

Linking managerial capital with explorative strategy and growth in China

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Abstract

Purpose – This study aims to consider the effect of managerial capital (psychological, intellectual and social) on business strategy and growth. Per upper echelon theory, managerial capital enables high-level managers to drive firm performance in uniquely personal ways. The authors test the effects of managerial capital on a manager's dominant regulatory focus (promotion and prevention balance) and whether having an explorative strategy mediates the relationship between dominant regulatory focus and the percentage of business unit growth expected from new lines of business.

Design/methodology/approach – Survey data from a sample of 211 Chinese executives were used to assess measurement and test hypotheses by means of structural equation modeling.

Findings – Results indicate that the direction of business strategy is influenced by the balance between promotion and prevention focus, which is shaped by managers' risk propensity, product-market familiarity and bonding tie diversity. Explorative strategy, in turn, mediates the relationship between dominant regulatory focus and expectations of innovative growth.

Originality/value – Examining the effects of managerial capital on innovative firm strategy reveals the role of psychosocial traits of decision-makers.

Keywords China, Strategic management, Regulatory focus, Corporate entrepreneurship, Managerial capital, Explorative strategy, Radical growth

Paper type Research paper

Introduction

Regulatory focus theory describes the process that aligns individuals' goals and behaviors based on two independent self-regulatory systems: promotion focus and prevention focus (Higgins, 1997). Individuals may have a disposition toward one focus or the other (Higgins *et al.*, 1994) but may also favor one or the other focus due to intellectual, social and environmental factors (Crowe and Higgins, 1997).

Though previous researchers have allowed that contextual factors may play a role in regulatory focus-like variables such as ambidexterity (Mom *et al.*, 2015), the field has largely considered them established personality variables (Gorman *et al.*, 2012). Rather than treating regulatory focus solely as an endogenous personality variable (Tuncdogan *et al.*, 2015), we examine three factors together (psychological, intellectual and social, respectively) as

components of managerial capital—traits, knowledge and abilities that influential individuals within an organization use to create firm value. These three potential antecedents of executives' dominant regulatory focus are risk propensity, product-market familiarity and bonding tie diversity.

We propose that these three types of managerial capital may influence managers' dominant regulatory focus. With firm success dependent on managers regulating opportunities available to the firm (Penrose, 1959), individual dispositions may have a significant influence on the direction and outcome of business strategy (Chatman and Cha, 2003; Frambach and Schillewaert, 2002; Helfat and Peteraf, 2015; Nadkarni and Herrmann, 2010; Payne and Katrinli, 2020). This includes the degree to which the firm favors explorative strategies (those focused on innovation and growth from new business) over exploitative strategies (those that focus on capturing value from existing business).

While prior research has examined the independent effects of promotion and prevention foci on managers' behavior and subsequent impact on firm strategy, this study examines their effect as a mediator of the relationship between managerial capital and explorative strategies. Based on a sample of senior-level Chinese executives, relationships among managerial capital, dominant regulatory focus, explorative strategy and radical growth investments are examined, revealing new insights on the linkage between managerial traits and firm performance. Our findings suggest that there is justification for treating regulatory focus as more than just a dispositional variable. Rather, it should be seen as influenced both by personality-like traits and by other intellectual and social factors, pointing toward a more expansive view of regulatory focus theory.

The main implication of our findings is to open for consideration other variables that are more under the influence of the organization and the individual. For example, product-market knowledge can be acquired, and internal social ties established volitionally. This implies that regulatory focus is more malleable than previously thought and that firms may find it beneficial to create a context wherein individual managers can develop a stronger exploratory focus.

Literature review

A promotion focus draws the individual toward aspirations, hopes and the attainment of positive outcomes while a prevention focus directs the individual to avoid negative outcomes by averting mistakes (Crowe and Higgins, 1997). In business, regulatory focus is characterized by using strategies that seek either to embrace opportunity (i.e. missing the boat) or avoid failure (i.e. sinking the boat) (Dickson and Giglierano, 1986). A prevention or promotion focus on the part of top managers may incline firm strategy toward either exploitative or explorative behaviors, respectively (Johnson *et al.*, 2015).

Regulatory focus has been found to influence multiple business phenomena (Brockner *et al.*, 2004). Prior investigations have linked individuals with a promotion focus to creativity and a willingness to experiment with novel ideas (Ahmadi *et al.*, 2017; Crowe and Higgins, 1997; Friedman and Förster, 2001; Lanaj *et al.*, 2012; Tumasjan and Braun, 2012; Wu *et al.*, 2008) and risky internationalization decisions (Boustanifar *et al.*, 2021). However, little research has been done on antecedents of regulatory focus.

