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Corporate organizational capital, strategic proactiveness and firm performance: An empirical research on Chinese firms

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Abstract Organizational capital is an institutional arrangement in a firm's production and management activities, which helps integrate all resources in the firm and affect the firm's strategic choice and performance. This paper classifies organizational capital into three subtypes, namely power orientated capital, norm orientated capital and knowledge orientated capital. Moreover, strategic proactiveness is also brought into this influencing process. Results show that strategic proactiveness fully mediates the effect of power orientated capital on firm performance, but partially mediates that of norm orientated capital. It is also found that neither power nor norm orientated capital affects innovative performance, whereas knowledge orientated capital affects directly both financial performance and innovative performance. The significance of this research is to provide a meaningful supplement to the theory of decision-making-process for the top management team. Suggestions on how to cultivate organizational capital are provided for Chinese enterprises.

Keywords organizational capital, strategic proactiveness, innovative performance

摘要 组织资本是企业生产经营和管理活动中的一种制度安排, 这种制度安排能够整合企业内外的所有资源, 从而影响企业战略选择与绩效。首先把组织资本划分为权力资本、规则资本与知识管理资本三种形式, 并把战略前瞻性引入了该影响过程,

Translated and revised from *Guanli shijie* 管理世界 (Management World), 2007, (5): 83–93

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发现权力资本完全通过战略前瞻性的中介作用而对企业经营绩效产生影响，规则资本部分通过战略前瞻性的中介作用而对经营绩效产生影响，但以上两者都没有对创新绩效产生影响。而知识资本直接对经营绩效与创新绩效都产生了影响。分析结果对于企业高层管理团队的决策过程理论进行了补充，并对中国企业的组织资本建设提供了指南。

关键词 组织资本，战略前瞻性，创新绩效

1 Introduction

Ever since the reform and opening-up, China has witnessed the rise and fall of many star firms, some of which were later proved to be just a flash in the pan, such as Qinchi Group, Idall VCD, Giant Group, Feilong Group, and Sanzhu Group. To summarize the reasons behind the failure of these firms, the CEO's lack of foresight and eagerness for quick success and instant benefits are generally believed to lead to their strategic "shortsightedness" (Wu, 2001). What causes the CEOs to commit these mistakes despite their wealth of experience in work?

From the perspective of theory construction, to know "how" and "why" is more important than to know "what". In this sense, to merely know why firms fall short of strategic proactiveness is not enough. We need to further explore why and how certain factors affect a firm's strategic proactiveness. The extant literature generally analyzes corporate strategic mistakes from the perspectives of decision-makers' traits (Hambrick and Mason, 1984; Qin, 2003) and corporate governance (Li et al., 2003; Yi et al., 2003). However, the blindness or impulsiveness of top managers, which lead to strategy shortsightedness, is merely the surface of the problem whereas the real cause lies in the problematic internal managerial mechanism in a firm since strategy making is the result of collective thinking and the strategy implementation participated in by everyone in the firm.

An effective strategy-making mechanism is most likely to find out and eliminate any possible errors in a firm's strategy as long as it is established, even if top managers commit mistakes sometimes. After investigating several famous U.S. firms, Collins and Pollas (2002) summarized that the most important factor for these firms' longstanding success is system-orientedness rather than hero-orientedness, indicating that effective institutional construction forms the solid foundation for successful firms

This paper defines the beneficial institutional arrangement spontaneously formed over time in an organization as corporate organizational capital, which when integrated with other resource, affects greatly a firm's strategic choice and

performance. The term strategic proactiveness was first used by Miles and Snow (1978), who identified four types of strategy makers, namely prospector, analyzer, defender and reactor. Strategic proactiveness is a unique attribute of the prospector type. In comparison with others type, “prospectors are more flexible. They can constantly adjust their products or market positions, utilize market opportunities, and enhance the flexibility of technology system and administrative system, so as to quickly fulfill organizational goals...Although this organization management style also brings along certain risks, it enables organizations to get used to future demands.”

Research on the relationship among corporate organizational capital, strategic proactiveness and performance has been mainly carried out along two routes: one focuses on the relationship between corporate organizational capital and performance. The organizational theory regards organizational capital as a performance-enhancing organizational slack (Cybert and March, 1963; Pfeffer and Leblebici, 1978), while the learning theory treats organizational capital as an effective leaning mechanism which facilitates single-loop and double-loop learning among organization members and the organization itself (Senge, 1998; Argyris and Schön, 1978), thus can promote a firm’s financial performance.

The evolution theory considers organizational capital as a series of customs, traditions, and routines within an organization which evolve gradually into a firm’s unique competitiveness (Nelson and Winter, 1982). The other study route concentrates on the relationship between organizational capital and strategy. To date, little has directly studied the relationship between organizational capital and strategic proactiveness. Most of the extant literature focuses on the relationships between organizational capital and strategic decision, enterprise competitiveness, or innovation strategies. Norms for power within a firm facilitates the formation of the unique decision-making mechanisms in the firm (Pfeffer, 1998). The resource-based view argues that the intangible resource inside a firm, including a series of rules and routines, is the foundation of a firm’s lasting competitiveness. Other scholars argue that when organizational capital exists in the form of organizational slack, it can enhance product innovation and procedure innovation (He and Wong, 2004).

However, consensus has not been reached on the definition of organizational capital in the extant research. The concept of organizational capital is usually confused with human capital, social capital and other concepts. As a result, the formerly believed relationship between organizational capital and firm performance might have caused by human capital or social capital. In addition, extant literature has not provided a general perspective to comprehensively study the relationship among organizational capital, strategic proactiveness and firm performance. Moreover, it is still not clear about how does organizational capital affect firm performance through the mediation of strategic proactiveness.

