

Bond University
Research Repository



Competitiveness factors: A study of the real estate market in China

Li, Heng; Li, Vera; Skitmore, Martin; Wong, Johnny Kwok Wai; Cheng, Eddie W.L.

Published in:
Construction Management and Economics

DOI:
[10.1080/01446190903005865](https://doi.org/10.1080/01446190903005865)

Licence:
Other

[Link to output in Bond University research repository.](#)

Recommended citation(APA):
Li, H., Li, V., Skitmore, M., Wong, J. K. W., & Cheng, E. W. L. (2009). Competitiveness factors: A study of the real estate market in China. *Construction Management and Economics*, 27(6), 567-579.
<https://doi.org/10.1080/01446190903005865>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

Knowing one's own corporate competitiveness: a case study of a real estate development company in China

INTRODUCTION

Real estate (or property) development has been considered one of the pillar industries in the mainland Chinese economy. Following economic globalization and the 'macro-control' policy implemented by the central government to cool down an overheated economy, the real estate industry has faced strong competition and further development. Intense competition amongst developers in the market of property development forces them to improve their competitiveness. Competitiveness has long been considered a core factor for the success and sustainable development of companies. As noted by Krugman (1997), competitiveness is a measure of the ability and performance of a company within a business sector. It is also referred to as the organization's ability to act and react through its financial strength (Feurer and Chaharbaghi, 1994). Since its emergence, competitiveness has been an attractive concept at various levels of study, including the firm level, the industry level (or micro economic level), and the national level (or macroeconomic level) (Nelson, 1992). Although it has been studied in various disciplines under different names, including competitive advantage and price competitiveness, in use, it is commonly known as the long-term performance of a company relative to its competitors (Man et al., 2002).

Though the study of corporate competitiveness has been extensively conducted in the business industry, there is a paucity of research that has investigated the competitiveness of real estate development (RED) companies (or property developers) in China. In the building real estate industry, it is concerned about how the competitiveness of contractors or developers should be measured and what factors affect their competitive performance. With this in mind, the present research is intended to introduce a method for RED companies to evaluate their 'health condition' from different aspects of corporate competitiveness. This method is to calculate for each product a competitive score, which is the multiplication of its relative weight and performance rating. The relative weight approach has been adopted widely by both academics and practitioners (e.g., Chan et al., 2005). A systematic and structured evaluation approach can assist companies to identify their strengths and hidden problems. This study will also provide some insights for sustainable development of RED companies in China.

This study is organized to first present an initial background to the research in the introduction. A literature review will then sketch the discussion of corporate competitiveness. The methodology describes the rationale of the research design including data collection. The major findings of the study are then reported. Recommendations for the company are finally given.

Corporate Competitiveness

Corporate competitiveness has been a core topic of competitive research. Researchers, including Corbett and Wassenhove (1993), Buckley et al. (1988) and the Institute of Management Development and the World Economic Forum (1993) suggest that competitiveness is a concept of three dimensions (price, place, and product). Man et al. (2002) proposes four characteristics of competitiveness; long-term orientation (focusing on long-term performance), controllability (managing various resources and capabilities), relativity (relative to other firms) and dynamism (involved in a dynamic process to generate the outcomes). Porter (1990) develops a diamond framework to specify the role of the national environment in influencing the international competitiveness of an industry. Porter finds that four attributes of the home country environment shape the context that allows firms to gain and sustain competitive advantage. These are factor conditions, demand conditions, related and supporting industries and context for firm strategy and rivalry. In Porter's view, two exogenous factors, government and chance, influence the functioning of these four major determinants.

Traditionally, the success of an organization is equated with profitability (and short-term share prices) on the basis of the shareholder value paradigm. However, clear evidence from strategic management studies indicates that organizational success, as perceived by all stakeholders (e.g., employees, management, shareholders and other constituencies), is much broader and must include not only wealth, but also growth, which in turn influences job creation (rather than destruction), and a sense of a positive role that the organization plays in a community (Charan and Tichy, 1998;

Collins, 2001). In this sense, a successful organization rests on its ability to achieve an attractive strategic position and to deal with any changes of this position over time.

Sirikrai and Tang (2006) point out that while financial indicators such as return on investment and return on assets are the conventional proxies of competitiveness, a number of non-financial performance indicators are also important. These non-financial performance indicators include overall customer satisfaction (Sharma and Fisher, 1997; Tracy et al., 1999), market share (Anderson and Sohal, 1999; Li, 2000; Sharma and Fisher, 1997), growth of market share (Tracey et al., 1999), overall competitiveness (Anderson and Sohal, 1999; Lau, 2002), sales performance (Anderson and Sohal, 1999; Li, 2000), growth of sales (Lau, 2002; Sharma and Fisher, 1997) and productivity (Noble, 1997; Ross, 2002; Sharma and Fisher, 1997). They argue that the use of both types of performance indicators creates a more accurate performance measurement system as it offers a more complete view of a business, thus leading to better-informed business decisions.

On the other hand, some recent studies (for example, Man et al., 2002) have also found that the entrepreneur's demographic, psychological and behavioral characteristics, as well as his or her managerial skills and technical know-how are the most influential factors related to the performance of a firm. The relationship is also affected by many industrial, environmental, firm-specific characteristics and firm strategies.

Man et al. (2002) suggests that the three key aspects leading to a firm's competitiveness are internal firm factors, external environment and the influence of the entrepreneur. These factors in turn affect the performance of the firm. The capital and resource dimension of the framework of

Horne et al. (1992) represents the internal aspect of firm competitiveness. It is seen as one key facilitating element applied to a variety of competitiveness strategies. Similar internal sources have also been identified in the literature. For example, O'Farrell et al. (1992) and O'Farrell and Hitchens (1988 and 1989) note firm performance, focus on price, quality, design, marketing and management. Slevin and Covin (1995) however, applied a 12-factor instrument to measure the total competitiveness of the firms, including their structure, culture, human resources and product/service development. Pratten's (1991) study of small firms in several industries in the United Kingdom also highlights the importance of product development, the quality of customer service, efficiency of production, marketing expertise, and low overhead costs as the sources of competitiveness.