The influence of managerial traits on business strategy and outcomes has been established for some time (Hambrick and Mason, 1984). Negative affective traits have been linked to strategic conformity and positive affective traits to outcomes that deviate from the central tendencies of the industry (Delgado-Garcia and De La Fuente-Sabate, 2010). Likewise, higher core self-evaluations of chief executive officers (CEOs) have a positive influence on their firms' entrepreneurial orientation (Simsek *et al.*, 2010). Prevention focus on

the part of CEOs can reduce research and development expenditures (Scoresby *et al.*, 2021). Risk propensity on the part of CEOs can influence firms' tendencies toward risky internationalization (Boustanifar *et al.*, 2021).

While studies have linked managerial traits to business outcomes, the mechanisms by which managerial capital translates into strategic decisions are not clearly understood (Hambrick, 2007). Research thus far has focused mostly on firm-level outcomes such as internationalization and "born global" performance (Kocak and Abimbola, 2009) and the direct effect of regulatory focus on entrepreneurial performance (Hmieleski and Baron, 2008). While recent research has examined upper echelon regulator focus on magnitude of strategic change (Jiang *et al.*, 2019), we are aware of no studies that have looked specifically at how managerial self-regulation mediates the influence of managerial capital on innovation strategies. Figure 1 illustrates the study relationships, which are further examined below.

Conceptual framework and hypotheses

Managerial capital is intangible wealth-generating capability stemming from managers' innate and learned abilities, expertise and knowledge (Castanias and Helfat, 2001). Unlike other types of capital such as money and equipment, managerial capital resides uniquely within the person or persons who possess it. These capabilities may stem from knowledge acquired through reading and studying but may also originate in a managers' experience (Mintzberg, 1973). They have an impact on a firm's business strategy through managers' actions and decisions. We examine three elements of managerial capital – psychological, intellectual and social capital – as antecedents of regulatory focus. Regulatory focus is then modeled as a mediator between managerial capital and two firm-level outcomes: explorative strategy and radical growth investment.

Capital consists of durable assets – either tangible or intangible – which are the result of past production engagement and enable future value production (Dean and Kretschmer, 2007). Managerial capital corresponds to individual traits – either innate or acquired – that contribute to an individual's ability to create value. Psychological capital describes who you are and includes traits like optimism, confidence and flexibility. Intellectual capital describes what you know and includes education, experience and skills. Social capital, or who you know, includes relationships both internal and external to the firm.

Similar forms of capital have been proposed and examined for entrepreneurs finding positive effects of psychological, intellectual and social capital on entrepreneurial discovery (Davidsson and Honig, 2003) and performance (Hmieleski *et al.*, 2015); however, the self-regulatory mechanisms through which this occurs are as yet unspecified. This is a gap in the research thus far. Rather than proposing that managerial capital directly influences opportunity recognition and business success, we describe the mediating influence of dominant regulatory focus on a manager's tendency toward explorative strategies. We

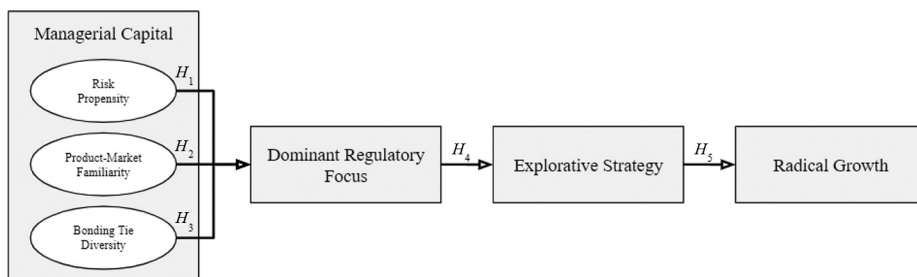


Figure 1.
Conceptual model

argue that a manager's dominate regulatory focus for strategic tasks is influenced by psychological, intellectual and social capital accumulated by individual managers.

Psychological capital

Psychological capital describes psychological assets that are available for resource mobilization (Luthans *et al.*, 2004; Luthans *et al.*, 2007; Shah *et al.*, 2019). Risk propensity may be considered one such asset. It describes an individual tendency to take or avoid risk, which influences managerial perceptions, i.e. positive/negative and gain/loss (March and Shapira, 1987; Sitkin and Pablo, 1992). Specifically, individuals with a high-risk propensity will consider positive outcomes and the probability for gains, whereas risk averse decision-makers will focus more on negatives and overestimate the probability of loss (Sitkin and Weingart, 1995). As such, an individual with a high-risk propensity will favor a chance at positive outcomes over the safety of avoiding negative outcomes.

Prior research has tended to treat promotion/prevention focus as dependent on other psychological factors (Tuncdogan *et al.*, 2015). Gorman *et al.* (2012) conducted a meta-analysis that included ten antecedents, all of which were psychological traits. Likewise, Lanaj *et al.* (2012) dwelt largely on psychological regulatory focus antecedents. To our knowledge, risk propensity has not been examined as an antecedent to regulatory focus. Regulatory focus has been considered either as working in conjunction with an array of personality traits that do not include risk propensity (Lanaj *et al.*, 2012) or as an antecedent to risk propensity (Bryant and Dunford, 2008). In others, risk propensity is thought of as a direct influence on risky behavior, regulatory focus playing no role at all (Boustanifar *et al.*, 2021). We suggest that risk propensity may be considered an antecedent to regulatory focus rather than the reverse.