Empirical studies in the context of China are still seriously lacking. Because China is still a developing country, the operation and management of many Chinese firms need to be further standardized and institutionalized. Therefore, the building of organizational capital has become a top priority for Chinese firms. However, most of the domestic studies on organizational capital cultivation have been conducted from theoretical perspectives instead of empirical methods which are indispensable research methods to enhancing studies on the relationships among organizational capital, strategic proactiveness and firm performance.

In the following sections, we firstly define organizational capital and divide it into power orientated capital, norm orientated capital, and knowledge orientated capital. Then an analytical framework is built to comprehensively analyze the relationships among organizational capital, strategic proactiveness and firm performance. Lastly, data from 282 Chinese firms are collected for empirical analyses.

2 Theoretical framework

2.1 Composition of corporate organizational capital

A century ago, German sociologist Max Weber pointed out that a rational and effective organization can fulfill a series of organizational objectives. He argued that the power base in this organization must be rational and legal, position-based rather than tradition or charisma-based (Weber, 1997). Weber's bureaucratic organization theory has laid a foundation for the continuity of organizational management.

Later on, people have gradually deepened their understanding of enterprise organizations with the development of the society. Amidst fierce market competitions, every firm faces the same problem: How to take the most advantage of its internal potentials? Whoever can first find an effective solution to defeat its rivals and be the final winner? As a matter of fact, it is up to the firm itself to improve its own resource-deployment efficiency. Leibenstein (1966) firstly adopted "X efficiency" to analyze the resource-deployment problem. He argued that improvement in internal resource deployment efficiency contributes to the majority of a country's GDP growth, while improvement in external market's resource deployment brings in only 1.1% GNP growth. The fact implies that the realization of X efficiency is brought in by organizational capital. Weng (1999) argued that the efficiency of organizational resource deployment as embodied by organizational capital is affected not only by employees' behaviors, knowledge, skills and other qualifications, but also by collective cooperative relations. Weng thus defined organizational capital as the capital formed when a

firm invests to improve its employees' behaviors, knowledge, skills and other work-related qualifications and to build individual or collective coordination mechanisms. What is more, it adds values to a firm.

Table 1 lists various definitions of organizational capital drawn from different perspectives.

Table 1 Definitions of social capital from different perspectives

Definition	Perspectives	Proposer and time
Organizational capital is embodied in either organizational relationships, (the skills of) particular organizational members, the organization's repositories of information, or some combinations of the above in order to improve the functioning of the organization	Managerial science	Tomer (1987)
Information owned by a firm, including employee information, team information, skill and task information, etc	Economics	Prescott and Visscher (1980)
Information needed to coordinate a firm's production and operation activities, including technological, procedural and routine information	Economics	Eriksen and Mikkelsen (1996)
The procedural capital, relation and information capital, and structural capital in an organization	Managerial science	Sullivan (2002)
A way of resource deployment within a firm, including resource-sharing mechanism, cultivation of employee-behavior-guiding organizational culture, and sharing of controlling power	Economics	Weng (1999)
Organizational capital refers to a special resource which can transfer the knowledge, skills and experiences owned by organizational members into organization-specific and mutually sharing organizational resources	Managerial science	Zhao (2004)
A general designation of all strategic, structural and cultural capital within an organization	Managerial science	Zhang (1997)
A form of structural organization, including institutional, cultural and hierarchical structuring	Sociology	Cheng (1995)

Note: The above definitions of organizational capital are collected by the authors.

All these definitions emphasize different aspects of organizational capital. As a whole, organizational capital can be divided into the following three subtypes.

2.1.1 Power orientated capital

Power orientated capital refers to capital formed through rational deployment of a firm's power resources. There are various definitions of power. Some defined it

as a forcible force from the perspective of politics. Kotter (1985) regarded it as a kind of influence. Based on these definitions, we define in the present article power as control over the the distribution of a firm's internal resources such as human, properties, materials, and information. This force is position-attaching and compulsive. This definition follows the concept of Weber's "legal-rational power". Power orientated capital represents the natural attribute of organizational capital and handles the formal relationships in an organization. Effective deployment of power orientated capital facilitates smooth operation of an organization and coordinates interests and rights among different organizational participants (Chen, 1995; Zhao, 2004; Pfeffer, 1998).

2.1.2 Norm orientated capital

Norm orientated capital refers to the standardization degree of managerial procedure within an organization at a certain stage of organizational development. Nelson and Winter (1982) pointed out that certain conventions form gradually at a certain stage of organizational development, such as regulations, rules, or procedures. These conventions slowly transform into organizational memories and influence subtly organizational members' behaviors. Penrose (1959) also found that when an organization evolved from a single-structure entity into a complex network structure, organizational conventions remain attached to organizational structures. Champy (2002) agreed that reengineering to existed procedures and regulations in an organization could undoubtedly enhance the overall efficiency of the organization. Similar to power orientated capital, norm orientated capital represents the natural attribute of organizational capital and handles the formal relationships in an organization. It helps standardize and coordinate flows of human resources, cash, raw materials, and information within an organization.

2.1.3 Knowledge orientated capital

Here knowledge orientated capital does not mean certain knowledge stocks, but a mechanism which enhances the creation, diffusion and sharing of knowledge in an organization. In order to improve its learning capabilities, an organization has to cultivate a favorable climate of knowledge creation, diffusion and sharing (March, 1991). In this sense, knowledge orientated capital, a kind of organizational climate, handles informal relationship in an organization. As a result, knowledge orientated capital possesses social attributes. It relates closely with organization culture, invisibly coordinating and according rights and interests of different parties within an organization.

