

The International Competitiveness of Chinese Construction Firms

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Structured Abstract:

The purpose of this paper is to review the international competitiveness of Chinese Construction Firms (CCFs). Whilst foreign business for Chinese contractors has developed rapidly over the last few decades, the relative share of international revenue still remains lower than European and American contractors. Given the current downturn in construction activity in China, it is paramount for Chinese firms to increase their international competitiveness.

In the past, Chinese government support Chinese contractors to penetrate African market. However, in globalisation, Chinese contractors tended to focus on the construction market in Africa may no longer be sustainable.

Efforts are now being made to diversify into Asia and South America but Chinese contractors also seek effective pathways to improve their competitiveness, in order to expand business in global construction markets as evidenced by the recent launch of the Asian Infrastructure Investment Bank (AIIB) initiated by China. In order to assess CCFs' competitiveness in the global construction market, this paper will utilise a comprehensive literature review and secondary data analysis to outline the government policy in construction industry background and identify the current issues of Chinese contractors' international competitiveness.

Keywords:

International competitiveness; global construction markets; construction sectors; Chinese contractors

Article Classification:

Literature review

1. Introduction

Zhao and Shen (2008) and a number of other recent researchers considered that the emerging problem facing Chinese Construction Firms (CCFs) with regard to competitiveness is their insufficient share in the international markets (Liu, et al., 2013; ENR, 2014). Chinese contractors have captured the market lead in the African construction market, but challenges in the European and American markets still remain (ENR, 2014). This is evidenced by the inclusion of 62 CCFs in the top 250 global contractors list in the Engineering News Record (ENR 2014); with these 62 Chinese firms accounting for 14.5% of the total international revenue in 2013. In comparison with Chinese contractors, the international revenue of 58 European contractors accounted for 50% of the total international revenue in 2013 (ENR, 2014). This suggests that Chinese contractors lack an element of international competitiveness, when compared to their Western counterparts. Nevertheless, China's international construction enterprises are emerging as the stronger competitors and have become increasingly active in recent years in the international markets (Zhao and Shen, 2008; Liu, *et al.*, 2013).

One of key elements of CCFs' successful increased share of the international market is due to Chinese government support in the form of subsidies but more importantly bilateral agreements (Pheng *et al.*, 2004). For instance, in the 1950's the Chinese government was able to secure agreements with foreign nations and consequently, send its state-owned contractors to complete operational construction projects, mainly in developing countries (Zhao and Shen, 2008). After China joined the World Trade Organization (WTO) in December 2001, the government was able to extend its global reach and secure an increasing number of foreign construction agreements (Wen, 2005; Hu, 2007). In 2014, Chinese president Xi Jinping signed more than 20 bilateral agreements with Argentina to offer finance and construction infrastructure in exchange for raw materials; The China Development Bank will provide US\$7.5bn in loans to Argentina for dams and construction programs (Quirke, 2014).

International construction markets are considered more accessible to foreign firms as a consequence of globalization (Kim, et al., 2010). Numerous Chinese contractors have started to strategically develop overseas propositions to gain new revenue and minimize domestic market risk (Li, 2006; Zhao and Shen, 2008) as domestic competition in the Chinese construction market has become increasingly intensive, due to numerous firms over-borrowing and over-building, causing an imbalance in the economy (Anderlini, 2015).

Recent economic liberalisation of the construction market has placed private contractors in a stronger position to compete for work. At the same time, to be successful requires more sophisticated project management to enhance competitiveness (Fang, et al, 2004; Lim, et al., 2010). It is useful to identify the basic strategies that CCFs can proactively adopt to respond to changing internal and external circumstances, in order to achieve more sustainable growth in the international construction market. In this

context, it is necessary for Chinese firms to adapt different ownership structures and methods of operation in order to penetrate global construction markets (Low and Jiang, 2003).

2. Data and method

In order to identify the main issues of CCFs' international competitiveness, this paper will analyse the strengths, weaknesses, opportunities and threats (SWOT) of CCFs in global construction markets. Data used for analysis in this paper was collected from the following three sources:

- 1) Literature study: a systematic review of the academic literature of the construction market and industry, to provide and analyse valuable data of current issue of CCFs on global construction market.
- 2) Statistical data: the statistical data applied are taken from the China Statistical Yearbook (CSYB, 2004—2014) and Engineering News Records (ENR, 2004—2014). 10 years of annual data from these statistical reports was analysed to investigate the development of CCFs over the past decade.
- 3) Policy reports: the policy reports include various official reports and regulations published recently by major governmental bodies including the State Council of China (SCC), Ministry of Finance, Ministry of Commerce and the Asian Infrastructure Investment Bank.