Relative to incremental growth initiatives, the failure probability and inherent newness of more radical forms of innovation necessitate greater risk assumption (Day, 2006). For the individual manager, increasing growth expectations demand a greater assumption of risk. Therefore, an executive with a high-risk propensity will tend to focus on positive gain and therefore be promotion-dominant:

H1. The greater the manager's risk propensity, the greater the promotion-dominant regulatory focus.

Intellectual capital

Intellectual capital is a collection of knowledge-based assets that may be used in resource mobilization (Becker, 1962; Cricelli *et al.*, 2014; Nahapiet and Ghoshal, 1998). Product-market familiarity, as a self-evaluation of one's knowledge of product and market conditions (Celly and Frazier, 1996), is an element of a manager's intellectual capital. Product-market familiarity represents an accumulation of experiences, which shapes how situations are framed and information valued. Prior research in entrepreneurial decision-making has linked prior knowledge to the detection of new opportunities (Ardichvili *et al.*, 2003; Baron and Ensley, 2006; Shane, 2000; Ucbasaran *et al.*, 2003). Product-market familiarity imbues the executive with experience and confidence providing a pretext to pursue the ideal rather than protect the current position.

Regulatory focus may be influenced by intellectual factors, specifically, a manager's familiarity with the firm's product and markets, "harder" skills that lend strength to exploration. For example, managers who see knowledge as a source of competitive advantage tend to implement knowledge sharing practices that are linked to product

innovation (Hsu, 2008). It is reasonable to think that a manager may be more inclined to explore if he/she possesses value-adding knowledge about how to make and market a particular product.

Pursuit of radical growth requires deep familiarity with existing products and market alternatives. Knowledge of existing products and markets allows for better assessment of the value of radical innovations (Zhou and Li, 2012), which should motivate desire for advancement and growth. With product-market knowledge, the manager can gauge the value of new information and, with this, have greater confidence to manage uncertainties that accompany advancement and growth. Therefore, increased intellectual capital in terms of greater product-market familiarity will support a promotion-dominant regulatory focus, whereas lower intellectual capital will lead to a prevention focus dominance:

H2. The greater the manager's product-market familiarity, the greater the promotion-dominant regulatory focus.

Social capital

Social capital describes relational assets that may be used in resource mobilization (Adler and Kwon, 2002; Nahapiet and Ghoshal, 1998; Xu, 2016). While prior research has examined the role of external networks as a means for gaining access to technologies and markets that support innovation (Chung *et al.*, 2015; Eggers *et al.*, 2014; Ma *et al.*, 2009), this study investigates the effect of within firm connections on managerial motivation. While firms may be dependent on an established network of external stakeholders for resource acquisition, the manager's internal network is a critical resource for expanding awareness of and gauging firm preparedness for the business situation at hand (Duncan *et al.*, 1998; King and Zeithaml, 2001). Bonding ties measure the manager's social ties with individuals across departments that the manager interacts with for valuable information and strategic resources (Adler and Kwon, 2002). As noted among entrepreneurs (Davidsson and Honig, 2003), bonding social capital is associated more strongly with starting a new venture. The degree of variety among these internal ties motivates the manager toward growth or safety.

Intrafirm bonding ties may also serve as a social influence on managers' regulatory focus. Bryant and Dunford (2008) suggested that social factors such as organizational environment and leadership should be considered in addition to dispositional factors and one's history of outcomes from risk-taking behavior. Social ties can also influence a manager's ability to function well (Rodan and Galunic, 2004). Building on Cao *et al.* (2015), we argue that a strong internal network, characterized by breadth and diversity across the organization, supports a promotion-dominant focus.

An executive's strong internal network can enhance the firm's innovativeness, risk-taking and proactiveness (Cao *et al.*, 2015); however, the strength of these ties may not be a good indicator of the executive's position within the organization as these ties may be limited to a single department. With a diverse internal network, the executive is more likely aware of new possibilities. Broad connections suggest higher status and a better sense of support levels, which would likely encourage the pursuit of new opportunities, whereas a limited awareness and affirmation of resources would prompt strategy directed to existing opportunities. Therefore, greater social capital in terms of a diverse internal network will support a promotion focus dominance, whereas lower social capital will lead to a prevention-dominant regulatory focus:

H3. The greater the manager's bonding tie diversity, the greater the promotion-dominant regulatory focus.

The influence of dominant regulatory focus on explorative strategy and growth. In line with prior research on context-specific regulatory foci (Lanaj *et al.*, 2012), work-related regulatory foci may influence the adoption of business strategies that affect growth (i.e. explorative strategy and radical investment). In examining this influence, we investigate the executive's dominant regulatory focus, that is, the degree to which one focus (promotion or prevention) consistently overrides the other (Lockwood *et al.*, 2002). Promotion and prevention focus are not completely orthogonal variables; individuals can take on characteristics of both (Higgins, 2000). We reason that the strength of a manager's proclivity toward a promotional focus is reflected in the degree to which it outstrips prevention focus.