Based on the above rationale, we propose Hypothesis 1:

H1 Organizational capital is composed of differently-functioned constructs.**Table 2** Differently-functioned components of organizational capital

Types of relationships handled in an organization	Components of organizational capital	Definition	Function	References
Formal relationship	Power orientated capital	Power to dispose of human resources, financial resources, material and information in an organization	Guidance function	Chen (1995), Zhao (2004), Pfeffer (1998)
	Norm orientated capital	Conventions, traditions and regulations that facilitate the smooth operation of an organization	Coordination function	Chen (1995), Zhao (2004), Nelson and Winter (1982), Masahiko Aoki (2002), Penrose (1959)
Informal relationship	Knowledge orientated capital	A climate which facilitates the creation, diffusion and utilization of knowledge in an organization	Cohesion function	Chen (1995), Wang (2003), Senge (1998), Argyris and Schön (1978), March (1991)

2.2 Organizational capital and firm performance

Many scholars regard organizational capital as a kind of organizational slack, which facilitates exploration and utilization-oriented studies in a firm. Specifically, the exploration type of study helps improve a firm's innovation performance, while the utilization-oriented study enhances a firm's financial performance (March, 1991). Wang et al. (2003) pointed out that firms form value network by means of the specific investment in organizational capital, during which a firm's individual capital interacts with its collective capital and transforms into firm-specific knowledge orientated capital. Moreover, these transformations occur at all levels, including individual, intra-organizational, inter-organizational, and social levels (Lu et al., 2006).

The institutional construction of power and norm orientated capital is vital to a firm. In comparison with western developed economies which started industrial construction since the 19th Century, the institutional construction in Chinese firms has been lagged far behind. Therefore, the construction of power orientated capital and norm orientated capital helps build effective decision making

mechanisms (e.g., firm's top management lays emphases on prudent use of authorities, employee participation and responsibility management, etc.), which boost a firm's performance. In addition, with the introduction of advanced managerial thoughts and methods, such as the objective management, six sigma, borderless management, benchmark management, balanced score card, etc., Chinese firms have greatly updated their managerial philosophy and practice. Meanwhile, many innovative and localized management practices have been created and adopted by Chinese firms. For instance, Zhang Ruimin, the CEO of Haier, advocates the OEC method (or overall every control and clear) and "horse racing" managerial philosophy, meaning that to create a competitive environment within a firm to sort out the best employees. Hong Kong scholar Liu Zhongming also pointed out that the unique mechanism for knowledge creation, absorption, digestion and utilization in China's private firms has become the fountainhead of their competitiveness. Kogut and Zander (1995) found that the transfer of tacit knowledge among different work units in a hierarchical organization is much faster and more efficient than that in other kinds of organization. To a certain degree, organizational capital facilitates the transfer of tacit knowledge into explicit knowledge among different work units or within a certain unit (Zhao, 2004). Therefore, these knowledge management mechanisms improve greatly a firm's performance. We thus propose the following hypotheses:

H2a A firm's power orientated capital is positively related to its performance.

H2b A firm's norm orientated capital is positively related to its performance.

H2c A firm's knowledge orientated capital is positively related to its performance.

2.3 Organizational capital and strategic proactiveness

As early as the mid 19th century, American business historian Chandler made his famous statement "firm's strategy decides its organizational structure" (Chandler, 1962), implying that a firm needs to adopt suitable organizational structure in accordance with its strategy and the match of the two co-decide a firm's performance. Later, Drucker (1954) did similar studies on General Motors and Sears and came to consistent conclusions.

However, there have been a growing amount of different voices recently. For example, the presenter of firm life circle theory, Adizes (1989) argued that it was the organizational structure that decided a firm's strategy for, in reality, a firm's regulations on the use of power, routines, procedures and regulations were established after its selection of organizational structure, while strategy was adopted based on these regulations on the use of power, routines, procedures and regulations. Mile and Snow (1978) also pointed out the procedure and

organizational structure of a firm constrained its strategy. Once firm-specific internal norms have been established, it is hard for a firm to operate outside its normal business scope. In an attempt to introduce Chandler's conclusion into transnational firms, Bartlette and Goshal (2003) found that diversified firms composed of semi-autonomous units had considerable advantages over centralized firms composed of labor-division-based departments in implementing diversified strategies. As a matter of fact, a firm's strategy is adopted on the basis of its internal and external environment. Those strategies not matching firms' organizational structures were doomed to fail (Witzel, 2002). As the Evolution Theory establisher Nelson and Winter pointed out, when a firm reached a certain development stage, its organizational capital (an embodiment of a firm's regulations on the use of power, routine and tradition) was decisive of a firm's development trail. Though certain path dependency existed under certain circumstances (Chen, 2002), these norms, routines and traditions were necessary and inevitable for a mature firm, which determined a firm's strategy and performance in tandem (Aoki, 2002).

From the perspective of individual bounded rationality, March and Simon (1958) discussed the effects of a firm's regulations on the use of power, routines and traditions on strategic proactiveness. The purpose of organizational structure design is to diminish the constraints of environmental uncertainty. The very existence of regulations on the use of power, routines, and traditions in an organization is to decompose complex problems into small and solvable ones within the scope of human's bounded rationality. Individual decision-makers are encouraged to make their own decisions and take corresponding responsibilities within the scope of their bounded rationalities. However, since these decision makers are only able to seek solutions to existing organizational problems in "adjacent areas", the design of organizational structure and the corresponding organizational capital that followed will definitely affect these decision-makers' choice of solutions. That is to say, strategic proactiveness is inevitably influenced by organizational capital.

Traditional Chinese Confucian culture's emphasizing in authoritarianism (Farh and Cheng, 1999) results in a blending of decision making and authorities in Chinese firms (Farh, Zhong, and Organ, 2004). Therefore, we propose that the power orientated capital and norm orientated capital in Chinese firms are beneficial to the strategy making process and adoption of aggressive strategies. There is little possibility that the strategy making and strategy reform can make any progress without the participation of top management in China's firms (Qin, 2003; Liu, 2007). In addition, organizational capital as embodied in knowledge management mechanism promotes many strategic behaviors in a firm, such as continuous research and development of new products and entry into new markets (Thompson, 1967). We thus propose hypothesis 3a, 3b, and 3c:

H3a Power orientated capital in a firm is advantageous to the adoption of proactive strategies.

