Dynamics of strategic management in the Chinese construction industry

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Abstract

Purpose – To provide a structured and integrated framework of corporate strategy in order to help practitioners and researchers identify critical issues related to the Chinese construction industry and analyze its dynamics from a holistic viewpoint.

Design/methodology/approach – A brief review of the major themes of strategy mostly developed by western researchers is first presented. This is then supplemented by a review of the pertinent characteristics of the construction industry in general, and those related to China's context in specific, which affect management decision-making. Two case studies are used to illustrate the concepts implied by the proposed framework.

Findings – The cases of Guangsha and the Shanghai Construction Group demonstrate that there is no hard and fast rule in developing a coherent strategy. This is even truer considering the fact that China's circumstances are still evolving.

Practical implications – The critical elements identified in the proposed framework serve as a good starting point for individual firms to further develop a more detailed execution plan.

Originality/value – This paper bridges a management gap that exists between mainstream management researchers, who have few precedence of studying the construction industry, and traditional construction management researchers, who tend to focus on project-level issues rather than corporate-level issues.

Keywords Strategic management, Construction industry, China

Paper type Research paper

Introduction

Strategic management as a formal field of academic inquiry is said to emerge only since the 1960s (Rumelt *et al.*, 1994). Over the years, management studies building on either empirical or anecdotal evidence related to the construction industry appear to be lacking. This seemingly lack of interest given by mainstream strategic management researchers could be due to three primary reasons:

(1) The construction industry encompasses a broad range of sub-sectors (residential, industrial, environmental, infrastructural construction – just to name a few) and involves multiple parties who are bound by specific contractual arrangements in any given project procurement system. The complexities and "messiness" involved might have raised the barriers for researchers of a more generalist nature to conduct insightful studies.

(2) Construction is sometimes portrayed as a "low-growth, low-tech" industry, thus lessening its appeal as a research context.

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(3) Industries such as automobile and pharmaceutical consist of large, dominant organizations with concentrated market shares (Oster, 1999). The prominence of these organizations usually implies that their strategies, actions and outlooks are widely covered by many public sources. On the other hand, construction is a highly fragmented industry and information on individual firms is relatively limited. This adds to the difficulty of conducting management studies on construction firms.

Meanwhile, many construction management professionals – researchers and practitioners alike, are too entrenched in a project management tradition (Chinowsky, 2000). The importance of corporate-level management issues is often downplayed when most firms are content to stay afloat one project at a time. Alas, recent demises of premier companies such as Stone & Webster in the U.S. (established in 1889) and Philipp Holzmann in Germany (established in1849) vividly exemplify that technically competent firms can still fail if they do not have a coherent and long-term corporate strategy. A direct and consequential result of omission by both schools of intellectuals is a lacuna of corporate-level management issues specific to construction. The importance of these issues is elevated in the case of China where the construction market and the general industrial environment are in a flux. Whether it is for the sake of current survival or future competitiveness, the Chinese construction enterprises need to look beyond project and corporate boundaries.

In China, contribution of the construction industry to the country's GDP has risen from 3.8 percent in 1978 to 6.7 percent in 2002 (National Bureau of Statistics of China, 2002). In 2002, the gross output value of construction reached 1852.7 billion Renminbi (RMB) with a year-on-year growth rate of 20.6 percent. Direct contributions to the country's economy aside, strong infrastructural systems also serve as the backbone of growth for other industrial sectors in general. Although there have been some speculations that China's high GDP growth rate is not sustainable, it is believed that the construction industry will be less affected since a large part of the country is still blighted by the lack of basic infrastructure and facilities.

The Chinese construction industry itself is undergoing a major evolution and transition (Li, 2001). First, governance and administrative system of the industry has changed (Luo and Gale, 2000). Second, as reform of state-owned enterprises continues (Sha and Lin, 2001), China's accession to the WTO in 2001 means that domestic firms have to confront the rivalry of foreign firms who largely possess better financial strength and technological prowess. Against this backdrop, a framework that helps construction enterprises examine various strategic concerns in a broad sense is essential. Prior to this, an overview of some unique characteristics of the construction industry – both in general and also specific to China's context, is essential.

Characteristics of construction industry affecting management decisions

General aspects

In general, the construction industry has low barriers to entry coupled with a high degree of fragmentation. To provide a rough picture of this highly competitive and fragmented nature of the industry, consider the US market which had a total construction spending of approximately US$ 889 billion in 2002 (Tulacz, 2003). The three largest players, Bechtel, Fluor Corporation, and Kellogg Brown & Root, had a collective stake of less than 1.5 percent of this market volume in 2002. Likewise, there

were about 100,000 construction enterprises in China as of 2002. The numerous competitors in construction, including some who are indeed not profit-driven, have heightened the rivalry intensity in this industry. Price is also far from being the only determining success factor (Macomber, 1999). Moreover, exit costs in construction are generally high due to obligations under existing contracts and capital investments that have very limited transfer value (i.e. high level of asset specificity).