Regarding the external environment, lack of market power and the turbulent nature of newly emerging markets are some of the problems faced by the corporate sector. Representing this external aspect of competitiveness, the framework of Horne et al. (1992) highlights the scope for action and growth, which indicates the availability of opportunities to generate increased long-term profitability inherent in the external environment. The OECD (1993) study stresses that economic changes can affect the 'competitiveness strategy' of many corporate firms. Pratten (1991) also notes the influences of industrial differences on the sources of competitiveness. Although the focus of the external environment are different, these studies have shown the significant impacts of this environment on competitiveness of the corporate. Moreover, Barringer et al. (1997) found that rapid-growth entrepreneurial firms operate in more munificent environments than slower-growth ones, suggesting the positive influence of environmental opportunities. Other authors have taken a more proactive approach when considering external factors. For example, Slevin and

Covin (1995) suggest that continuous repositioning is needed for small new firms to anticipate and be responsive to the actions of competitors. Malecki and Tootle (1996) also emphasized the roles played by SME networks in their competitiveness. These studies suggest an interaction between the firm and the environment. Small firms need not behave only as recipients of environmental changes, but can also actively work on the environment.

The influence of the entrepreneur is also an important factor affecting the competitiveness of the corporate. For an SME, the process of achieving competitiveness is strongly influenced by the key players, highlighted as entrepreneurship factors in the framework of Horne et al. (1992). Even in the literature emphasizing the internal or external sources of competitiveness, these entrepreneurial factors are also stressed. For example, the OECD (1993) study has put forward the idea that the 'basic role' played by the owner/manager is one of the major determinants of competitiveness of the corporate due to the concentration of decision-making power in an SME environment, consequently affecting the firm's overall strategy. This emphasis on the human factor is supported by the finding of Stoner (1987) that the key distinctive competence of small firms is the experience, knowledge, and skills of the owners and workers. Two of the critical success factors highlighted in the study of Chawla et al. (1997) are the experience and goal orientation of the small business owners. Slevin and Covin (1995) also suggest that the 'total competitiveness' is positively influenced by a founder who can pay attention to the detailed operations of the business when the business is small. In sum, all of these studies imply the influential role of the entrepreneur in affecting the performance of the firm, particularly when the firm remains small. Competitiveness is only a means to a certain end, the firm's performance. Although the studies cited above tend to focus on identifying what leads to performance rather than performance itself, all of them call for

the long term performance, success or growth of the firms. Just like their large counterparts, the performance resulting from the competitiveness of the company should be long-term rather than short-term oriented.

RESEARCH METHOD

This study is to evaluate the corporate competitiveness of a real estate development company. The methodology used to fulfil this aim is set out in three steps:

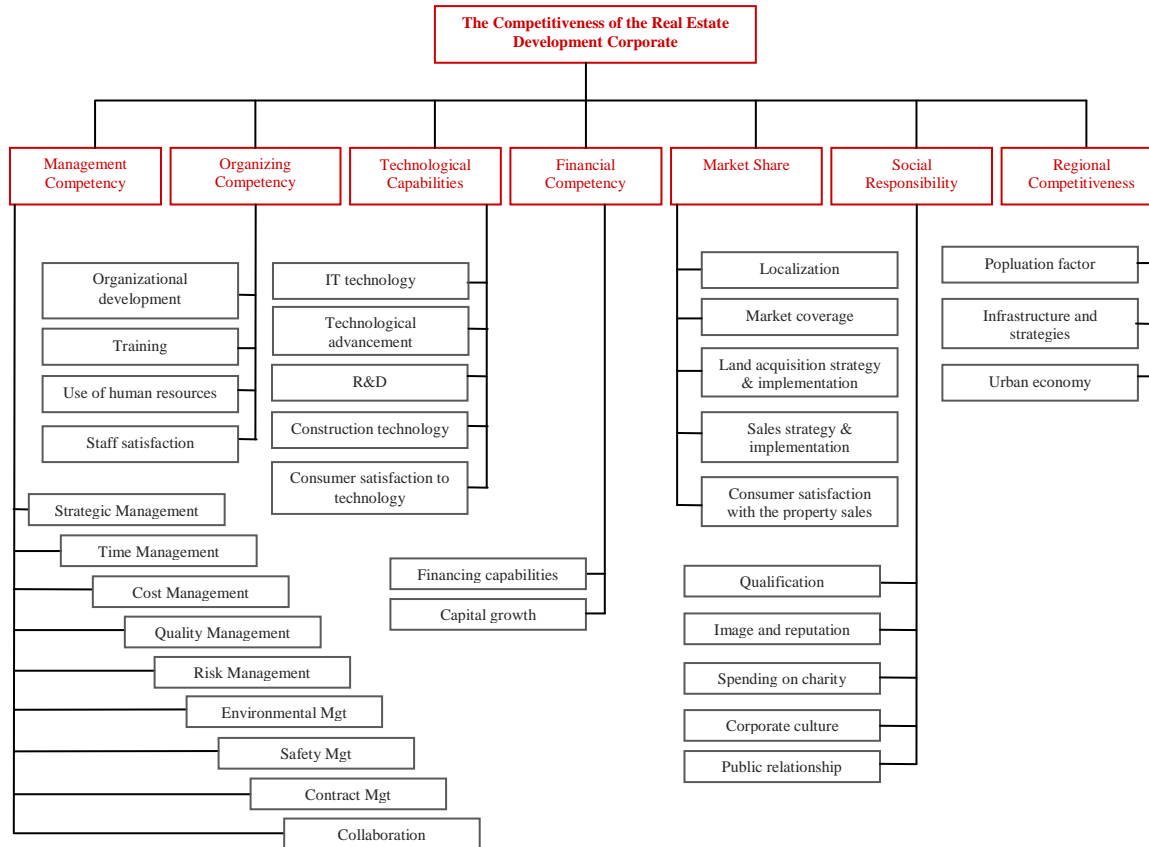
- The estimation of the weight for the competitive factors, criteria and attributes by academics and industry experts. A corporate competitiveness framework was developed for such purposes
- The assessment of the performance of the company based on the same framework by the experts and different party related to the corporate (CEO, senior management level and their sub-ordinates, building owners)
- The establishment of the final competitive score of the company by combining the weight and performance results of all competitive factors, criteria, and attributes. The individual results help to provide recommendations and advice to the company about its corporate competitiveness.