H3b Norm orientated capital in a firm is advantageous to the adoption of proactive strategies.

H3c Knowledge orientated capital in a firm is advantageous to the adoption of proactive strategies.

2.4 Strategic proactiveness and firm performance

Strategic proactiveness lays a special emphasis on new products development and new market opportunity exploitation. It has a positive impact on firm performance: First, a firm's strategic proactiveness is closely related to organizational learning, which is composed of single-loop and double-loop learning. The former refers to correction-based learning, while the latter refers to modification of existing firm goals. As a result, strategic proactiveness influences positively a firm's performance (Argyri and Schön, 1978). Second, strategic proactiveness actually means that entrepreneurs have to focus their attentions on a special scope. Theorists holding attention-based view argue that the attention of an entrepreneur is limited. Therefore, when making a decision, he/she actually picks up a specific subset out of large amount of integrated information. Hambrick and Mason (1984) also found that the background characteristics of an entrepreneur (such as his/her professional, educational, family and social characteristics) lead to the final selection of different strategies. If happens to be proactive, the strategy chosen will lead to positive firm performance. Transformational leadership theory also asserts that one of the key characteristics of transformational leader is to have profound insights and farsightedness, namely strategic proactiveness. In practice, transformational leaders are men of charisma, who are able to activate followers with encouraging languages, which in turn bring in brilliant firm performance (Chen et al., 2006).

Chinese firms need strategic innovations with more proactiveness. Chinese firm have long been indulged in superficial imitation characterized of short-sightedness, commonness, and fastness, neglecting the importance of technological innovation, which lead to numerous dump lawsuits in the international market. Hamel and Prahalad (1989) pointed out that the key to build successful firms of long standing is to have "proactiveness" in their strategies. The concept was further divided by Porter (1996) into three categories, namely what should be done? What should not be done? And how to do? Schumpeter (1934) pointed out that a firm's innovation contained various forms. He called innovations as "creative destruction" of a firm. Therefore, proactive strategy emphasizing innovation can extricate firms from the how-d'ye-do of price war, develop innovative products and build potential "century-old" firms. The

advocator of Blue Ocean Strategy (Chan and Mauborgn, 2005), also stressed the key importance of innovative strategy on firms' sustainable development. We thus propose Hypothesis 4 as follows:

H4 Strategic proactiveness is positively related to firm performance.

2.5 Strategic proactiveness as a mediator

By summarizing the above hypotheses, we propose hypothesis 5:

H5 Strategic proactiveness acts as a mediator between organizational capital and firm performance.

Fig. 1 depicts the relationships among different hypotheses (except H1 and H5) developed in this article.

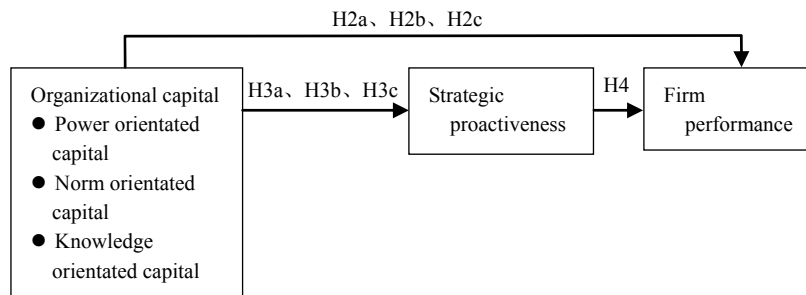


Fig. 1 Hypotheses model of this article

3 Method

3.1 Samples

Because organizational capital emerges only in mature firms, sample firms were chosen based on the following criteria: 1) Samples are from competitive industries rather than monopolized ones; 2) Each sample firm is an independent legal person; 3) each sample firm must be a complete operation entity, that is, it shall have products and sales channels and production technologies of its own; 4) Sample firms must have reached a certain scale with at least 150 employees; 5) Sample firms should have at least three years of history.

The respondents consisted of employees from entity enterprises, students from a Sino-Holland joint MBA program in Nanjing University, new EMBA students currently enrolled to Nanjing University in 2004, and graduated EMBA students of Nanjing University. Questionnaires were delivered in the following three ways: 1) Researchers handed out questionnaires to enterprises investigated; 2)

Questionnaires were handed to MBA or EMBA students in classes; or 3) Via emails. When delivering questionnaires, researchers attempted hard to guarantee the randomness of the samples. Respondents were required to fill in the questionnaires anonymously. Those who could not complete the questionnaires on sites could send their answers back in a self-addressed stamped envelop. Meanwhile, the multi-sourced nature of our respondents effectively reduced the system bias in data collection and ensured the reliability and authenticity of data collected. To guarantee a higher return rate, we made phone calls to those respondents who failed to meet the deadline for questionnaire return.

3.2 Questionnaire design

Two types of questionnaire were used. Questionnaire A and B were respectively designed for managers at medial or high levels and ordinary employees. Chen (1995) found that respondents from different cultural background incline to have different psychological tendencies. Confucian countries like China and Japan honor “the golden mean”, namely respondents from these countries tend to choose the middle point. Thus the majority of domestic scholars agree to adopt even-numbered Likert-type in China (Chen et al., 2006). In this paper, both the two questionnaires adopted a 6 point Likert-type scale (1 = completely agree; 2 = agree; 3 = agree to a certain degree; 4 = disagree to a certain degree; 5 = disagree; 6 = disagree completely).

A back-translation process was adopted to ensure accurate translations. The final version of the questionnaire includes four parts: Part I is the basic information of the respondents, such as gender, age, academic degree, and occupation, etc. Part II contains basic information of firms investigated, including firm scale, age, nature, financial performance and innovative performance, etc. Part III includes items concerning strategic proactiveness. The last part involves measurement of organizational capital. To avoid common-method variance, the first three parts and Part IV are respectively contained in questionnaire A and B. Since many variables are from the firm level, we handed out one copy of questionnaire A and three copies of questionnaire B in each firm. Questionnaire B was filled in by three randomly-chosen employees from the same firm of questionnaire A respondent. While high inter-rater reliability exists among respondents to questionnaire B, the arithmetic averages of their answers were calculated, recoded and stored.