Despite influential forces of globalization and deregulation, the construction business still requires a huge amount of local knowledge and relies substantially on domestic networks and relationships. This somewhat creates a "multi-domestic" setting, following Porter (1998) parlance. Since the production activities are mostly conducted onsite, there are limited economies of scale. The usual "learning-curve" effect is weakened due to the geographical dispersion of projects. Human capital represents a key asset in many operations, especially for engineering services. There is also a heavy reliance on labor for the physical construction process, although automated construction methods are constantly pioneered by some – such as the Japanese contractors. In a typical project, it is a challenging task to ensure smooth exchanges of information among various parties – client, architects, engineers, contractors, suppliers, surveyors, and miscommunications are not uncommon. This indirectly leads to a litigious business environment. Insurance and various types of bonds (bid, payment, and surety) serve as some important tools for risk sharing, transfer and avoidance.

Next, consider the simplified value system shown in Figure 1 which is typical for many sectors of the industry. Except for the upstream suppliers' operations which are product-based, other activities within the value system are primarily service-oriented. The differences between product-based and service-oriented industries could be crucial in terms of operational, marketing and technological strategies. Certain models such as Porter (1985) value chain cannot be applied without modification – for example, "inbound and outbound logistics" do not have clear-cut meanings for most engineering and construction firms. Lastly, project delivery and procurement systems, such as design-bid-build and build-operate-transfer, critically govern the rules of the game and affect firms' rivalries and strategies (Miller, 2000).

Figure 2 summarizes the general strategic aspects of the industry that have been discussed.

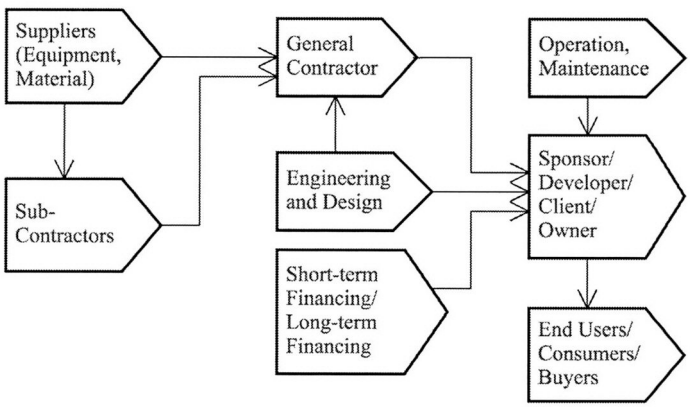

Figure 1.
Value system of typical sectors within the construction industry

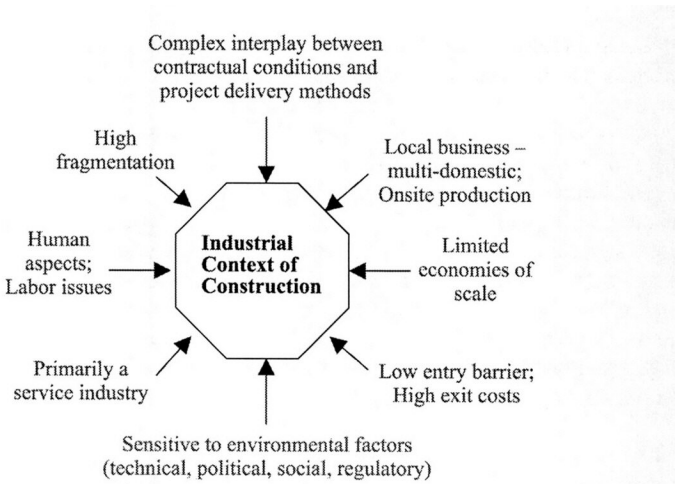

Figure 2.
Characteristics of the construction industry with strategic implications

Context of the Chinese construction industry

Construction enterprises in China are commonly categorized into three groups: state-owned enterprises (SOEs), urban and rural collective owned enterprises (COEs), and rural construction teams (RCTs) (Chen, 1998; Low and Jiang, 2003). As a result of China's accession to the WTO, China's economy has gradually been transformed from a centrally-planned to a market-oriented setting. The opening up of China's market invites more liberal participation by foreign contractors and consultants who were previously limited to undertake only World Bank and Asian Development Bank projects, foreign direct investment projects, specialized technology projects, and "authorized" form of joint ventures. In fact, for construction, the issuance of Decree 113 and 114 essentially hastened this process two years earlier than it was legally required under the WTO Accession Treaty (Ren and Khong, 2004). The growing presence of foreign enterprises rightfully adds to a fourth category of enterprises, which needs to be taken into account when one studies the dynamics of strategic management in the Chinese construction industry. Coupled with the government's drive for integration with the global economy, international alliances and joint ventures are gradually being forged between Chinese and foreign contractors to undertake both domestic and international construction projects (Chew, 2001; Luo, 2001; Shen *et al.*, 2001; Xu *et al.*, 2004; Xu and Chew, 2004).

