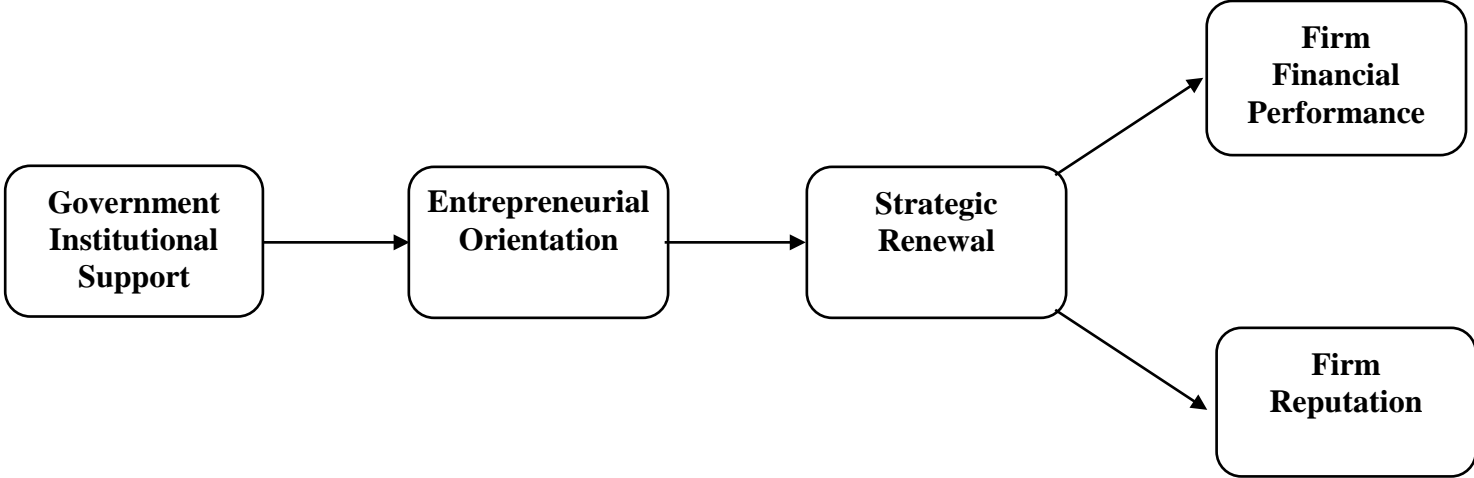


Table 1: Descriptive statistics (n = 230)

	1	2	3	4	5	6	7	8	9	10	11
1. Government institutional support	.821										
2. Entrepreneurial orientation	.456**	.714									
3. Strategic renewal	.444**	.411**	.813								
4. Firm financial performance	.093	.078	.174**	.831							
5. Firm reputation	.379**	.604**	.577**	.154*	.861						
6. Firm age	-.042	-.101	-.070	-.043	-.032	--					
7. Firm size	.032	-.042	.062	.005	.118	.564**	--				
8. Firm ownership	.032	-.100	-.157*	-.088	-.054	.288**	.129	--			
9. Firm 2007 sales	.074	.069	.083	-.018	.230**	.268**	.493**	.095	--		
10. High-tech industry	.036	.239**	.175**	.013	.272**	.119	.134*	-.145*	.113	--	
11. Manufacturing industry	-.076	-.111	-.110	-.052	.058	.038	.152*	.024	.021	.155*	--
Mean	4.645	4.869	4.641	4.872	5.436	1.232	2.811	.376	4.462	.454	.957
Standard Deviation	1.004	.792	1.019	.813	.951	.219	.811	.342	1.122	.358	.141

* $p < .05$, ** $p < .01$.

Notes: Diagonal elements (in bold) are square roots of the average variance extracted.

Table 2: Structural equation model results

	Entrepreneurial orientation	Strategic renewal	Firm financial performance	Firm reputation
Government institutional support	.538*** (.057)			
Entrepreneurial orientation		.843*** (.130)		.539*** (.179)
Strategic renewal			.199* (.066)	.153* (.073)
<i>Controls</i>				
Firm age	-.080 (.190)	-.045 (.197)	-.020 (.237)	-.061 (.192)
Firm size	-.057 (.069)	.158** (.072)	.023 (.086)	.075 (.076)
Firm ownership (1 = state owned)	-.052 (.121)	-.102* (.127)	-.060 (.153)	.039 (.127)
Firm 2007 sales	.066 (.037)	-.025 (.038)	-.033 (.046)	.150** (.038)
High-tech industry (1 = yes, 0 = otherwise)	.258*** (.123)	-.028 (.126)	-.012 (.147)	.090+ (.122)
Manufacturing industry (1 = yes, 0 = otherwise)	-.081 (.295)	-.040 (.306)	-.039 (.367)	.110* (.298)
Model fit	$\chi^2(334) = 728.58, p < .001, \text{DELTA2} = .90, \text{CFI} = .90, \text{RMSEA} = .07.$			

*** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$ (two-tailed)

Notes: This table reports standardized path coefficients (with standard errors in parentheses).

Appendix
Measurement items

According to the situations in your company in the past three years, to what extent do you agree with the following statements? (1 = strongly disagree; 7 = strongly agree)	SFL
<i>Firm financial performance</i> [Adopted from Dess <i>et al.</i> (1997); CR = .870, Cronbach's alpha = .868]	
Profits have increased greatly.	.794
Return on investment has increased greatly.	.889
Return on assets has increased greatly.	.806
<i>Firm reputation</i> [Adapted from Fombrun <i>et al.</i> (2000); CR = .919, Cronbach's alpha = .916]	
Overall, our company has a very good reputation.	.864
All our stakeholders evaluate us highly.	.926
We are usually the exemplar in our industry.	.846
We are always committed to develop and maintain a good reputation.	.803
Government institutional support [Adopted from Li and Atuahene-Gima (2001); CR = .891, Cronbach's alpha = .887]	
The central and local governments have provided us with necessary technology information and support.	.801
The central and local governments have provided us with support to seek for financial resources.	.854
The central and local governments have provided us with beneficial policies and projects.	.892
The central and local governments have provided us with direct financial support such as tax reduction and subsidy.	.727
<i>Entrepreneurial orientation</i> [Adopted from Tang <i>et al.</i> (2008); CR = .894, Cronbach's alpha = .891]	
In general, the top managers of our organization favor a strong emphasis on Research & Development, technological leadership, and innovations.	.643
In the past three years, our organization has marketed a large variety of new lines of products or services.	.626
In the past three years, changes in our products or service lines have been mostly of a radical nature.	.637
In general, the top managers of my organization have a strong propensity for high-risk projects (with chances of very high return).	.541
The top managers believe, owing to the nature of the environment, that bold, wide-ranging acts are necessary to achieve our organization objectives.	.804
When there is uncertainty, our organization typically adopts a risk-taking posture in making strategic decisions.	.755
Management actively responds to the adoption of "new ways of doing things" by main competitors.	.757
We are willing to try new ways of doing things and seek unusual, novel solutions.	.773
We encourage people to think and behave in original and novel ways.	.704
<i>Strategic renewal</i> [Adopted from Zahra (1996); CR = .854, Cronbach's alpha = .852]	
We have reorganized operations to ensure increased coordination and communication among business units.	.756
We have initiated several programs to improve the productivity of business units.	.842
We have changed our competitive approach for each business unit.	.838
Note: SFL = standardized factor loading, CR = composite reliability.	