Corporate Competitiveness Framework

Prior to the start of the research, a corporate competitiveness framework needed to be developed, which should consists of the core competitive elements being unique in the real estate development area. These elements were identified based on relevant literature on the five unique real estate development stages (i.e., land acquisition, design and development, construction, sales and

property management). A number of firm-specific elements, such as financial, human and technological resources, organizational structures and systems, productivity, innovation, quality, image and reputation, culture, product/service variety and flexibility, and customer service were highlighted. The identified elements were multi-faceted in nature and were grouped into a 3-level structure so as to form the framework for the current study. Figure 1 lists part of the framework, which consists of the top and middle levels. The top level (or the 'level 1') has seven dimensional factors, which are (1) finance competency, (2) market share, (3) management competency, (4) social responsibility, (5) organizing competencies, (6) technological capabilities, and (7) regional competitiveness. At the middle level, there are a group of competitive criteria (the 'level 2') derived from each factor. For example, under the competitive factor 'market share', there are five criteria, which are (1) localisation, (2) market coverage, (3) land acquisition strategy and implementation, (4) property sales strategy and implementation, and (5) consumer satisfaction with the property sales. In addition, there are a set of competitive attributes (the 'level 3') under each competitive criteria. As an example, under '*land acquisition strategy and implementation*', there are four attributes: rate of land acquisition, quantity of land bank, quality of land bank, land acquisition/pricing strategy. This bottom level will be shown in later sections.

Figure 1: Part of the Corporate Competitiveness Framework



Data Collection

A survey was conducted, consisting of two steps. The first step was to evaluate the performance of the company against the framework. To rate a company in term of its competitiveness, data could be obtained from both internal and external sources. Internal sources based on the firsthand knowledge of staff and company records, while external sources can be obtained from financial institutes as well as referees related to the company.

Performance data were collected via three different questionnaires – questionnaire A1-1 to A1-8 (QA1), questionnaire A2 (QA2) and questionnaire A3 (QA3). A pilot test was undertaken with industry experts and academics. At the end of this consultation process, improvements were made to the questionnaires based on the comments of the informants

The purpose of QA1 was to investigate the performance of the company in eight different aspects (known as factors), including human resources (A1-1), finance (A1-2), land development (A1-3), design, planning, and research and development (R&D) (A1-4), construction and project management (A1-5), sales performance (A1-6), information technology (A1-7), and general management (A1-8). The target population was directors, managers and senior officials of the company. Respondents were asked to rate a set of items derived from the eight factors on a five-point Likert scale, a method commonly used in statistical research (Abdel-Kader and Dugdale, 2001). A total of 105 replies (see Table 1) were received from supervisors and managers in different divisions and departments of the company throughout the whole country.

Table 1: Number of Respondents for the Study

Questionnaire	Targeted respondents	Criteria for the respondents	Number of received	Sub-total
QA1	Division supervisors and managers	Minimum 2-year working experience in the corporate	105	751
QA2	General staff	Minimum 1-year working experience in the corporate	269	
QA3	Buyers/ Owners	Properties more than 60% of the total occupancy	377	
QB1	Executive Directors	Minimum 3-year working experience in the corporate	2	26
QB2	General managers, assistant general managers	Minimum 3-year working experience in the corporate	24	
QC	Experts and academics		32	32
			Total:	809

Data have also been collected regarding the overall satisfaction of employees and customers. The employees were required to complete QA2, which was designed to assess the overall job satisfaction (i.e. salary, performance review system and promotion) as well as the perception of the corporate culture by employees. They were then requested to rate their satisfaction and feelings based on the five-point Likert scale. In addition, QA3 was designed to evaluate the overall satisfaction of buyers with the finished product (i.e. houses, apartments and units). As shown in Table 1, there were 269 and 377 questionnaires received from employees (QA2) and property owners (QA3) respectively.

The second step was to calculate the relative importance of competitive factors, criteria, and attributes. As individual factors, criteria, and attributes may have different degrees of importance, the elements of the three-level framework should be discriminated by weights and can be normalized in the range from 0 to 1 (0 for ‘not important at all’ and 1 for ‘most important’). In considering this, an MAVT model was used on the basis of a hierarchical tree comprising levels of ‘factors’ (w_k , first level), ‘criteria’ (w_j , second level), and ‘attributes’ (w_h , third level). The standard MAVT formula was used to compute the weights for all the elements of the model (Keeney and Raiffa, 1976). The formula for calculating the weight of an element is given as follows:

$$w_h = a_h / \sum_{h=1}^m a_h \quad (1)$$

where h is the element of interest, and there are ‘ m ’ number of elements, w_h is the weight of element ‘ h ’, and a_h is the mean importance rating of element h obtained from the following equation:

$$a = \frac{1(n_1) + 2(n_2) + 3(n_3) + 4(n_4) + 5(n_5)}{(n_1 + n_2 + n_3 + n_4 + n_5)} \quad (2)$$

where: a is the mean importance rating of elements, and n_1 , n_2 , n_3 , n_4 , and n_5 are the number of respondents who indicated on the five-point Likert scale, the level of importance as 1, 2, 3, 4 and 5, respectively, where 1 stands for ‘not at all’, 2 for ‘little’, 3 for ‘some’, 4 for ‘more’, and 5 for ‘most’.

The benefit of the MAVT approach to solving problems with multiple elements is to develop a scoring model, where each element is assigned a weight to reflect its importance level. To achieve

this, another set of questionnaires – questionnaire B1 (QB1), questionnaire B2-1 to B2-8 (QB2), and questionnaire QC – were developed to determine the relative weights of the elements in the framework. QB1 was completed by senior management and executive directors regarding the importance level of competitive factors, criteria, and attributes. QB2 was completed by general and assistant general managers from different sections and departments of the company, while QC was completed by external experts and academics. As shown in Table 1, there were 26 (QB1 and QB2) and 32 (QC) questionnaires received. Mean importance rating and statistical t-test of the mean were carried out by means of the SPSS software package. Those elements that were found to be statistically important were used to construct the competitiveness model.

DATA ANALYSIS AND RESULTS

Mean weights of the factors, criteria, and attributes

The mean weights of the competitive factors and criteria were calculated and normalised, and the results are tabulated in Table 2. To reduce the size of the paper, only weights of the attributes with respect to finance competency are exhibited in Table 3.