The *Engineering News Record* classifies construction activities into eight major industrial sectors: general building, transportation, manufacturing, industrial process, petroleum, power, environmental and telecommunications. Broadly speaking, the Chinese construction enterprises dominate the general building and manufacturing sectors. Not surprisingly, foreign firms initially found themselves involved in large infrastructure projects (such as power plants and toll roads) and construction of plants involving high-technology or complex industrial processes.

In China, the governance structure of the construction industry is multi-layered and fragmented. Broadly, the administration hierarchy related to construction consists of:

(1) The central government involving the State Council, the National Development and Reform Commission, the Ministry of Construction and other related ministries.

(2) Construction Committees at the provincial and municipal levels.

(3) Construction Bureaus at the prefecture and county levels.

The last two categories are under the purview of the Ministry of Construction and the local governments. Since entities are interconnected by both vertical and horizontal channels, many departments have overlapping enforcement responsibilities and power of control over construction works in one particular location. Conflicting orders and guidelines from different authorities are not uncommon, and the consequent legal and regulatory implications are complex (Zhu *et al.*, 2001). Moreover, unlike in the Western societies, the judicial system in China has traditionally been government-oriented and playing a role of keeping social rather than economic order intact (Lu, 2003).

In China, the effects of low entry barrier, fragmentation, and high exit cost as depicted earlier in Figure 2 are mutually reinforcing. High exit barrier, in particular, is due to both market and institutional factors such as:

- Lack of a matured resource market for asset transfer thus magnifying Williamson's (1975) notion of transactional costs.
- Lack of comprehensive legislations to protect failed companies to exit through bankruptcy, mergers or liquidation of assets.
- An added role of enterprises to provide employment for local community, therefore government authorities may simply bail out certain enterprises to maintain the stability of the society.

Despite the economy's progress towards "market socialism" (Naughton, 1995), until such changes fully take place, demise of underperforming construction enterprises is unjustifiably prolonged. Surplus of production capacity creates excessive competition among players, but it does not lead to the type of perfect market that economists would like to envision. For example, some SOEs and design institutes have utilized "over-competition" as an excuse to usher the government to prevent potential competitors from entering their local markets (Lu, 2003).

There are other problems and issues specific to the Chinese construction market. On project delivery and procurement systems, projects were assigned in the past when local protectionism and corruption potentially influenced decision-making in contract award. Other outstanding issues, including the high default rate of payment obligations along the client-contractor-subcontractor-supplier-worker supply chain and the abuse of power by some government authorities, act to the detriment of efforts to transform the Chinese construction industry into one that is as effective and transparent as those in the developed countries. On the bright side, signs of reform of tendering practices are shown with the enactment of *The Construction Law of the People's Republic of China (PRC) (1997)*, *The Contracts Law of the PRC (1999)*, and *The Call Tender and Tendering Law of the PRC (2000)* (Wang, 2001). Gradual changes are also observed since China's accession to the WTO in the construction legal system. For example, the two Regulations promulgated in 2002, *The Foreign Investment Design Enterprises Regulations* and *The Foreign Investment Construction Enterprises Regulations*, help to open up market access to foreign enterprises. For the first time, wholly foreign-owned design and construction enterprises can now be legally established in China. The caveat, however, is that their establishments are still

subjected to the approval of specific government agencies, along with other constraints such as the type of projects that may be undertaken.

Applicability of Western strategic management theories

Previous reviews of the industry's unique characteristics in both a generic sense and specific to China's context affirm the daunting task of conceptualizing a strategic framework for the different categories of construction enterprises. In their study of the internationalization process of Chinese construction enterprises, Low and Jiang (2003) found that firms' experience do not seem to fit traditional multinational enterprise theories. Still, with more than four decades of academic intellect, it would be a mistake to totally ignore what Western scholars have to offer to solve the strategic puzzle. A number of typologies exist for different perceptions of strategy depending on the *content* of strategy, the *process* of strategy development, and the *contexts* (corporate and environmental) that house both content and process (Elfring and Volberda, 2001). As a point of reference, Whittington (2001) classification scheme is chosen to facilitate discussion presented in this section.