A similar duality exists for business growth strategies wherein managers may choose strategies that leverage the known and familiar through existing knowledge and alternatives or identify new opportunities in unknown domains through search, experimentation and the pursuit of new knowledge. March (1991) conceptualized this duality in terms of exploration and exploitation, arguing that both are essential yet incompatible. According to research on managerial cognition (Tripsas and Gavetti, 2000) and organizational capabilities (Leonard-Barton, 1992), firms struggle to maintain an optimal mix and tend toward one form or the other (Levinthal and March, 1993). The integration of exploitative and explorative strategies demands the executive find the optimal balance for organizational effectiveness. In this respect, exploitation and exploration are conceptualized as two ends of a continuum with executive attention determining the relative balance (Gupta *et al.*, 2006; Raisch *et al.*, 2009). Given cognitive limits and other finite resources, there is a presumed bias toward exploitative strategy which is more immediate and predictable (Levinthal and March, 1993; March, 1991); however, repetitive overreliance on exploiting current knowledge and existing alternatives discourages experimentation with new possibilities, which inhibits exploration (Piao and Zajac, 2016).

Regulatory focus influences perceptual scope and access to cognitive resources with promotion states broadening scope and facilitating access and prevention states narrowing scope to more accessible attentional details (Baas *et al.*, 2008). There is evidence for a positive relationship between promotion focus and a greater extent of strategic search and change, and some support for a negative relationship between prevention focus and the allocation of strategic resources (Jiang *et al.*, 2019; Kammerlander *et al.*, 2015; Roundy *et al.*, 2016). These findings offer support that an executive's dominant regulatory focus should influence the balance of exploration and exploitation. The balance tips toward a more explorative strategy when an executive's regulatory focus is promotion-dominant:

H4. The greater the promotion-dominant regulatory focus, the greater the explorative strategy.

Radical growth extends the business into new domains, as opposed to continued reliance on known parameters that result in incremental change and lower-yield growth (Day, 2006; Treacy and Sims, 2004). Rather than leveraging existing resources and opportunities to achieve incremental growth, exploration allows executives to pursue new lines of business. Based on the degree of novelty in technologies, products and/or markets, corporate entrepreneurship supports new business development (Covin and Miles, 1999; Dess *et al.*, 2003). An explorative strategy ventures beyond existing technologies and products and into unknown market spaces, thus leading to investments in new, unrelated business. Neill and York (2012) find that with explorative strategy comes a greater investment in radical growth in the form of new lines of business:

H5. An explorative strategy is positively associated with radical growth investment.

China's business context. As the world's second-biggest economy, China's integration into the global economy is phenomenal. However, critical voices contend that the country's growth, which is based on strategic imitation and technology importation, is unsustainable (Dobson and Safarian, 2008). With China's follower strategy, technology flows have historically been from west to east in support of mass production rather than product innovation (Altenburg *et al.*, 2008; Guan *et al.*, 2006; Hu and Mathews, 2008; Kriz, 2010; Xie and White, 2006). Chinese firms enjoy a low-cost advantage by exploiting the technological knowledge and investment of foreign partners, which has contributed to competitive advantage and international success (Yu *et al.*, 2015). Yet with an overreliance on existing alternatives hindering exploration strategies (Levinthal and March, 1993; Piao and Zajac, 2016), Chinese firms are cautioned to sustain growth by moving away from repetitive exploitation and toward strategies built on new technologies, products and markets.

Recognizing the need to sustain growth, China is seeking a strategic shift from "Made in China" to "Created in China." Chinese authorities place great emphasis on a new growth pattern driven by domestic innovation. The 13th Five-Year Plan (2016–2020), adopted by the People's National Assembly of China, positions innovation as the primary driver of development and central to the nation's growth strategy; and with this plan, enterprises are assigned leading roles as the source of innovation (translated from Chinese version of the 13th Five-Year Plan). While the opening-up policy and transition from central planning to market competition allowed for tremendous domestic and global growth opportunities, adoption of corporate entrepreneurship strategy (Ireland *et al.*, 2009) would transform the basis of Chinese business success from exploiting existing alternative to exploring new products for new markets.

Methodology

To test the hypotheses, data were gathered from a national sample of senior-level Chinese executives. Established scales were used to measure each construct. Measurement reliability was assessed using scale item analyses and exploratory factor analysis. Confirmatory factor analysis was also used to examine the extent to which the prespecified constructs represented the observed data. To test hypotheses, structural equation modeling, which allows for simultaneous examination of a series of dependence relationships, was used to assess conceptual model fit with observed model, path estimate significance and explained variance of endogenous variables. Additional tests were performed to confirm the mediating effects. Confirmatory measurement and post hoc analyses were conducted using LISREL. With software packages generating similar results and selection based on researcher preference (Hair *et al.*, 2018), LISREL benefits from pioneer status and broad adoption.