Table 2: Relative weights of the competitive factors, criteria, and attributes

Factors (Level 1)		Criteria (Level 2)		Acceptable score	Relative weight
Code	Name	Code	Name		
A	Management competency			0.1174	0.1590
		A-1	Strategic Mgt	0.0167	0.0196
		A-2	Time Mgt	0.0134	0.0170
		A-3	Cost Mgt	0.0117	0.0198
		A-4	Quality Mgt	0.0147	0.0189
		A-5	Risk Mgt	0.0157	0.0176
		A-6	Environmental Mgt	0.0091	0.0142
		A-7	Safety Mgt	0.0114	0.0162
		A-8	Contractual Mgt	0.0102	0.0169
		A-9	Collaboration	0.0146	0.0190
B	Organising Competency			0.1048	0.1276
		B-1	Organisational development	0.0295	0.0308
		B-2	Training	0.0228	0.0260
		B-3	Use of human resources	0.0243	0.0420
		B-4	Staff satisfaction	0.0283	0.0289
C	Technological capabilities			0.0863	0.1266
		C-1	IT application	0.0141	0.0215
		C-2	Technological advancement	0.0099	0.0238
		C-3	R&D	0.0185	0.0277
		C-4	Construction technology	0.0211	0.0260
		C-5	Consumer satisfaction (CS) with technology	0.0226	0.0275
D	Finance competency			0.1114	0.1602
		D-1	Financing capabilities	0.0639	0.0855
		D-2	Capital growth	0.0475	0.0747
E	Market Share			0.1024	0.1590
		E-1	Localization	0.0242	0.0304
		E-2	Market Coverage	0.0148	0.0296
		E-3	Land acquisition strategy and implementation	0.0278	0.0345
		E-4	Sales strategy and implementation	0.0220	0.0338
		E-5	Consumer satisfaction (CS) over sales	0.0137	0.0308
F	Social Responsibility			0.1017	0.1411
		F-1	Qualifications	0.0226	0.0254
		F-2	Image and reputation	0.0210	0.0331
		F-3	Spending on charity	0.0097	0.0233
		F-4	Corporate culture	0.0218	0.0282
		F-5	Public relationship	0.0266	0.0312
G	Regional Competitiveness			0.0866	0.1266
		G-1	Population factor	0.0234	0.0389
		G-2	Urban economy	0.0332	0.0430
		G-3	Infrastructure and strategies	0.0300	0.0447

As shown in Table 2, the results indicate that finance competency (0.1602) has the highest weight, thereby the most important, followed by market share (0.1590), management competency (0.1590), social responsibility (0.1411), organizing competencies (0.1276), technological capabilities (0.1266), and regional competitiveness (0.1266). With respect to the finance competency factor, financing capabilities (0.0855) has a higher relative weight than capital growth (0.0747).

With respect to the financing capabilities criterion under the finance competency factor, loan for land acquisition (0.0180) has the highest weight, followed by channels of corporate financing (0.0162). Other criteria rankings can be obtained from Table 3.

Table 3: Results on the weights of management competency

Factors (Level 1)		Criteria (Level 2)		Attributes (Level 3)		Acceptable score	Importance weight
Code	Name	Code	Name	Code	Name		
D	Finance competency					0.1114	0.1602
		D-1	Financing capabilities			0.0639	0.0855
				D-1-1	Creditability offered by banks	0.0087	0.0108
				D-1-2	Understanding of financial system	0.0128	0.0144
				D-1-3	No. of financing institutes	0.0090	0.0144
				D-1-4	Channels of corporate financing	0.0101	0.0162
				D-1-5	Loan for land acquisition	0.0160	0.0180
				D-1-6	Loan received for building construction	0.0074	0.0118
		D-2	Capital growth			0.0475	0.0747
				D-2-1	Capital growth rate	0.0035	0.0061
				D-2-2	Profit growth rate (average)	0.0062	0.0073
				D-2-3	Average debt rate	0.0025	0.0069
				D-2-4	Cash flow (average)	0.0062	0.0086
				D-2-5	Annual growth rate of share prices	0.0022	0.0061
				D-2-6	Securities price growth rate	0.0046	0.0065
				D-2-7	Capital gain rate	0.0044	0.0073
				D-2-8	ROI	0.0043	0.0061
				D-2-9	Net capital profit	0.0055	0.0078
				D-2-10	Bad debt (average)	0.0043	0.0061
				D-2-11	Annual growth rate of profit tax	0.0038	0.0061

PERFORMANCE RATINGS OF THE FRAMEWORK

The next step is to evaluate the performance of the company against each attribute weighted in the first step. Table 4 summarises the normalized results scored on the competitive factors and criteria. In general, the results suggest that the company scores the highest performance on finance competency (0.1734), followed by management competency (0.1690), and market share (0.1467). Among all competitive criteria, the company scored highest in two criteria under the finance competency factor: financing capabilities (0.0883) and capital growth (0.0851). Table 5

summarises the scores for the finance competency factor. As shown in the table, under the two financial criteria, ‘loan for land acquisition’ (0.0203) and ‘understanding of financial system’ (0.0177) have the highest scores.

Table 4: Performance rating against each competitive factor and criterion

Factors (Level 1)		Criteria (Level 2)		CSC Score
Code	Name	Code	Name	
A	Management competency			0.1690
		A-1	Strategic Mgt	0.0223
		A-2	Time Mgt	0.0213
		A-3	Cost Mgt	0.0196
		A-4	Quality Mgt	0.0207
		A-5	Risk Mgt	0.0174
		A-6	Environmental Mgt	0.0153
		A-7	Safety Mgt	0.0176
		A-8	Contractual Mgt	0.0156
		A-9	Collaboration	0.0194
B	Organising Competency			0.1266
		B-1	Organisational development	0.0314
		B-2	Training	0.0275
		B-3	Use of human resources	0.0361
		B-4	Staff satisfaction	0.0315
C	Technological capabilities			0.1134
		C-1	IT application	0.0185
		C-2	Technological advancement	0.0124
		C-3	R&D	0.0271
		C-4	Construction technology	0.0289
		C-5	Consumer satisfaction (CS) with technology	0.0266
D	Finance competency			0.1734
		D-1	Financing capabilities	0.0883
		D-2	Capital growth	0.0851
E	Market Share			0.1467
		E-1	Localization	0.0354
		E-2	Market Coverage	0.0155
		E-3	Land acquisition strategy and implementation	0.0317
		E-4	Sales strategy and implementation	0.0342
		E-5	Consumer satisfaction (CS) over sales	0.0300
F	Social Responsibility			0.1390
		F-1	Qualifications	0.0302
		F-2	Image and reputation	0.0334
		F-3	Spending on charity	0.0141
		F-4	Corporate culture	0.0260
		F-5	Public relationship	0.0353
G	Regional Competitiveness			0.1319
		G-1	Population factor	0.0411
		G-2	Urban economy	0.0459
		G-3	Infrastructure and strategies	0.0450