In his framework, Whittington found that the distinct schools of thought can essentially be mapped along two axes: outcomes of strategy and the processes by which it is made. The first axis examines the degree of variation of strategic intent and outcomes produced. This may represent profit maximization *per se* at one extreme, or accommodation for other complex priorities such as social responsibilities at the other end of the spectrum. The second axis considers whether such outcomes are derived through deliberate planning, calculation and formulation, or simply as an emerging product of accidents, chance, and social and organizational inertia. The radically different implications on strategy are hence read off from the relative positions along these two axes, resulting in four generic perspectives of strategy: Classical, Evolutionary, Processual, and Systemic. Readers may refer to Whittington (2001) for further details of the characteristics of each perspective and Cheah and Wong (2004) for a summary of the strengths and weaknesses of each field.

The real world is obviously more complex than what could be analyzed through static reliance on a single field of theory. Shenkar and von Glinow (1994) testified that theories vary in terms of their applicability to the Chinese context, but making necessary adjustments to such theories are likely to lead to positive developments in our understanding of the Chinese organizations. Thus, whether it is Whittington's four generic perspectives or Mintzberg *et al.*'s (1998) ten schools of thought, the different theoretical fields within each classification framework should be viewed as complementary rather than mutually exclusive. For one, Oliver (1997) had combined both institutional and resource-based views to derive a series of interesting propositions concerning sustainable competitive advantage. It goes without saying that an open mindset helps to match theories with circumstantial evolvements in the real world. This philosophical construct is even more crucial when the industrial dimensions of construction (Figure 2) are considered concurrently.

Blending theory and practice – conceptualization of framework

In short, the complexity of the industry's contextual variables and diversity of academic theories cannot be overemphasized – arguments and propositions can be framed in a meaningful perspective only with due consideration of these factors.

For example, while SOEs and wholly owned foreign enterprises (WOFEs) in China require different treatments, each theoretical field stands to add valuable insights to form parts and puzzles of the overall strategic mandate. In studying the Chinese construction industry, Kang *et al.* (2004) recommended a structured top-down approach by segmenting the analysis of the industry into three levels:

(1) China's macroeconomic environment;

(2) Industrial economics of construction including issues of demand, taxation, labor productivity, project quality, industry fragmentation and average asset turnover;

(3) Industrial structure and rivalry among firms.

All three levels are linked to the internal operations of firms in one way or another. By cross-referencing to Whittington's classification framework, Kang *et al.* found that each level of the analytical methodology can draw insights from different streams of the academic theories. For example, the first level, which focuses on broad issues and the external environment, is mostly related to the *Systemic* view; the second level may require contributions from the *Classical* stream (which is occupied with models developed by industrial economists); the third level would utilize collective insights from different streams ranging from market positioning (a *Classical* tactic), minimization of transactional costs (an *Evolutionary* theme), development of core competencies (a *Processual* approach) and establishment of "Guanxi" among firms (a *Systemic* notion). Based on a similar premise, the conceptual framework proposed in this paper does not subscribe to any single theoretical stream. Figure 3 provides an outline of the overall framework.

China's accession to WTO implies that the links between the industrial context and academic theories are largely in a flux. With the ingress of foreign enterprises and the continuing reform, restructuring and internationalization of Chinese construction enterprises (Low and Jiang, 2003), China has become more integrated with the global economy. The central tenet of corporate strategy lies with striking a delicate balance between both external and internal aspects. These aspects are separated by virtually "fluid" boundary lines as depicted in Figure 3 (drawn with the intention to emphasize the dynamic interactions between the two). While firms can dictate their *modus operandi* by controlling, structuring and implementing internal corporate functions, they would have less control over the development of external aspects – notwithstanding the fact that they may exert indirect influence by lobbying the government to adopt policies that benefit their businesses. Firms align their internal functions with the external development by adopting different modes, including "quasi-firms" (Eccles, 1981), networking (Nohria and Eccles, 1992), Guanxi (Tsang, 1998; Park and Luo, 2001), partnering, joint ventures (Luo *et al.*, 2001), strategic alliances, mergers and acquisitions. Details of the external and internal aspects in the framework will be duly addressed in sequence.

Government policies

Externally, the construction industry is closely tied to the economic growth of China, which in turn is affected by monetary and fiscal policies. The impact of governmental policies in instigating industrial growth usually channels downstream and affects construction in one way or the other. Already, the development of new facilities in