Data collection

The survey instrument was a structured questionnaire developed in English, translated to Chinese by an independent language expert and back-translated by a second expert (Brislin, 1980). To assess measurement reliability, pilot data from 42 MBA students (representing a mix of industries and averaging more than five years of work experience) were used to examine each measure's internal consistency based on exploratory factor analyses, item-to-scale correlations and Cronbach's alpha (Hair *et al.*, 2018). To further ensure content validity, interviews (online focus groups) were conducted with Chinese MBA students to enhance clarity and avoid negative translation influence. These minor changes were again reviewed by an independent expert before finalizing the instrument.

The instrument was conducted online, and respondents were recruited using a participant panel administered by Sojump, a Web-based online data collection which

includes a panel service based on over 2.6 million registered members. To ensure a cross-section of Chinese senior managers, 3,156 individuals from different cities and businesses in China were contacted by e-mail and internal message platform over a nine-day period. In total, 268 surveys were completed. To be included in the study, respondents had to hold a senior executive position with a year or more work experience in the position and a moderate involvement in the firm's strategic decisions (four or higher on a seven-point scale). Given these requirements, 57 respondents were removed from the study, leaving 211 usable responses. The remaining informants averaged seven years as a senior-level executive at the firm and with a high involvement in strategic decisions (6.24 average on a seven-point scale). These executives lead a variety of organizations that differed by ownership type (78% private; 22% state- or collective) and size (minimum 12 to maximum 25,000 employees with average of 538 employees and a median of 226 employees; annual sales range from RMB 1m to 2tn with an average of RMB 10bn and a median of RMB 109m). The firms were primarily from the manufacturing sector (83%) and in operation for an average of 14 years. In addition to representing a variety of organizations in China, respondents were from 21 provinces, four municipalities and four autonomous regions.

Measurement

All measures were adapted from previously validated scales: risk propensity (Neill *et al.*, 2017; Sitkin and Weingart, 1995), product-market familiarity (Celly and Frazier, 1996; Frazier *et al.*, 2009), bonding tie diversity (Cao *et al.*, 2015); promotion and prevention focus (Lockwood *et al.*, 2002; McKay-Nesbitt *et al.*, 2013; Summerville and Roese, 2008) and explorative strategy and radical growth (Neill and York, 2012). Using multi-item scales, risk propensity, product-market familiarity and regulatory focus were assessed on a seven-point agree-disagree scale and explorative strategy was assessed on a seven-point semantic differential scale. Dominant regulatory focus was calculated by taking the difference between promotion and prevention focus (Lockwood *et al.*, 2002) with positive scores indicating a promotion-dominant regulatory focus. Bonding tie diversity, an entropy-based index derived from Teachman (1980), $\sum P_i(\ln P_i)$, was based on the number of organizational members from each functional unit with whom the respondent interacts with for strategically valuable information and resources. Radical growth was based on allocation of expected business unit growth using a constant-sum scale of 100% to the following domains: market share gain, customer share gain, product development, market development and new lines of business. Appendix contains items and reliability estimates for this study's measures.

Results

Measurement results

Unidimensionality was evaluated based on factor loadings 0.50, item-to-total correlations 0.35, average interitem correlations 0.15 and Cronbach's alpha 0.70. Based on this analysis, two items were removed from prevention focus. Using the covariance matrix as input, the trimmed set of reflective constructs was further subjected to confirmatory factor analysis. Based on this analysis, the internal consistency estimates indicated adequate support and the goodness-of-fit results indicated adequate representation of the observed input matrix ($\chi^2 = 1,237.90$ with 485 degrees of freedom [d.f.]; standardized root mean residual [SRMR] = 0.08; comparative fit index [CFI] = 0.92). Discriminant validity was supported in all cases, as the square of each construct pair's parameter estimate (ϕ) was less than the mean of its average variance extracted estimates.

Table 1 presents descriptive statistics, average variance extracted estimates and correlations among constructs.

Structural model results

As a measurement error control, loading estimates (lambdas) were fixed as the square root of the reliability estimate and error terms (thetas) were set to one minus the reliability (Hair *et al.*, 2018). For measures not based on reflective items, a 0.80 reliability was assumed and the error term fixed at 0.20. The fit of the structural model with all hypothesized parameter estimates estimated freely was acceptable ($\chi^2 = 30.56$ with 8 d.f.; SRMR = 0.05; CFI = 0.95). All paths were statistically significant ($p < 0.05$ or better) with standardized path estimates presented in Table 2. The structural equations accounted for 62% of the variance in

Construct	Mean	SD	1	2	3	4	5	6
1 Radical Growth	19.06	8.16	–					
2 Explorative Strategy	5.65	0.86	0.21	0.41				
3 Dominant Regulatory Focus	2.27	1.61	0.16	0.59	–			
4 Risk Propensity	5.14	1.08	0.22	0.54	0.43	0.53		
5 Product-Market Familiarity	5.96	0.63	0.03	0.45	0.52	0.33	0.36	
6 Bonding Tie Diversity	1.78	0.02	0.17	0.34	0.29	0.36	0.18	–