A pilot test was conducted among 60 firms in Nanjing. After face-to-face interviews with 10–12 senior managers, some modifications were made in accordance with the results of these interviews and experts’ suggestions. The final version of the questionnaire is easier to understand. During our formal survey from Sep. 2004 to Apr. 2005, 500 copies of questionnaires were delivered,

out of which 303 were returned. After deleting 21 invalid copies, a total of 282 valid copies were collected (return rate =56.4%).

3.3 Measurement

3.3.1 Independent variables

Measurement of power orientation and norm orientated capital adopts the scale developed by the British Aston Research Institute (Pugh, 1968, 1969), with 1 indicates “absolutely disagree” and 6 indicates “absolutely agree”. Measurement of power orientated capital centers around the following six items, namely delegation of decisive decision-making powers in a firm, the amount of information leaders in a firm tend to collect when making decisions, supportive environment of employee participation, the pursuit of an unanimous state as a goal in the firm, formal and detailed plans, and the focus on medium and long term plans. Later, item 6 is eliminated in exploratory factor analysis due to cross-loading problems. Thus a total of 5 items are used to measure power orientated capital.

Norm orientated capital was also measured adopting five entries from Aston’s scale, including different person specially assigned for different tasks, no matter these tasks are small or big, specifically defined responsibilities and rights, detailed and well-prepared back-up plans, long-standing institutions in the firm, and explicit organizational structure.

Knowledge orientated capital was measured by means of three questions, namely “employees in this firm have quite balanced knowledge structure”, “experts rather than mere experiences are accounted when problems occur”, and “the firm is supportive of innovative activities”. Another entry formerly used to measure knowledge orientated capital (“this firm encourages an active employee’s participation”) was deleted in the correlation test between individual item and total items due to its coefficient smaller than 0.35. Thus only three entries are used in the measurement of knowledge orientated capital.

3.3.2 Mediator variable

Since strategies are formulated at the corporate level, high validity and credibility of the scale of strategic proactiveness is particularly important (Boyd, 2005). Drawing on Miles and Snow’s (1978) definition of strategic proactiveness and Ruef’s (1997) scale of strategic proactiveness, we summarize four items, namely “My firm is quite sensitive to market signals and will take practical actions.” “My firm always attempts to become a market leader when launching new products or entering a new market.” “My firm is full of adventurous spirits and always attempts to launch a lot of new products or services to markets even if the demands

of these markets are not quite clear”. “My firm always attempts to develop new products or explore new market”. Based on the results of exploratory factor analysis, we eliminated the first item due to its cross loading problem and used the rest three items to measure strategic proactiveness. To future test the concept’s robustness, the arithmetic mean of the above three items were used as the measured value of strategic proactiveness and correlation analyses were carried out with firm scale and performance. Results showed that correlation coefficient was significant at the 0.01 level, indicating that firms adopting strategies characteristic of proactiveness tend to have good performance. The content validity of the strategic proactiveness was also approved for only firms with abundant resources and good performance are motivated to think about problems of strategic proactiveness.

3.3.3 Dependent variables

Contrary to some researchers’ adoption of only financial indexes to indicate firm performance, we used both financial and innovative indexes to represent a firm’s overall performance. On one hand, excessive emphases on pure financial performance will lead to a focus on short-term interests, neglecting the long-term benefits innovative performance brings to a firm. On the other hand, a combination of both short-term and long-term indexes can better test the robustness of our results. The market performance index highlights a firm’s performance in market, such as product quality or service quality, degree of customer satisfaction, market share, sales growth rates, and is measured with the following question: “in comparison with your rivals, how will you evaluate your firm’s market performance (1=very good, 6=very poor)?” The innovative performance index focuses on a firm’s innovation atmosphere and questions used include “mutual trust among employees”, “supportive atmosphere of innovative activities”, “contrary opinions are allowed to exist in my firm”, and “it is easy for firm members to obtain outside information”. Among the four questions, Question 2 was eliminated due to cross loading problems. Scale developed by Singapore scholars Lu et al. (2006) was adopted in this article.

4 Results

The sample consisted of different types of firms. Among these firms, 44.7% had 150–300 employees, 31.8% had 300–1 300, and 23.5% had more than 1 300 employees. 48.7% sample firms were state-owned, 5.6% collectively owned, 31.8% were private-owned, 8.2% exclusively foreign-owned, and 5.6% were joint ventures. In other words, 48.7% firms of our sample were state owned and 51.3% were not, which was consistent with China’s actual conditions. Following

suggestions of Armstrong and Overton (1977) and Lambert and Harrington (1990), we treated the questionnaires returned after we had urged the respondents as invalid ones and compared them with duly returned questionnaires. Independent samples T test were used to compare the non-response bias of the two types of questionnaires in objective entries such as firm age, ownership, size, and industry, etc. Results show that there was no non-response bias among these entries. Normality test was also conducted on the data collected, as shown in the Q-Q figure, showing that the data collected accorded with normal distribution and thus was of high quality.

4.1 Measure model

First of all, we chose half of the sample at random for exploratory factor analysis. As shown in Table 3, a total of six factors, namely power orientated capital, norm orientated capital, knowledge orientated capital, strategic proactiveness, financial performance, and innovative performance, were extracted from the 23 questions, explained up to 72.1% of the total variance. According to Hair (1997), 69% of the total variance explained or above is sufficient and valid in social science studies. The Cronbach's alphas of all variables in our study are above the acceptable level of 0.70, showing a good inner reliability. Those invalid entries were eliminated from the questionnaire.