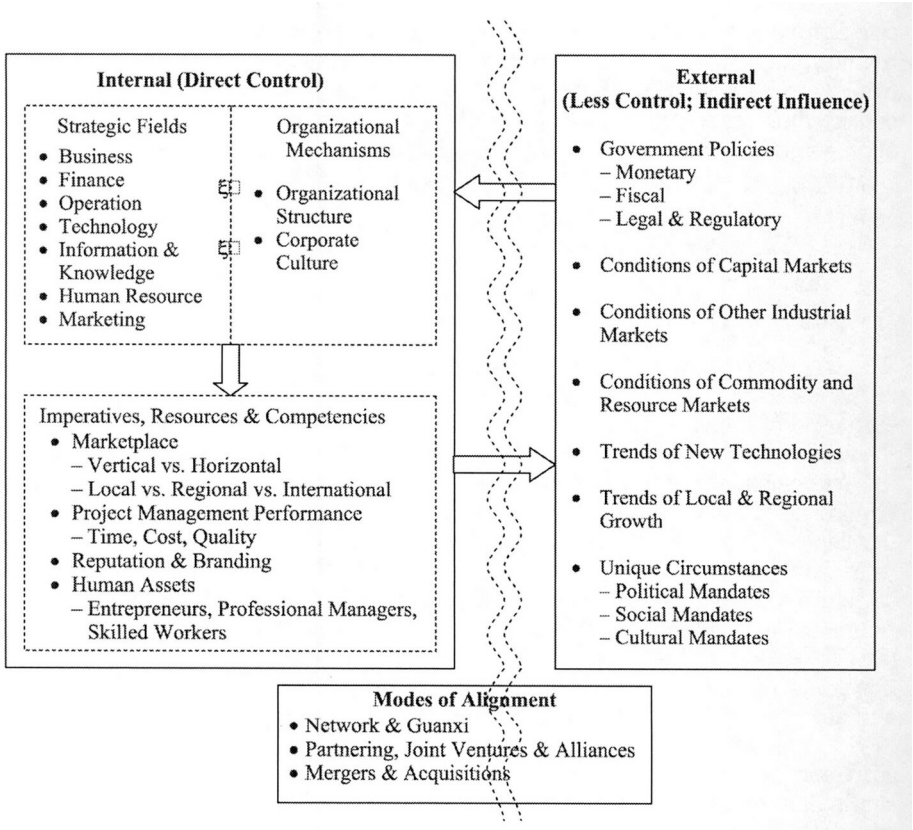

Figure 3.
Strategy development framework for Chinese construction enterprises

booming industries that enjoy easy credit loans spurs strong demand for construction. Recent reports also indicate some signs that China's growth is pulled back by a lack of sound infrastructure systems throughout the country – which means that more investments are foreseen in this area (Financial Times, 2003; Kynge, 2004b, 2004c). As discussed earlier in the paper, legislation of new construction laws critically affects procurement and functioning of construction projects. New development in legal and regulatory issues is therefore another key external factor for firms to monitor. Lam and Chen (2004) provided a good overview of the past and recent development of the construction legal system in China.

Conditions of capital markets, other industrial markets, commodity and resource markets

There are three major types of markets the conditions of which would affect fundamental business and project operations of construction. First, the conditions of capital markets dictate both the extent and costs of funding that enterprises could secure. In China, it is not uncommon that clients or developers defer progress payments to the contractors for a much longer period than what is commonly practiced in developed countries. The short term implication is that contractors would require a substantial amount of working capital to move a project forward. In the long term,

competitive advantage can be derived from the presence of financial strength to bridge gaps between cash inflows and outflows and also occasional events of default by clients. For larger firms which are either listed or eyeing for initial public offering, the stock market becomes an important source to raise capital in order to pursue a growth strategy through acquisitions, as witnessed in the case of the Guangsha Group.

Second, as a service industry, the conditions of *other* industrial markets, such as the level of fixed investments, are precursors of demand for construction activities. This is especially significant in the case of China when the country now attracts more than US$ 50 billion in foreign direct investments (Kynge, 2003).

Third, commodities such as steel bars, and resources such as equipment and labor, serve as basic inputs to the construction process. Consequently, the conditions of these markets directly affect the operating costs of contractors (obviously, for upstream suppliers and subcontractors, the conditions affect their revenue rather than cost). China's steel production amounted to 220 million tonne in 2003 and eclipsed those of the US and Japan combined (Kynge, 2004a). In 2003 it consumed 40 percent of world's cement output and in 2004 it became the world's second largest importer of oil (Kynge, 2004b). It is important to note that the resource markets create both opportunities and threats to construction. For example, shortages of coal, electricity and clean water imply imminent investments in these areas that require construction of power plants, water treatment plants and environmental remediation facilities. On the flipped side, feverish expansion and imports in sectors such as steel, aluminum, cement and property may signal a "boom-to-bust" crisis (Xu, 2004).

Trends of new technologies and local and regional growth

By and large, construction is a labor intensive operation and it is more so in China since labor cost is low. Still, in the aspects of planning, design, and engineering, Chinese engineers are technically well trained to develop new technologies. The Shanghai Construction Group (SCG), for example, relies on technological innovation to provide solutions in many of its projects which finally led to prestigious awards such as the National Technology Advancement Award. Although the development of new technologies are likely to emerge from more established firms, utilization of more generic and common technologies such as the internet is fast gaining ground among the Chinese, with some 80 million people now being regular internet users (The Economist, 2004). How firms equip themselves as either developers or users of new technologies would affect their corporate stance.