Table 5: Performance rating against each attribute in the factor of finance competency

Factors (Level 1)		Criteria (Level 2)		Attributes (Level 3)		CSC Score
Code	Name	Code	Name	Code	Name	
D	Finance competency					0.1734
		D-1	Financing capabilities			0.0883
				D-1-1	Creditability offered by banks	0.0131
				D-1-2	Understanding of financial system	0.0177
				D-1-3	No. of financing institutes	0.0106
				D-1-4	Channels of corporate financing	0.0131
				D-1-5	Loan for land acquisition	0.0203
				D-1-6	Loan received for building construction	0.0135
		D-2	Capital growth			0.0852
				D-2-1	Capital growth rate	0.0072
				D-2-2	Profit growth rate (average)	0.0099
				D-2-3	Average debt rate	0.0060
				D-2-4	Cash flow (average)	0.0105
				D-2-5	Annual growth rate of share prices	0.0049
				D-2-6	Securities price growth rate	0.0085
				D-2-7	Capital gain rate	0.0089
				D-2-8	ROI	0.0057
				D-2-9	Net capital profit	0.0092
				D-2-10	Bad debt (average)	0.0065
				D-2-11	Annual growth rate of profit tax	0.0080

AGGREGATION OF WEIGHTS AND PERFORMANCE RATINGS

Having established the importance weights of the attributes and the performance ratings that the company obtained against each element in the corporate competitiveness framework, the next step is to produce a composite score for each element in the framework and an aggregate score for the company as a whole. The calculation involves the aggregation of weights and ratings to produce one overall score (Ling et al., 2003). To calculate the composite score, the importance weight (w) of each of the relevant competitive factors, criteria and attributes is multiplied by the performance rating (r) for the corresponding competitive factors, criteria, and attributes. All the composite scores are summed to produce the aggregate property developer's competitiveness score ($Score_{PDC}$). The following equation is the mathematical expression for the $Score_{PDC}$.

Aggregate score (Score_{PDC}) = Score_(FI) + Score_(MS) + Score_(MA) + Score_(SI) + Score_(OR) + Score_(TE) + Score_(RC)

Where:

Score_(FI) is the aggregate score for the ‘finance competency’ factor,

Score_(MS) is the aggregate score for the ‘market share’ factor,

Score_(MA) is the aggregate score for the ‘management competency’ factor,

Score_(SI) is the aggregate score for the ‘social responsibility’ factor,

Score_(OR) is the aggregate score for the ‘organising competencies’ factor,

Score_(TE) is the aggregate score for the ‘technological capabilities’ factor,

Score_(RC) is the aggregate score for the ‘regional competitiveness’ factor.

As an example, the mathematical expression for Score_(FI), finance competency, can be set as the following equation:

$$Score_{(FI)} = w_c [w_{c1} (\sum w_{c1a} \times r_{c1a}) + w_{c2} (\sum w_{c2b} \times r_{c2b})]$$

where:

Score_(FI) is the aggregate score for the finance competency factor,

w_c is the weight of ‘finance competency’ factor,

w_{c1} and w_{c2} are the weights of the ‘financing capabilities’ and ‘the capability of capital growth’

criteria respectively,

w_{c1a} and w_{c2a} are the weights of the attributes under the ‘financing capabilities’ and ‘the capability of capital growth’ criteria respectively,

r_{c1a} and r_{c2a} are the performance ratings given to the attributes under the ‘financing capabilities’ and ‘the capability of capital growth criteria’ respectively.

RESULTS

Table 6 exhibits the combined scores of the seven factors (the ‘first’ level) and 33 criteria (the ‘second’ level) obtained by the company. Specifically, the finance competency has the highest combined score (1.0313), followed by regional competitiveness (1.0087) and management competency (0.9541). The top five scores in the competitive criteria were ‘consumer satisfaction with the sales’ (1.4543), ‘the capabilities of capital growth’ (1.1873), ‘population factor’ (1.1612), ‘cost management’ (1.1143), and ‘environmental management’ (1.1071). Table 4.6 also reveals that the company has a low score in ‘land policy and implementation’ (0.7559), ‘staff satisfaction’ (0.7402), ‘risk management’ (0.7333), ‘organisational development’ (0.7048), and ‘market share’ (0.6941).

Table 6: Performance rating against each competitive factor, criterion, and attribute

Factors (Level 1)		Criteria (Level 2)		Combined Score
Code	Name	Code	Name	
A	Management competency			0.9541
		A-1	Strategic Mgt	0.8842
		A-2	Time Mgt	1.0514
		A-3	Cost Mgt	1.1143
		A-4	Quality Mgt	0.9345
		A-5	Risk Mgt	0.7333
		A-6	Environmental Mgt	1.1071
		A-7	Safety Mgt	1.0242
		A-8	Contractual Mgt	1.0115
		A-9	Collaboration	0.8825
B	Organising Competency			0.8003
		B-1	Organisational development	0.7048
		B-2	Training	0.8000
		B-3	Use of human resources	0.9867
		B-4	Staff satisfaction	0.7402
C	Technological capabilities			0.8706
		C-1	IT application	0.8661
		C-2	Technological advancement	0.8298
		C-3	R&D	0.9680
		C-4	Construction technology	0.9053
		C-5	Consumer satisfaction (CS) with technology	0.7791
D	Finance competency			1.0313
		D-1	Financing capabilities	0.9153
		D-2	Capital growth	1.1873
E	Market Share			0.9493
		E-1	Localization	0.9680
		E-2	Market Coverage	0.6941
		E-3	Land acquisition strategy and implementation	0.7559
		E-4	Sales strategy and implementation	1.0304
		E-5	Consumer satisfaction (CS) over sales	1.4543
F	Social Responsibility			0.9056
		F-1	Qualifications	0.8857
		F-2	Image and reputation	1.0556
		F-3	Spending on charity	0.9643
		F-4	Corporate culture	0.7889
		F-5	Public relationship	0.8791
G	Regional Competitiveness			1.0087
		G-1	Population factor	1.1612
		G-2	Urban economy	0.9157
		G-3	Infrastructure and strategies	0.9926

Finance Competency

Figure 2 graphically represents the competitive performance of the company in the *finance competency*. As Figure 3 summarises, the result suggested that there was an acceptable performance in the financing capabilities (the company score: 0.3265; reasonable score: 0.3567;

maximum score: 0.4253) and the capability of capital growth (the company score: 0.3149; reasonable score: 0.2652; maximum score: 0.3718).