Confirmatory factor analysis was conducted to examine the convergent validity and discriminant validity of the model. The results showed that the model had a high goodness-of-fit ($\chi^2(215)=437.45$, $p<0.001$, RMSEA=0.053, RMR=0.049, CFI=0.93, NNFI=0.95, IFI=0.96). All entries in the questionnaire corresponded with the factor structure of each hypothesis. In addition, standardized factor loadings were obviously higher than the suggested 0.60 (the lowest factor loading in the present study was 0.66) and with high statistical significance, showing that the convergent validity was good.

To verify the discriminant validity, we adopted three competing models: the Harman Model ($\chi^2(230)=1045.96$, $p<0.01$, RMSEA=0.189, RMR=0.069, CFI=0.83, NNFI=0.75, IFI=0.86); a five-factor model ($\chi^2(220)=646.48$, $p<0.01$, RMSEA=0.111, RMR=0.098, CFI=0.61, NNFI=0.70, IFI=0.86), in which two firm performance factors were combined into one and other variables remained unchanged; the third model was a four-factor model resulted from combined firms' organizational capitals ($\chi^2(224)=924.01$, $p<0.01$, RMSEA=0.121, RMR=0.091, CFI=0.73, NNFI=0.75, IFI=0.86). In comparison, the $\Delta\chi^2$ values of the model set in this paper and the competing models were 608, 209, 487 respectively, with corresponding Δdf of 15, 5, and 9, respectively and p values smaller than 0.01. This showed that there was an obvious difference between our model and competing models. The high goodness-of-fit of our model support H1.

That is, corporate organizational capital consists of different structural dimensions with high discriminant validity and credibility among them.

Table 3 Results of exploratory factor analysis

	1	2	3	4	5	6
Separation of power to make key decisions	0.74					
Collect more information when making a decision	0.67					
The Enterprise is supportive of employees' Participation	0.61					
Consistency among all working staff is a goal pursued in this firm	0.57					
Enterprises always make formal and detailed plans	0.56					
Every job, big or small, is taken good care of by a specific person		0.74				
The scope of duties of each position is specifically described in this firm		0.73				
Have carefully-designed alternative plan		0.70				
Long-lasting institutions		0.59				
Clear organizational structure chart		0.69				
The knowledge structure of the employees is well balanced			0.80			
We count on expertise rather than mere experiences when solving problems			0.74			
This firm is supportive of creative activities			0.77			
This firm always attempt to become a market leader				0.78		
This firm possesses an adventurous spirit				0.72		
This firm pursues to develop new products or new market				0.68		
Product or service quality					0.85	
The degree of consumer satisfaction					0.82	
Market share					0.72	
Sales growth rate					0.58	
Mutual trust among members						0.78
Tolerance of different opinions						0.76
This company is easily available to outside information						0.75
Cronbach's α	0.87	0.78	0.69	0.73	0.86	0.91
Characteristic root	11.3	4.9	3.8	3.5	2.8	1.1
Variance explained (%)	29.7	12.9	10.0	9.2	7.4	2.9
Total variance explained (%)	29.7	42.6	52.6	61.8	69.2	72.1

Note: Common factors are extracted by means of maximum variance method.

4.2 The preliminary structural model

Based on the above hypotheses, we establish a preliminary structural model with the following goodness-of-fit indexes (respectively, $\chi^2(217)=848.99$, $p<0.01$, RMSEA=0.072, RMR=0.089, CFI=0.86, GFI=0.79, GFI=0.71, NNFI=0.80, IFI=0.81, PNFI=0.59, PGFI=0.60)¹ and path coefficients, as shown in Table 4.

Table 4 Path coefficients of the model

Path	Relation among variables	Path coefficients	T-value	Corresponding hypothesis	Results
γ_{11}	Power → Strategic proactiveness	0.22**	2.59	H3a	Supportive
γ_{21}	Power → Financial performance	0.04	1.46		
γ_{31}	Power → Innovative performance	0.10	1.52	H2a	Non-supportive
γ_{12}	Norm → Strategic proactiveness	0.24*	2.02	H3b	Supportive
γ_{22}	Norm → Financial performance	0.33**	2.88		
γ_{32}	Norm → Innovative performance	0.09	1.52	H2b	Partially supportive
γ_{13}	Knowledge → Strategic Proactiveness	0.12	1.29	H3c	Non-supportive
γ_{23}	Knowledge → Financial Performance	0.37*	2.34		
γ_{33}	Knowledge → Innovative Performance	0.32*	2.20	H2c	Supportive
β_{21}	Strategic proactiveness → Financial performance	0.42**	3.02		
β_{22}	Strategic proactiveness → Innovative performance	0.10	1.48	H4	Partially supportive

Note: * and ** indicates $p<0.05$ and $p<0.01$, respectively (two tailed).

As above, H2a was not supported, showing that power orientated capital does not affect a firm's performance directly; H2b was partially supported, showing that it pays for a firm to improve its operational efficiency since a good system design enables a firm to achieve good performance; H2c was supported, showing that the knowledge orientated capital is of great importance to a firm. A cooperative atmosphere characterized by harmony and openness is important to Chinese firms. It not only benefits a firm's short-term performance, but long-term performance.

H3a was supported, showing that power orientated capital affects directly a firm's strategy choice. H3b was also supported, showing that the establishment

¹ Conciseness indexes PNFI and PGFI only used for the purpose of comparing with the preliminary model in this article.

of norms is beneficial to the cultivation of certain strategy orientation in a firm. It also indicates that well-developed mechanisms and work flow enhance the proactiveness of a firm's strategy chosen and guarantee an advantageous position of the firm in competing with its rivals in the market. H3c, however, was not supported, showing a well-developed internal knowledge management mechanism does not always necessarily lead to strategy proactiveness. For many firms, the main motivation behind the promotion of knowledge management is to improve their competitiveness, rather than to form certain strategies. This result is consistent with some researchers' conclusions. For example, Porter (1996) used key words such as positioning, trade-off and match to define strategy. He argued that Japanese firms would lose their competitiveness in the future as a result of their lack of positioning and neglect of strategy. Quite contrary to Porter's prediction, many Japanese corporate giants continue to thrive in the 21st century. Toyota's profit margin ratio still rank No. 1 in the whole automobile industry, left the three U.S. car-makers far behind. Nonaka and Takeuchi (1995) used Panasonic as an example to illustrate that the mechanism of knowledge production, diffusion and transform is the secret behind many Japanese firm's sustainable success, which shows that knowledge orientated capital relates directly to firm performance, while not to firm strategy.