As a large country with huge disparities in economics, geography, culture and ethnic characteristics, local and regional differences are prominent in China (Child and Stewart, 1997). Firms are often subjected to a varying degree of influence by the trends of local and regional growth. Trends, characteristics and nature of construction projects in the fast-growing special economic zones, eastern and coastal regions are different from those taking place in secondary provincial cities, which in turn differ from the prospects of construction in rural regions. While certain location factors are important for large companies – especially those having operations that extend across many regions, they may be less relevant to firms that concentrate on a smaller operating radius.

Unique circumstances

A plethora of articles and publications are devoted specifically to the study of Chinese management simply because the context is unique. Notwithstanding China's progress towards open trade and an increased influence of global standards or styles of management, many enterprises in China are still donned with unique political, social and cultural mandates. To certain extent, the authors believe that it is less appropriate to consider many modernized Chinese enterprises as "total institutions" (Goffman, 1961) following Shenkar and von Glinow (1994) descriptions a decade ago – these are probably more relevant to Mao Zedong's era. Still, it is agreeable that special contextual and institutional mandates do remain in some areas. For example, in rural construction projects, modern practices are likely to be subjugated by local specificities as these places are relatively isolated from the high growth regions where most regional and international competitions are taking place.

Strategic fields and organizational mechanisms

The internal aspects shown in Figure 3 will now be addressed. The external environment in China previously discussed can be regarded as turbulent. SubbaNarasimha (2001) claimed that dynamic competence or variety-generating capability of knowledge is an important antecedent of superior performance in such turbulent environments. What firms really desire is an organic configuration rather than a mechanistic one. To capture the spirit of "variety-generating capability", seven strategic fields and two organizational mechanisms are proposed as key internal variables of a strategic plan especially in the long haul. Details of the scope, definitions and descriptions of each strategic fields and organizational mechanisms are given in Cheah (2002) and Cheah and Garvin (2004) and will not be repeated here. Instead, the key points of these variables are summarized in Table I.

Some may express concern over the degree of which firms could really treat the proposed strategic fields and organizational mechanisms as "variables" in the context of China. For example, under the influence of both Confucianism and Maoism, organizational structure would be framed by culture and ideology (Starr, 1979; Shenkar, 1984), thereby rendering its adjustments a formidable challenge. On the other hand, construction enterprises that are active in both domestic and international arena and adopt a longer term perspective may truly work towards an efficient form of structural fit with the environment in order to compete against rivals during this period of market transition. In many ways, the degree of variability is really a question of the corporate identity, the external context concerned and the planning horizon selected by a firm.

Imperatives, resources and competencies

While strategic fields and organizational mechanisms steer the overall directions, they need to be translated into more explicit business imperatives which are achieved through the development of key resources and core competencies. For construction, critical decisions boil down to four main areas: targeted markets; project management performance; reputation and branding; and management of human assets.

The choice of targeted markets can be categorized along two primary dimensions: market segment and geography. With respect to market segment, the differences between "diversification" and "integration" may not be obvious in some circumstances.

	Scope, definitions and key aspects
Strategic fields	
Business	Generic strategies of business units: differentiation versus cost
	Market segmentation: focus versus diversified
	Products/services that firm could offer, should offer, and target to offer
Finance	Investment decisions and project evaluations: NPV; decision analysis; optimization techniques; portfolio analysis; real options
	Financing decisions: capital structure – layers of equity and debt; cost of capital; tax issues; dividend policy
	Risk management: surety and payment bond; insurance policies
	Special project financing arrangements: BOT; turnkey
Operation	Engineering design
	Site management: inbound and outbound logistics; resource planning
	Project works scheduling and materials procurement
	Construction methods: conventional RC; steel; precast; composite
Technology	Adoption policy: pioneer versus follower
	Innovation policy: autonomous versus systemic; in-house versus off-the-shelve solutions; basic versus applied research
Information and knowledge	Organizational learning
	Knowledge transfer from one project to another: codified versus tacit knowledge
	IT investment policies: internalization versus outsourcing
Human resource	Personnel: recruitment; training programs; job rotation
	Industrial relations: union-management relationship
	Compensation policies: incentives; reward systems
Marketing	Branding and reputation building
	Value added to clients: foresee clients' needs; signaling value to clients
	Relationship marketing: Guanxi
Organizational mechanisms	
Organizational structure	Four dimensions: functions; markets; geographies; clients
	Formal versus informal structures
	Power centralization versus delegation of authority
Corporate culture	Social control systems and normative order
	Artifacts; espoused values; tacit assumptions in an organization
	Interaction with industrial and national cultures

Table I.
Scope, definitions and key aspects of strategic fields and organizational mechanisms

For example, when a building contractor merges its operations with another contractor that specializes in industrial construction, whether this represents a case of diversification or integration is far from crystal clear. The authors recommend thinking along Porter's (1985) notion of "value system" as depicted in Figure 1. Expansion of operations along the value system is clearly an example of "vertical integration". Any expansion beyond the original value system can be regarded as "horizontal diversification" since each sector within construction has its unique characteristics that require a different set of core competencies. As for the geographical dimension, distinguishing between local, regional and international markets is more straightforward. Herein lies the critical assessment of whether firm-specific advantages are adequate to overcome the immobility of location-specific advantages as firms venture out of their established network (Dunning, 1993).