Figure 2: Comparison of the competitive attributes score in the *'finance competency'* factor

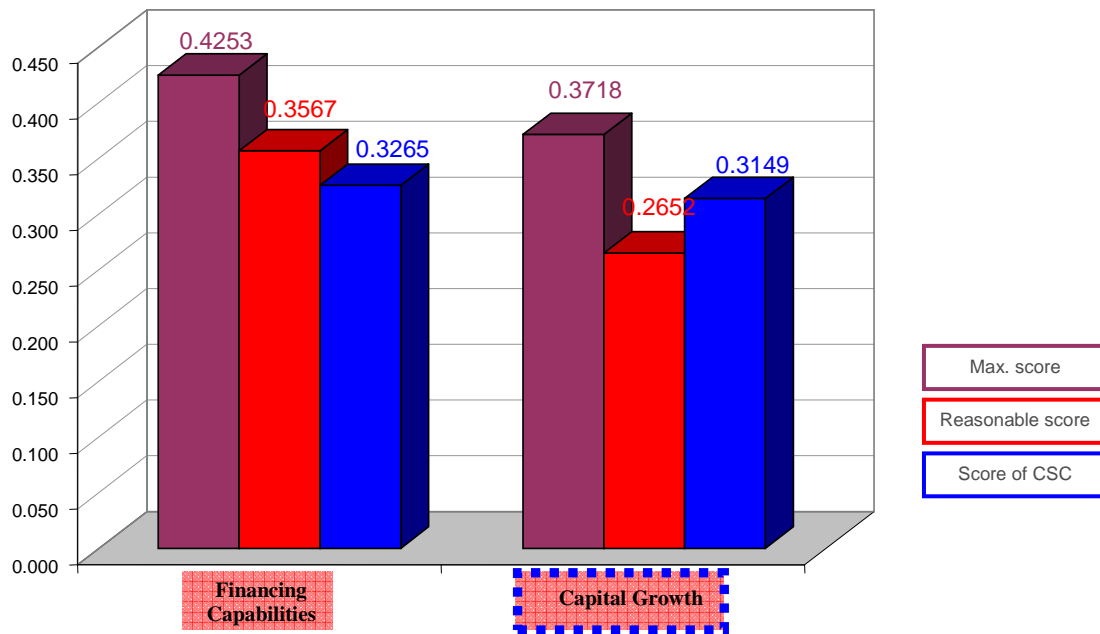


Figure 3: Summary of scores of competitiveness criteria (the ‘second’ level) and attributes (the ‘third’ level) under the ‘*finance competency*’ factor

No.	Attributes	Score
1	Average debt rate	1.6000
2	Annual growth rate of share prices	1.5000
3	Annual growth rate of profit tax	1.4000
4	Capital growth rate	1.3538
5	ROI	1.3235
6	Securities price growth rate	1.2250
7	Loan received for construction pr.	1.2143
8	Cash flow (average)	1.1250
9	Net capital profit	1.1000
10	Profit growth rate (average)	1.0526
11	Creditability offered by banks	1.0000
12	Bad debt (average)	1.0000
13	Understanding of financial system	0.9167
14	Capital gain rate	0.8750
15	Channels of corporate financing	0.8571
16	Loan for land acquisition	0.8400
17	No. of financing institutes	0.7857

Criteria	Score
Capital growth	1.1873
Financing capabilities	0.9153

Figure 3 further tabulates the score in each of the competitive attributes under the finance competency factor. The results suggests that the company has a good performance in ‘the average debt rate’ (1.3429), ‘annual growth rate of the share price’ (1.3214), ‘annual growth rate of profit tax’ (1.1000), ‘annual growth rate of capital asset’ (1.1000), and ‘average ROI’ (1.0588). Despite these, the company scored low in a number of attributes, including ‘the level of understanding of the financial system’ (0.9167), ‘average asset return rate’ (0.8750), ‘sources and channels of

corporate financing’ (0.8571), ‘acquisition of land loan’ (0.8400), and ‘the total number of financing institutes’ (0.7857).

Table 7: Details of scores of the best and the worst five competitive attributes under the finance competency factor

The Best-performed Attributes

Average debt rate	<15%	15-30%	30-50%	50-70%	>70%	Score
A (CSC Score)	0.0%	30.0%	60.0%	10.0%	0.0%	3.2000
B (Reasonable Score)	0.0%	0.0%	25.0%	50.0%	25.0%	2.0000
Share price growth rate	<10%	10-20%	20-30%	30-50%	>50%	
A (CSC Score)	30.0%	10.0%	10.0%	30.0%	20.0%	3.0000
B (Reasonable Score)	0.0%	100.0%	0.0%	0.0%	0.0%	2.0000
Profit growth rate	Steady	<5%	5-10%	10-15%	>15%	
A (CSC Score)	0.0%	0.0%	0.0%	10.0%	90.0%	4.9000
B (Reasonable Score)	0.0%	0.0%	50.0%	50.0%	0.0%	3.5000
Capital growth rate	Steady	<10%	10-20%	20-30%	>30%	
A (CSC Score)	0.0%	0.0%	20.0%	20.0%	60.0%	4.4000
B (Reasonable Score)	0.0%	0.0%	75.0%	25.0%	0.0%	3.2500
ROI	Steady	<10%	10-20%	20-30%	>30%	
A (CSC Score)	0.0%	0.0%	0.0%	50.0%	50.0%	4.5000
B (Reasonable Score)	0.0%	0.0%	60.0%	40.0%	0%	3.4000