Table 1.
Descriptive statistics and correlation coefficients

Notes: SD: standard deviation; average variance extracted estimates for reflective measures reported on diagonal

Hypothesis: path	Estimate	T-value
H1: Risk Propensity → Dominant Regulatory Focus	0.28	3.49
H2: Product-Market Familiarity → Dominant Regulatory Focus	0.57	6.69
H3: Bonding Tie Diversity → Dominant Regulatory Focus	0.14	1.80
H4: Dominant Regulatory Focus → Explorative Strategy	0.73	9.96
H5: Explorative Strategy → Radical Growth	0.19	1.99
<i>Controls</i>		
Firm size (sales volume) → Explorative Strategy	0.15	2.07
Firm size (sales volume) → Radical Growth	0.17	1.77
Direct effects		
Post hoc analysis of mediating effects	$\chi^2(df)$	$\Delta\chi^2(\Delta df)$
Risk Propensity → Explorative Strategy	9.00 (7)	21.56 (1)
Product-Market Familiarity → Explorative Strategy	30.52 (7)	0.04 (1)
Bonding Tie Diversity → Explorative Strategy	25.60 (7)	4.96 (1)
Dominant Regulatory Focus → Radical Growth	30.42 (7)	0.14 (1)
	SRMR	CFI
	Estimate	T-value
		Explained variance
	0.35	4.80
	0.01	0.06
	0.16	2.20
	0.02	0.14
	0.95	0.09

Table 2.
Structural model results of completely standardized path estimates

Notes: df: degrees of freedom; SRMR: standardized root mean residual; CFI: comparative fit index. $\Delta\chi^2$ values of 3.84 or greater are significant at the 0.05 level. T-values of 1.65 or greater are significant at the 0.05 level; t-values of 2.33 or greater are significant at the 0.01 level

dominant regulatory focus, 63% of the variance in explorative strategy and 9% of the variance in radical growth.

The direction and statistical significance of each path estimate was examined for empirical support of the study's hypotheses. *H1* predicted that risk propensity is related to a greater promotion focus relative to prevention focus and is supported ($\beta = 0.28, p < 0.01$). *H2*, which posited that product-market familiarity was related to a greater promotion-dominant regulatory focus, was supported ($\beta = 0.57, p < 0.01$) and represented the strongest antecedent effect. *H3* was also supported. Bonding tie diversity was positively related to a greater promotion-dominant regulatory focus ($\beta = 0.14, p < 0.05$). Among the endogenous relationships, *H4* examined whether a greater promotion-dominant regulatory focus is related to explorative strategy and was supported ($\beta = 0.73, p < 0.01$). Final, this study sought to confirm the link between explorative strategy and radical growth strategy and found support for *H5* ($\beta = 0.19, p < 0.05$). As a control, firm size (natural log of sales) has a positive effect on explorative strategy ($\beta = 0.15, p < 0.05$) and radical growth ($\beta = 0.17, p < 0.05$). Overall, the results offer support for *H1–H5* and are discussed next along with implications.

Post hoc analysis of mediating effects

While these results suggested a good fit that supports the mediating effects of dominant regulatory focus and explorative strategy, post hoc analyses were performed to confirm the mediating function. Based on a series of steps (Hair *et al.*, 2018), which included the addition of direct effects between antecedents and explorative strategy growth expectations, full mediation effects were assessed. After first confirming that the direct, unmediated relationships were significant (see Table 2), four alternative models were estimated, one for each antecedent variable. For dominant regulatory focus and product-market familiarity, full mediation was confirmed as the direct effects with radical growth ($\Delta\chi^2 = 0.14$) and explorative strategy ($\Delta\chi^2 = 0.04$) were equal to zero; and there were no significant improvements in model fit based on chi-square difference tests ($p > 0.05$). However, full mediation is not supported for risk propensity or bonding tie diversity, as the direct effects with explorative strategy are statistically significant ($\beta = 0.35, p < 0.01$ and $\beta = 0.16, p < 0.05$, respectively) and the fit of the models significantly improved ($\Delta\chi^2 = 21.56; p < 0.01$ and $\Delta\chi^2 = 4.96; p < 0.01$, respectively). These results are also summarized in Table 2.

Summary of structural model results

Overall, the results offer support for *H1–H5* with each form of managerial capital (psychological, intellectual and social) influencing dominant regulatory focus, which mediates two firm-level outcomes: explorative strategy and radical growth investment. Risk propensity (*H1*), product-market familiarity (*H2*) and bonding tie diversity (*H3*), as forms of managerial capital, facilitate a promotion-dominant regulatory focus, with a promotion-dominant regulatory focus favoring more exploratory business strategies (*H4*) that lead to greater investments in radical growth (*H5*) while controlling for firm size. While a post hoc analysis confirmed full mediation for dominant regulatory focus and product-market familiarity, partial mediation was indicated for risk propensity and bonding tie diversity. These results are discussed next along with implications.