For contracting (rather than design engineering) firms, project management remains a key function. This simply means ensuring that a project is completed on time, within budget and with a desirable level of quality. The entrenched project management tradition (Chinowsky, 2000) in the civil engineering profession signifies an abundance of models and theories associated with ways to improve on cost, scheduling and quality measures. Confronted with the unique characteristics of construction (e.g. low entry barrier) and specific Chinese environment (e.g. clients' unwillingness to pay a premium for higher quality), it is harder to excel solely in these three measures to create a sustainable competitive advantage. Too often, construction enterprises aim to stay afloat from one project to the next and undercut one another in pricing to secure a particular project. The end result is a large group of homogeneous competitors with a lack of long-term initiatives. In contrast, Figure 3 postulates that project management performance should germinate as a fruit of long-term directions in strategic fields such as operation, technology, knowledge and human resources, coupled with a supportive corporate culture.

One way to eschew the trap of homogeneity is the establishment of reputation and brand name. While in the Western context this is closely linked to marketing strategy, in China the process is more subtle when contract award is influenced by the client's perception of the extent of "value added" by a particular construction enterprise. Other than technical excellence, it may also include a firm's reputation of "cooperativeness" and "trustworthiness" especially for projects with special mandates.

Lastly, a key form of capital, other than the financial capital, is human assets. For small and medium construction enterprises in China, entrepreneurial thinking is essential to drive a low-tech and labor intensive operation to a higher level. For larger firms, the scarcity of truly professional managers means that these people have become the lynchpin of complex and sophisticated projects. In recent days, a large number of middle and senior level managers are sent for overseas training with Singapore being one of the destinations. Overall, construction workers need to be trained in various skill sets since many were previously farmers. In international construction, the importance of human capital has never been more pronounced since the Chinese contractors are generally outperformed by their Western competitors in the area of human resource management.

Case studies of Guangsha and Shanghai construction

To demonstrate the applicability of the conceptual framework discussed, case studies of two leading Chinese construction enterprises of distinctly different backgrounds are briefly presented. They are the non-state-owned Guangsha Group and the state-owned Shanghai Construction Group. It should be pointed out that while the cases are not meant to be the main focus of this paper (which explains the brevity), they highlight the diversity of strategy adopted by Chinese construction enterprises. The cases also demonstrate that although Figure 3 captures important elements of corporate strategy for construction enterprises, it is necessary to concentrate only on *selected* elements while ensuring a "seamless" strategic fit among these components.

Guangsha group

Headquartered in Hangzhou, Guangsha has grown from a small construction company into a giant diversified group over the past decade. It was the first construction company to be listed in the Shanghai Stock Exchange in 1997. Founded as a

construction small and medium enterprise (SME) by an ex-SOE employee – Lou Chongfu, it grew rapidly into a conglomerate, owning 58 subsidiaries, with 30,000 employees and an annual output of RMB 5.5 billion in 2002. This remarkable growth can be traced to the entrepreneurial leadership of the founder, who practiced strategic corporate management at a time when China was rapidly transiting into the market-oriented economy and gaining entry into the WTO. Currently Guangsha has six strategic business units (SBUs) under its corporate staple – Holdings, Construction, Property, Trading, Investment, and International.

Since its inception in 1992, the founder envisioned that the group will grow into a multinational construction giant by 2010, rivaling the best in the world. As an entrepreneur, Mr Lou focused on building the human asset of the organization, the "Guangsha Ren". His management culture is people-centred, with imperatives to empower his managers and granting autonomy to the various SBUs. The six SBUs are organized interdependently, reinforcing and supporting each other to attain overall competitive advantage.

Within Guangsha Construction, the company grew rapidly through a series of acquisitions which strengthen its technology and human resource capability and expand its market reach. Using its financial prowess, it built up its R&D expertise and quality management system and created a brand name for itself in project performance. It had won a number of construction "Luban" quality awards given by the Ministry of Construction. By integrating its construction expertise with the Property and Investment SBUs, it provided a total service package to its domestic clients, a competency which gave it a competitive advantage in the industry. Through partnering and strategic alliances, the International SBU had successfully penetrated into ten regional and international markets, offering industrial park and infrastructure services to international clients.