The Worst-performed Attributes

Understanding of financial sys	None	Slightly	Fair	Largely	All	Score
A (CSC Score)	0.0%	0.0%	0.0%	41.7%	58.3%	4.5833
B (Reasonable Score)	0.0%	0.0%	0.0%	0.0%	100.0%	5.0000
Aver. capital gain rate	Steady	<10%	10-20%	20-30%	>30%	
A (CSC Score)	0.0%	10.0%	50.0%	20.0%	20.0%	3.5000
B (Reasonable Score)	0.0%	0.0%	50.0%	0.0%	50.0%	4.0000
Channels of corporate financing	None	1	2-3	4-5	6 or more	
A (CSC Score)	9.1%	27.3%	36.4%	9.1%	18.2%	3.0000
B (Reasonable Score)	0.0%	0.0%	50.0%	50.0%	0.0%	3.5000
Loan for land acquisition	V. low	Low	Fair	High	V. high	
A (CSC Score)	0.0%	0.0%	0.0%	80.0%	20.0%	4.2000
B (Reasonable Score)	0.0%	0.0%	0.0%	0.0%	100.0%	5.0000
No. of financing institute	None	1-3	4-6	7-9	10 or more	
A (CSC Score)	16.7%	25.0%	33.3%	16.7%	8.3%	2.7500
B (Reasonable Score)	0.0%	0.0%	50.0%	50.0%	0.0%	3.5000

DISCUSSION

The formation of corporate competitiveness is affected by the market situation and condition. Such competitiveness not only reflects the difference of a company from its competitors, but also the difference with the industry to which the company belongs. In addition, competitiveness also reflects the development stage of the company. As a result, the expansion of the company and the enhancement of its competitiveness require a good business environment and healthy development of the industry.

In fact, the main objective of management activities in the company is to develop the strength of competitiveness of the company, and to use the resource properly for manufacturing and business activities. The use of company processes and resources can affect the performance of the company

and provide an opportunity to strengthen its competitiveness. In other words, corporate competitiveness is a comprehensive, inter-related framework, concerned with the competitiveness concept, level and benchmarks.

Despite the importance of corporate competitiveness, the core competitiveness of property development is different from other industries. It is due in part to the uniqueness of the property industry. Factors such as capital, market, management and resource management have been considered as the core of competitiveness for property development. However, following mature development of the industry where capital and land are still considered the core of competitiveness; management, sales and corporate flexibility have become factors which are more important and critical in affecting the competitiveness of property development companies.

‘Finance competency’ and ‘regional competitiveness’ were found to be the most favorable competitive factors. These two competitive factors provided strong competitiveness in the company of interest. The strong ‘*finance competency*’ is due to its capabilities of capital gain (i.e., corporate profit and earning). However, the results also reflected that there is still room for improvement in the channel and scale of corporate financing. The favorable ‘*regional competitiveness*’ is the result of strong property demand due to population expansion from the process of urbanisation. Despite this, it also reflects that the company relies strongly on the business environment. Attention should therefore be paid to risks from the business environment.

This research also suggests that ‘management competency’ and ‘market share’ were the second most important competitive advantages of the company. Specifically, the strong performance of

'management competency' is due to effective cost, environment, time, safety and contractual management of the company. On the other hand, the well-performed 'market share' is the result of an effective sales strategy and consumer satisfaction with sales. The capabilities of increasing sales prices, ideal regional sales performance, and satisfaction from the consumers have been considered as the comparative advantage of the CSC. However, the research also reveals the problem of CS in its strategic management and land policy. The results suggested that there is a problem in the expansion of land bank.

This study also found out that the company had a poor score in a few competitive factors such as 'organizing competency', 'technological capabilities' and 'social responsibility'. Poor performance in its 'organizing competency' would possibly lead to an imbalance to the corporate. Problems in job authorization and profit sharing, job security and salary systems lead to a staff dissatisfaction. Most dissatisfaction was found in staff in the middle to junior level. On the other hand, the low score in 'technological capabilities' was mainly due to the dissatisfaction from consumers and innovation capabilities by the corporate. Good quality maintenance systems and extra building facilities would possibly help to improve consumer satisfaction over technological performance. The findings further reveal that there is room for improvement in the development of the corporate culture and public relationships in the company.

CONCLUSIONS

The research reveals that the company has a strong competitive performance over capital/finance, urban development and sales promotions. However, the results also show that there is still room

for improvement in the use of human resources, development of corporate culture and strategy, and resource allocation. There is also room for the improvement in the land bank. The research also reveals that there were different perceptions in the performance of CS in varied competitive attributes, which suggested that better communication amongst different management levels is needed in order to develop a clear vision and direction for the future of the company.

REFERENCES:

- Abdel-Kader, M.G., and Dugdale, D. (2001), "Evaluating investments in advanced manufacturing technology: a fuzzy set theory approach," *British Accounting Review*, 33, 455-489.
- Anderson, M. and Sohal, A. (1999), A study of the relationship between quality management practices and performance in small businesses, *International Journal of Quality and Reliability Management*, 16(9), pp. 859–877.
- Barratt, E. (1992), *The strengths and weaknesses of the corporate culture analogy: "The Glue That Doesn't Stick"*. Henley the Management College, Working Paper Series, Oxon, UK.
- Barringer, B.R., Jones, F.F. and Lewis, P.S. (1997), A qualitative study of the management practices of rapid-growth entrepreneurial firms. *Journal of Business Entrepreneurship*, 9(2), pp. 21–35.
- Buckley, P.J., Pass, C.L. and Prescott, K. (1988), Measures of international competitiveness: a critical survey. *Journal of Marketing Management*, 4(2), pp. 175–200.
- Charan, R. and Tichy, N.M. (1998), *Every Business is a Growth Business*, Wiley, Chichesters

- Chawla, S.K., Pullig, C. and Alexander, F.D., (1997), Critical success factors from an organizational life cycle perspective: perceptions of small business owners from different business environments. *Journal of Business Entrepreneurship*, **9**(1), pp. 47–58.
- Collins, J. (2001), *Good to Great – Why Some Companies Make the Leap and Others Don't*, Harper Collins, New York.
- Corbett, C. and Wassenhove, L.V., (1993), Trade-offs? What trade-offs? Competence and competitiveness in manufacturing. *California Management Review*, **35**(4), pp. 107–122.
- Dowling, G. (2001), *Creating Corporate Reputations: Identity, Image and Performance*, Oxford University Press.
- Elashmawi, F. (2000), Creating a winning corporate culture: Experience inside the Asian telecommunications industry, *European Business Review*, 12(3), pp.148-156.
- Feurer, R., and Chaharbaghi, K. (1994), Defining competitiveness: a holistic approach. *Management Decision*, 32(2), pp.49-58
- Hofstede, G. (1991), *Cultures and Organisations: Software of the Mind*, McGraw-Hill.
- Horne, M., Lloyd, P., Pay, J. and Roe, P. (1992), Understanding the competitive process: a guide to effective intervention in the small firms sector. *European Journal of Operational Resources*, 56(1), pp. 54–66.
- Institute of Management Development and World Economic Forum (1993), *The World Competitiveness Report 1993*, Lausanne, Switzerland.
- Johnson, G., and Scholes, K. (1984), *Exploring Corporate Strategy*, Prentice-Hall, Englewood Cliffs, NJ, USA.
- Kahn, J. (1998), The World's most admired companies, *Fortune*, October, p.206.