Discussion

Managers' dominant regulatory focus was examined as a moderator between three elements of managerial capital – risk propensity, perceived product-market knowledge and bonding diversity – and explorative strategy and radical growth investment. The results, based on a

sample of Chinese senior managers, suggest organizational leaders who were willing to take risks, were knowledgeable of product-markets and were internally connected to a diverse group of employees tended to have a promotion-dominant, rather than prevention-dominant, regulatory focus. In turn, a promotion-dominant regulatory focus was found to be associated with explorative strategy but not radical growth investment.

Risk propensity was examined as an overlooked psychological antecedent to regulatory focus and was found to have a significant influence on promotion dominance. It was also found that regulatory focus may have important antecedents that go beyond psychological constructs such as extraversion, conscientiousness and neuroticism (Lanaj *et al.*, 2012) to include intellectual and social variables. Two of these types of variables, product-market knowledge and bonding tie diversity, were found to support a promotion-dominant focus as well. While a post hoc analysis confirmed that dominant regulator focus fully mediates the effect of product-market familiarity, the results indicate direct, positive effects for both risk propensity and bonding tie diversity on explorative strategy. These results suggest spillover effects for both psychological and social capital on strategies that focus on innovation and growth from new business.

The results of this study suggest that risk propensity stimulates a promotion-focused desire for growth rather than maintaining present positioning. For managers, growth is a deliberate though uncertain choice that requires a greater assumption of risk. This is consistent with March and Shapira's (1987) suggestion that risk-seeking decision-makers attend more to opportunities inherent in a situation rather than to the threats. It is also consistent with findings from entrepreneurship with conflicting evidence as to whether entrepreneurs are risk prone or risk averse (Miner and Raju, 2004). However, when considering the motivations of high- and low-growth entrepreneurs, those with a greater willingness to take risks start businesses for opportunity reasons or as creative pursuits rather than out of necessity (Block *et al.*, 2015). In this way, high-risk propensity shifts the mental balance toward positive gain (promotion-dominant) versus dwelling on undesired outcomes.

For intellectual capital, the results suggest that experience is an important factor for managers to seek growth over stability. Knowledge of product and market alternatives tips the balance toward the pursuit of possible gains, whereas a lack of familiarity has the opposite effect. It should be noted that for this kind of familiarity to benefit innovation, existing knowledge should be leveraged to further knowledge acquisition (Zhou and Li, 2012). In other words, experience should motivate building on existing knowledge to illuminate new information, rather than sole reliance on what is already known. The challenge for managers is to avoid the complacency that may arise when both product specifications and customer requirements are known, as described by the incumbent's curse (Chandy and Tellis, 2000) or core rigidity (Leonard-Barton, 1992). The manager's role is to see through complacency, which experience can facilitate by bolstering the motivation to pursue advancement and growth.

In general, the results support the role of social capital in influencing managerial motivation. For promotion focus to outweigh prevention focus, diverse internal ties provide access to a greater variety of resources to link to an unknown future, whereas less variety in internal connections is associated with a need for safety and security. A manager's dominant regulatory focus is partially a function of the variety of individuals from different areas of the firm that are relied upon for strategic information and resources. If the manager maintains a narrow network, then motivations for stability outweigh those for growth, whereas a diverse internal network is associated with greater motivations for growth. As prior research demonstrates, the relationships of top managers can have a significant impact

on the firm's entrepreneurial strategy (Cao *et al.*, 2015; Eggers *et al.*, 2014). The results of this study indicate that diverse internal connections perform an important role by supporting the executive's inclination to pursue advancement and growth. Being able to rely on individuals throughout the organization for strategically relevant information and resources motivates the manager to consider new possibilities rather than retreating into a protectionist posture. In this way, social capital influences motivation by shifting the balance toward a promotion-dominant regulatory focus.

With a promotion-dominant regulatory focus, the executive is more likely to pursue an explorative strategy that achieves radical growth rather than exploit existing alternatives which is favored by a prevention-dominant focus. This is in keeping with prior research examining high and low levels of promotion and prevention focus. It has been found that when promotion focus is high and prevention focus is low, employees experience greater job satisfaction and affective organizational commitment, which aligns with a focus on achievement and adherence to ideals (Markovits, 2013). In examining this same makeup among Swiss chief executives, those with a high promotion and low prevention focus were more likely to engage in explorative strategy (Kammerlander *et al.*, 2015), which the current study confirms among Chinese executives. When the desire for growth and advancement outweighs the need for safety and security, ideals drive decision-makers to discover the unknown rather than safeguard the known, thus tipping business strategy toward exploration rather than continued exploitation of existing alternatives.

Limitations and directions for future research

First, while this study examines multiple dimensions of managerial capital, these are not the only possible psychological, intellectual and social dimensions that may prove of interest in the study of regulatory focus. For example, situational factors – such as cognitive and temporal context (Zahra, 2008) – may be identified by examining within-person variations based on interpretations of environmental cues over time. The role of emotion offers yet another opportunity for future research (Brockner and Higgins, 2001; Cardon *et al.*, 2012) with the balance further tipped in one direction or the other based on the executive's feelings, passions or moods.