Guangsha's success obviously exemplifies selected components of Figure 3. First, the importance of human assets is represented by the entrepreneurship and foresight of the founder in expanding the firm and the emphasis placed on the development of "Guangsha Ren". Second, its largely autonomous structure (the SBUs) is shaped to exploit the firm's acquisitions strategy and react to the dynamism of the capital market. Third, Guangsha built up a strong foundation in vertical integration (R&D; Property and Investment) prior to geographical expansion into regional and international markets. On this point, the company has rightfully utilized different modes of alignment since the risk exposure varies. Last, the firm's success has led to various awards that further strengthened its reputation.

Shanghai Construction Group

Shanghai Construction Group (SCG) is a state-owned construction corporation whose majority shareholder is the Shanghai Municipal Government. As part of the restructuring of the municipal construction administration, SCG was corporatised in 1994 and assumed a market-oriented mode of operation. The management is given free rein in operational autonomy and minimum interference from the municipal authority. Nonetheless, SCG has received strong support from its municipal parent as far as projects in Shanghai are concerned, where 80 percent of keystone projects and symbolic buildings were built by SCG, including the 88-storey Jinmao Building and the Shanghai Grand Theatre.

The rapid growth of SCG is tied closely to the development of Shanghai as the financial centre for China and a major city to spearhead the economic growth of China. SCG is currently the second largest construction enterprise in China, achieving a business turnover of RMB 20 billion in 2002. It is the best-performing construction company listed in the Shanghai Stock Exchange, ranking 37th in market capitalization. Through joint ventures and alliances, SCG strengthens its competitive edge in regional markets in China. Internationally, SCG is positioned 78th in the Top 225 International Contractors according to *Engineering News Record* in 2001. Through acquisitions and other equity investments, it gains access to more than ten countries and regions including Hong Kong, Singapore, the Middle East, the US and Japan.

The external environment, which includes central and municipal governments' support with favorable policies, and the presence of foreign multinationals with attendant capitals, technology, human expertise and worldwide market connectivity, is instrumental for the remarkable growth of SCG. Internally, the top management is led by a team of internationally trained executives who are determined to turn SCG into a world-class construction group. The corporate portfolios of SCG consist of four main businesses: Construction, Manufacturing, Property and Investment. With 21 wholly-owned subsidiaries and 270 affiliated companies, the group offers construction and construction-related services such as general contracting, property development, civil engineering construction, building services installation, interior decoration, building material manufacturing, logistics and distribution, trading and commerce, and equity participation. Essentially, SCG is well placed to provide a totally integrated, one-stop service for construction and related projects to clients including financial services in build-operate-transfer and Turnkey projects. Furthermore, its unique IT and R&D capabilities have led to high performance in a wide range of projects such as high-rise intelligent buildings, long-span suspension bridge, subway tunnel, museum and theatre, TV station tower etc. Not surprisingly, the group has a strong reputation. Having won numerous awards, SCG is now a brand entity in the Chinese construction industry.

SCG's strategic posture is quite different from the case of Guangsha. The strong support garnered from the central and municipal governments implies that SCG is donned with unique political and social mandates. The "horizontal dimension" of SCG's operations is more pronounced than Guangsha's since the former has its hands in diversified sectors. With large political and financial backing, SCG also has more options to explore different combinations of the elements in Figure 3. However, the opposite side of the argument implies that such "freedom" can be limited by its unique circumstances and mandates.

Finally, it should be noted that both Guangsha and SCG retained construction as their core business and diversified into construction-related activities principally within the China market. Notwithstanding their international expansion, overseas market contributed only a small portion of their overall revenue and in the case of SCG, revenue from international operations accounted for only 10 percent of group turnover (Low and Jiang, 2003).

Conclusions

It goes without saying that the landscape of strategic management for Chinese construction enterprises has many layers. The topic has largely been neglected by

mainstream strategy and construction management researchers, but its importance clearly emerges when Chinese construction enterprises need to confront a volatile market in their homeland. By itself, the industrial context of construction has a unique blend of characteristics that require atypical treatment compared to strategy in many other industries. Dynamic interactions among issues such as project delivery methods and human aspects refute a short-listing of generic strategies that might be more feasible for other industries. Peculiar Chinese contextual variables further add to the complexity.

With a review of theories and context, a framework summarizing more critical elements of strategy for construction enterprises is presented amidst these complexities. In this framework, external and internal aspects are coupled together by several modes of alignment. Within the internal aspects, business imperatives, core competencies and resources are in turn cultivated by a proper alignment between strategic fields and organizational mechanisms. As with many other strategic models, interactions among various internal and external components create a perpetual loop. The cases of Guangsha and SCG briefly demonstrate that there is no hard and fast rule to understand and develop a coherent strategy. This is even truer considering the fact that China's circumstances are still dynamically evolving.

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