H4 was partially supported, showing that although strategy proactiveness is beneficial to outstanding financial performance, it does not significantly related to a firm's long-term innovative performance. Possible reasons may be that in the context of China's transitional economy, firms need to take proper, prompt and effective strategies to adapt to external environmental changes. These measures are believed to have an immediate effect on a firm's financial performance. However, such types of short-term measures may not as helpful in cultivating an open, tolerable and relaxed knowledge-creating atmosphere. This also indicates that much work remains to be done in improving Chinese firms' strategy proactiveness. Therefore, when making proactive strategies, leaders of Chinese firm need to take longer views.

4.3 Model modification and analysis of mediating effects

Scientificness and conciseness are two key criteria of a good model. Data shows that the preliminary model needs further improvement in conciseness and goodness-of-fit. We thus eliminated paths with insignificant path coefficients and try to further modify our model based on existing literature. As shown in Fig. 2, goodness-of-fit indexes of the modified model are improved to a large extent ($\chi^2(219)=375.22$, $p<0.01$, RMSEA=0.060, RMR=0.049, GFI=0.92, CFI=0.93, NNFI=0.94, IFI=0.91, PNFI=0.86, PGFI=0.85). In addition, both PNFI and PGFI show that, in comparison with the preliminary model, the modified model has a

higher degree of conciseness.

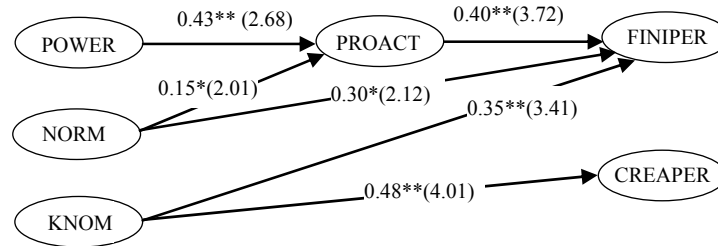


Fig. 2 Modified structural model and interrelation among variables

Note: POWER=power orientated capital, NORM=norm orientated capital, KNOM=knowledge orientated capital, PROACT=strategic proactiveness, FINIPER=financial performance, CREAPER=innovative performance, numbers in the parentheses are *T* values.

According to Baron and Kenny (1986), four conditions are to be met for mediating effects: Among three variables A, B, and C, if 1) A affects C alone in a significant and direct way; 2) B affects C alone in a significant and direct way; 3) A affects B alone in a significant and direct way; 4) The direct impact A exerting upon C is significantly lowered because of the “sideway effect” of B, then B acts as a mediator between A and C. B is a complete mediator between A and C if A’s impact upon C is lowered to 0. B is a partial mediator if the impact is lowered but not completely. Since the invention of SEM method, structural equation model has been widely adopted to test mediating effects.

In Fig. 2, the mediating effect of H5 is partially supported, that is, power orientated capital influences firm performance through the mediating effect of strategic proactiveness, showing that Chinese firms need to highlight proper separation of power and grass root employees’ extensive participation in organizational affairs, which helps top management collect feedbacks from different levels in the firm and formulate proactive strategies so as to survive amidst tough competitions. Separation of power and employees’ extensive participation also infers that top echelon need to use their power with greater care because incautious usage of managerial power will lead an abysses of failure for a firm. As Sima (1956) pointed out in Volume 192 in his famous history book *Comprehensive Mirror to Aid in Government* that to an emperor, “one who hears suggestions can discriminate the true from the false; one who hears only from one side can not discriminate things.” A good firm leader shall always be aware of the prudent use of his power.

The norm orientated capital affects firm performance mainly via two paths: The first is through the indirect influence of strategic proactiveness. Rules and regulations can ensure the smooth implementation of a firm’s everyday strategic activities, during which a firm may cultivate gradually sense of proactiveness in

the market and obtain outstanding performance. The second is through direct influence of norm orientated capital on a firm's financial performance. In comparison, this direct influence is five times stronger than that of the indirect influence, implying that Chinese firms' institutional reinforcement and procedural improvement enhance their financial performance directly (Liu, 2007). Zeng (2004) pointed out that although it seems some short-term interests are sacrificed, it pays well for a firm to constantly input resources into institutional construction in the long run. Taken together, power orientated capital facilitates the formation of proactive strategies in a firm, while norm orientated capital guarantees the implementation of these strategies. Neither the strategy formation nor strategy implementation is dispensable for any firm.

More importantly, our model shows that knowledge orientated capital directly affects a firm's performance. As above, power orientated capital and norm orientated capital impact only the rather short-termed financial performance, while knowledge orientated capital significantly influences both short-term financial performance and long-term innovative performance, explaining 12% (35% \times 35%) of the total financial performance variances and 23% (48% \times 48%) of the total innovative performance, respectively. Though financial performance is important to a firm's survival, innovative performance provides a firm with sustainable development incentive. This conclusion rings alarming clock to some local policy-makers in China, who, in an attempt to boost local GDP, swallow foreign investment blindly while neglecting R&D input. Consequently, many Chinese firms are weak in independent innovation. In many so called high-tech industrial parks, a misleading high GDP conceals the fact that many firms in these parks are lack of real core competitiveness, a phenomenon ironically called "put on weight with mere bones but no flesh" (Bai, 2006). As a matter of fact, many local policies are adverse, rather than beneficial to firms' short-term performance, let alone long-term interests. This conclusion is consistent with Yin et al.'s (2004) findings, who pointed out that different Chinese regions' fighting for foreign investments by means of actively involved in a tax rate war was not helpful in improving these regions' economic strengths.