Second, while we also extend our understanding of the role of managerial capital and dominant regulatory focus, the results may speak mostly to managers in Chinese companies (Meyer *et al.*, 2010). Given that Chinese companies tend to be hierarchical with high-power distances and different ownership and reward systems, the effects may not extend to other countries. For example, unlike China, organization structures tend to be flat in the West with lower power distances and more decentralized decision processes. As such, the effect of internal bonding diversity may not be as strong an indicator of an executive's dominant regulatory focus under different organizational configurations. In some countries, executives may not receive the equivalent reward for doing something new. In fact, a failed innovative initiative could greatly reduce the availability of future career opportunities. In other situations, executives with close government connections may have a buffer for failed innovation due to the support of key officials. Such factors may moderate the influence of risk propensity on dominant regulatory focus relative to the reward systems for executives in countries with private sectors as the main ownership category. Future research on institutional patterns may demarcate the boundaries of managerial capital on dominant regulatory focus within the context of corporate entrepreneurship.

Third, the sampling technique using online data collection from professional panel resulted in a low response rate. Like similar online panel services (e.g. MTurk), there are pros and cons, especially when using an online sample of professionals (Shih and Fan, 2008).

While the pros include large participant pool and ease of data gathering (majority respond within 12h), nonresponse error could be a factor despite the variety of organizations and geographic reach of respondents.

Finally, this paper provides a cross-sectional examination and does not consider time-dependent factors. Neither innovative nor mundane decisions take place in a vacuum. Each manager brings to bear their past successes and mistakes as well as their idiosyncratic interpretations of them. Future research may include richer perspectives on how regulatory focus and its antecedents and effects change over time.

Conclusion

This study examines the effects of managerial capital on individual motivations that influence explorative strategy and growth. In examining these effects, the study is conducted in China where growth, while phenomenal, has tended to rely on the exploitation of existing products and markets rather than creation of new lines of business often associated with radical growth. Confirmed within the Chinese context, investment in radical business growth is dependent upon an explorative strategy, which further depends on a manager's dominant regulatory focus. The dominance of one form of regulatory focus over the other depends on an executive's tendency to assume risk, product-market experience and internal connections to information and resources. A key implication of this research is that the strategic path to growth is dependent upon the manager's dominant regulatory focus, which rests on the psychosocial traits of decision-makers. Given that dispositional traits may tip the balance in favor of radical growth, the challenge is to understand the factors that sway this balance in one direction or the other. This study addresses this challenge with implications for the theory and practice of corporate entrepreneurship.

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Further reading

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Appendix. Scale items

Radical growth

Percentage of expected business unit growth from new lines of business

Explorative strategy (alpha = 0.81)

Apply current expertise—develop new knowledge and/or skills

Focus on operational excellence—focus on product/service innovation

Refine current strategy—experiment with new strategy

Invest in current resources—invest in new resources

Research existing markets—research emerging markets

Use existing technologies–develop new technologies

Promotion focus (alpha = 0.80)

I often think about the person I would ideally like to be in the future

I typically focus on the success I hope to achieve in the future

I often think about how I will achieve business success

My major goal in business right now is to achieve my ambitions

In general, I am focused on achieving positive outcomes in my life

I frequently imagine how I will achieve my hopes and aspirations

I often imagine myself experiencing good things that I hope will happen to me

Overall, I am more oriented toward achieving success than preventing failure

I see myself as someone who is primarily striving to reach my “ideal self” – to fulfill my hopes, wishes and aspirations

Prevention focus (alpha = 0.78)

I am anxious that I will fall short of my responsibilities and obligations

I often think about the person I am afraid I might become in the future

I often worry that I will fail to accomplish my business goals

I often imagine myself experiencing bad things that I fear might happen to me

I frequently think about how I can prevent failures in my life

I am more oriented toward preventing losses than I am toward achieving gains

My major goal in business right now is to avoid becoming a failure

In general, I am focused on preventing negative events in my life*

I see myself as someone who is primarily striving to become the self I “ought” to be – to fulfill my duties, responsibilities and obligations*

Risk propensity (alpha = 0.89)

I am willing to take a big risk to realize higher gains

I like taking big risks

I choose alternatives with less chance for success and higher rewards

I choose a strategy that offers higher rewards but has a lower probability of success

I believe that higher risks are worth taking for higher rewards

I like to take chances, although I may fail

To earn greater rewards, I am willing to take higher risks

Product-market familiarity (alpha = 0.69)

When it comes to our product-market, I . . .

. . . am very familiar.

. . . have excellent knowledge.

. . . have a good understanding.

. . . have a great deal of experience.

Bonding tie diversity

Research and development

Production/manufacturing

Marketing/sales

Service
Administration
All other functional units

** Removed from analysis*

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