- Karathanos, P. (1998), Crafting corporate meaning (developing corporate culture), *Management Decision*, 36(2), 123-132
- Keeney, R.L., and Raiffa, H. (1976), *Decisions with Multiple Objectives: Preferences and Value Tradeoffs*, New York: John Wiley & Sons.
- Kotter, J.P. and Heskett, J.L. (1992), *Corporate Culture and Performance*, MacMillan International, Oxford, UK
- Krugman, P., (1997), *Competitiveness: An International Economics Reader*, W. W. Norton & Co Inc.
- Lakhe, R.R., Mohanty, R.P. (1994), Total quality management: concepts, evolution and acceptability in developing economies, *International Journal of Quality and Reliability Management*, 11(9), pp.9-33
- Lau, R.S.M., (2002), Competitiveness factors and their relative importance in the US electronics and computer industries, *International Journal of Operations and Production Management*, 22(1), pp. 125–135.
- Li, L. (2000), An analysis of sources of competitiveness and performance of Chinese manufacturers, *International Journal of Operations and Production Management* 20(3), pp. 299–315.
- Ling, Y.Y., Ofori, G. and Low, S.P. (2003), Evaluation and selection of consultants for design-build projects, *Project Management Journals*, Vol. 34, No. 1, pp. 12-22.
- Malecki, E.J. and Tootle, D.M. (1996), The role of networks in small firm competitiveness. *International Journal of Technological Management*, 11(1,2), pp. 43–57.

- Man, T.W.Y., Lau, T., and Chan, K.F. (2002), The competitiveness of small and medium enterprises: A conceptualization with focus on entrepreneurial competencies, *Journal of Business Venturing*, 17 (2), pp.123-142.
- Maull, R., Brown, P., Cliffe, R., (2001), Organisational culture and quality improvement, *International Journal of Operations and Production Management*, 21(3), pp.302-326.
- Nelson, R., (1992), Recent writings on competitiveness: boxing the compass. *Calif. Manage. Rev.* 34(2), pp. 127–137
- Noble, G.W., (2001), Congestion ahead: Japanese automakers in Southeast Asia, *Business and Politics*, 3(2), pp. 157–184.
- O'Farrell, P.N. and Hitchens, D.M.W.N. (1988), The relative competitiveness and performance of small manufacturing firms in Scotland and the Mid-West of Ireland: an analysis of matched pairs., *Reg. Stud.* 25(5), pp. 399–416.
- O'Farrell, P.N. and Hitchens, D.M.W.N. (1989), The competitiveness and performance of small manufacturing firms: an analysis of matched pairs in Scotland and England. *Environmental Planning*, 21(9), pp. 1241–1263.
- O'Farrell, P.N., Hitchens, D.M.W.N. and Moffat, L.A.R. (1992), The competitiveness of business services firms: a matched comparison between Scotland and the South East of England. *Reg. Stud.* 26(6), pp. 519–533.
- Organisation for Economic Co-operation and Development (OECD), (1993), *Small and Medium-sized Enterprises: Technology and Competitiveness*, Paris.
- Porter, M.E. (1990), *The competitiveness advantage of nations*, New York: The Free Press.
- Pratten, C., (1991), *The competitiveness of small firms. Occasional Paper 57*, Department of Applied Economics, University of Cambridge. Cambridge Univ. Press, Cambridge, UK.

- Ramasamy, H. (1995), Productivity in the age of competitiveness: focus on manufacturing in Singapore. In: *Productivity in the Age of Competitiveness APO Monograph Series (16)*, Asian Productivity Organizations, Tokyo.
- Ross, A. (2002), A multi-dimensional empirical exploration of technology investment, coordination and firm performance, *International Journal of Physical Distribution and Logistics Management*, 32(7), pp. 591–609.
- Schein, E. (1984), Coming to a New Awareness of Organisational Culture, *Sloan Management Review*, 25, pp.3-16
- Schneider, S.K. and Northcraft, G.B. (1999), Three social dilemmas of workforce diversity in organisations: A social identity perspective, *Human Relations*, 52(11), pp.14-45
- Sharma, B. and Fisher, T. (1997), Functional strategies and competitiveness: An empirical analysis using data from Australian manufacturing, *Benchmarking for Quality Management and Technology*, 4(4), pp. 286–294
- Sirikrai, S.B., and Tang, J.C.S. (2006), Industrial competitiveness analysis: Using the analytic hierarchy process, *Journal of High Technology Management Research*, 17 (1), pp.71-83.
- Slevin, D.P. and Covin, J.G. (1995), New ventures and total competitiveness: a conceptual model, empirical results, and case study examples. In: *Frontiers of Entrepreneurship Research*, Center of Entrepreneurial Studies, Babson College, Babson Park, MA, pp. 574–588.
- Stoner, C.R., (1987), Distinctive competence and competitive advantage. *Journal of Small Business Management*, 25(2), pp. 33–39.
- Tracey, M., Vonderembse, M.A., and Lim J.S. (1999), Manufacturing technology and strategy formulation: Keys to enhancing competitiveness and improving performance, *Journal of Operations Management*, 17, pp. 411–428

Uttal, B. (1983), The Corporate Culture Vultures, *Fortune*, 17, October, pp.66-72.

Williams, A., Dobson, P., Walters, M., (1994), *Changing Culture: New Organisational Approaches*, 2nd edition, Institute of Personnel Management, Cromwell Press, Wiltshire, UK.

Zikmund, W.G. (1997), *Business Research Methods*, 5th ed., Orlando, Fl.: The Dryden Press