5 Significances and limitations

Using Chinese firms as samples, this research studies the interrelationship among organizational capital, strategy provactiveness, and firm performance. Results show that different components of the organizational capital affect firm performance via different patterns and mechanisms. The significance of this research is listed below:

5.1 Practical significance

Practically, this research shows that when making decisions, firm leaders shall use their power more prudently and tactically and make full use of grass root employees' participation and wisdom, so as to guarantee the proactiveness of the strategies adopted (Liu and Chen, 2004). Moreover, while improving performance by means of organizational capital, firms need to perfect their internal regulations, institutions and procedures and to advance the construction of knowledge management mechanisms. As noted, effective knowledge management enhances both short-term financial performance and long-term innovative performance. To enhance technology innovation and build up firms to "last for a hundred years", it is necessary for Chinese firms to highlight a cultivation of internal atmosphere beneficial to creation, diffusion and absorption of knowledge.

How can firms acquire and maintain competitiveness? As represented by Porter, scholars from the positioning school focus on the acquisition of competitiveness and argue that there are only two strategy choices for firms in the "real world": Overall cost leadership or differentiation. Rumelt, Peteraff, Anderews and other scholars from the resource school stress that a firm's competitiveness is built on an occupation of resources. Particularly, they believe that the internal intangible resources are the fountainhead of sustainable competitiveness for firms. The learning school, as represented by Plahalad, Hamel and Argris, highlights the maintenance of competitiveness. Scholars from this school contend that unremitting learning is the only way for firms to maintain their competitiveness. By combining these perspectives together, we verify Collins's, coauthor of *Built to Last*, conclusion that "clock building, not time telling" is the fundamental way to acquire sustainable competitiveness.

In the context of China's transitional economy and an increasingly uncertain, volatile external environment, Chinese firms need to be more realistic and diligent and learn more advanced managerial ideas from developed economies, so as to build outstanding firms that can really "last for a hundred years". Our results imply that Chinese firms should constantly cultivate their organizational capital to keep their firms operate efficiently and to fulfill a series of objectives, including short-termed ones and long-termed ones.

5.2 Theoretical significance

Since Hambrick and Mason's (1984) establishment of the upper echelon theory, many scholars have been exploring its influence path. Wang et al. (2005) found that people-centered leaders paid attention to employee satisfaction improvement,

which indirectly enhanced firm performance, while task-centered leadership boosted directly firm performance. Boeker (1989, 1997) proved that the heterogeneity, turnover, age, and tenure of a firm's upper echelon were positively related to changes in strategy. All these research help us to better understand the strategy-making process in firms and to open the "black box" of firm performance. From the perspective of organizational capital, this research shows that different components in organizational capital affect firm performance in different ways, specifically, power and norm orientated capital influence performance through the mediating effect of strategic proactiveness, while knowledge orientated capital influences firm performance directly. This finding is a useful supplement to the upper echelon theory.

Among all types of organizational capitals, power and norm orientated capital affect indirectly a firm's competitiveness, with its leader's strategic proactiveness as a mediator. Thus we can find in China's business history both cases of leaders achieving success by means of proper managerial power operation and institutional construction and cases of firm failure due to imprudent usage of managerial power and problematic business process reengineering. As knowledge is becoming one of the most important productivities, all firms need to highlight the importance of knowledge production, diffusion and utilization at any stage of their life circles, so as to enhance their efficiency. We also found knowledge orientated capital is not necessarily related to a firm's strategy and its promotion of performance is not country-specific. Therefore, firms need to pay more attention to their knowledge management and to establish certain institutional arrangement for knowledge production, diffusion and utilization. As the mechanisms for knowledge promotion are more or less the same in all countries, we can infer that knowledge orientated capital exerts directly on Chinese firms' performance, rather than through the mediating effects of strategic proactiveness (March et al., 2005; Liu, 2004).

5.3 Limitations

The research presents an analysis framework for the three components of organizational capital. Organizational capital is, however, not a mature construct like other measurable concepts in organizational behavior or human resource management. Thus further discussion and fractionization of the concept of organizational capital are needed. We only explore here the mediating effect of strategic proactiveness. Baron and Kenny (1986) pointed out, in their famous study on mediating effects that the mechanism and path of certain relationship among different variables means simultaneously that these relationships occur under special circumstances. We can thus further explore how such mechanism and path exist. That is to say, we need to find out the effects of possible

moderators between the relationship of organizational capital and firm performance. As a matter of fact, the moderator and mediator are closely related. We believe that it is the moderating effects of the strategic dynamics of a firm and the uncertainty of the external environment that help strategic proactiveness act as a mediator between organizational capital and firm performance. Moreover, due to the uncertain and volatile external environment, a firm's strategy needs to demonstrate a certain level of dynamics and flexibility, which makes the proactiveness of strategy executor even more important. Therefore, future studies are supposed to explore the moderating effects of external environment uncertainty and strategic dynamics on the relationship between organizational capital and firm performance. Another limitation of this research is that a majority of sample firms are from East China, which may reduce the applicability of our conclusions to a certain degree. More in-depth studies are needed with extended scope of sample firms.

Acknowledgements This work is supported by the National Natural Science Foundation of China (No. 70602009, 70472045), the Humanities and Social Sciences Foundation of Ministry of Education (No. 08JC630042), and the Economic Transformation and Development Centre of the Philosophy and Social Science Innovation Base of Ministry of Education of the People's Republic of China. We are also grateful to anonymous referees and editors for their constructive and helpful suggestions.

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