3. The concept of international competitiveness on firm's level

Competitiveness has been described by many researchers as a multidimensional concept. The survival and success of an organisation in the market depend on competitiveness (Ambastha *et al*, 2004). In competitiveness theories, three main schools can be identified, which are Porter's theory, Resources—Based View, and Core Competency (Flanagan *et al*. 2007).

Michael Porter investigated the major factors affecting the competition for business internationally versus nationally. He suggested providing customers with greater value and satisfaction than competitors, that firms must be operationally efficient, cost effective and quality conscious; that superior value results from lower prices for equivalent benefits or differentiated benefits that justify a higher price (Porter, 1985). The Resources—Based View theory argued that a firm is a collection of tangible or intangible resources, the performance of which improves the firm's competitiveness (Penrose, 1959; Barney, 2001 and Ambrosini, 2003). The Core Competitiveness theory considers that competitiveness is a capability to combine multiple resources and skills to deliver additional value to customers to access wider markets (Prahalad and Hamel, 1990).

However, a number of scholars considered that business innovation is an essential factor for competitiveness at present, as the turbulent global business environment, innovation capability is becoming more important sources of competitiveness (Sushil, 2000; Barney, 2001).

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Based on the above literature review, the following table summarises a selection of authoritative scholars' theories on competitiveness.

Table 1: key theory of competitiveness

Authors	Theory
Porter (1985)	At the firm level, profitability, costs, productivity, and market share are all indicators of competitiveness.
Buckley P.J. <i>et al</i> (1988)	Competitiveness includes both efficiency (reaching goals at the lowest possible cost) and effectiveness (having the right goals). It is this choice of industrial goals which is crucial.
Feure, R and K. Chaharbaghi (1994)	Competitiveness is relative and not absolute. It depends on shareholder and customer values, financial strength which determines the ability to act and react within the competitive environment and the potential of people and technology in implementing the necessary strategic changes; competitiveness can only be sustained if an appropriate balance is maintained between these factors which can be of conflicting nature.
Nicholas Negroponte (1996)	The concept of 'knowledge' as the most recent input factor in competitiveness
Alfred P. Sloan (1998)	The concept of management as a key input factor for competitiveness
Joseph Schumpeter (2003)	The role of the entrepreneur as a factor of competitiveness, underlining that progress is the result of disequilibria, which favours innovation and technological improvement
International Institute for Management Development (IMD) World Competitiveness Centre (2014)	A field of Economic knowledge, which analyses the facts and policies that shape the ability of a nation to create and maintain an environment that sustains more value creation for its enterprises and more prosperity for its people

Table 1 illustrates factors affecting firms' competitiveness, including quality, costs, profits, ability, value, operation and innovation. However, the above scholars' definitions of competitiveness are not flexible enough to utilize at present. These scholars provide valuable insight into competitiveness, but they consider a general industry while the construction sector is characterized as heterogeneous (Flanagan *et al*, 2007).

4. Chinese construction industry development and transformation in the global markets

The historical developments of Chinese construction firms can be broken into three stages: Pre-1970s, 1970s—1990s and Post-2000s (Low and Jiang, 2003).

- *Pre-1970s - Worked on a non-profit basis on agreed projects to satisfy target plans*

In the 1950s, the Chinese government was able to secure agreements with developing countries and consequently send its state-owned contractors to complete non-profit construction projects, based on agreements between the Chinese government and the host government (Pheng and Jiang, 2003; Low and Jiang, 2003). These contractors turned over all revenue to the state and their only objective was to satisfy the target plan (Ma, 1999; Wang, et al., 2006).

- *1970s – 1990s - Reform of company structure and ownership to meet the demands of international construction markets.*

With the introduction of the 'open-door' policy during the 1970s – 1990s, CCFs became increasingly active in the global market and a small number of Chinese state-owned construction firms were licensed to contract overseas projects. Thus these firms were China's pilots into international construction markets (Zhao and Shen, 2008). Many CCFs changed their company structure and ownership to meet the demands of the global market. These firms evolved gradually from initial state-owned status to commercial entities (Low and Jiang, 2013). This transformation led to considerable success in increasing construction productivity (Wang *et al*, 2006).

- *Post-2000s - Emergence in global construction markets*

After the 1990's large Chinese firms expanded their operations overseas. In order to support Chinese contractors undertaking foreign construction projects, in 2000, the Chinese State Council documented the launch of a fund with a special interest rate backed by the Ministry of Finance and available from state-owned banks (SCC, 2000). In 2014, China initiated the Asian Infrastructure Investment Bank to provide capital for infrastructure in developing countries. The consequent effects of these measures were significant in boosting international business.

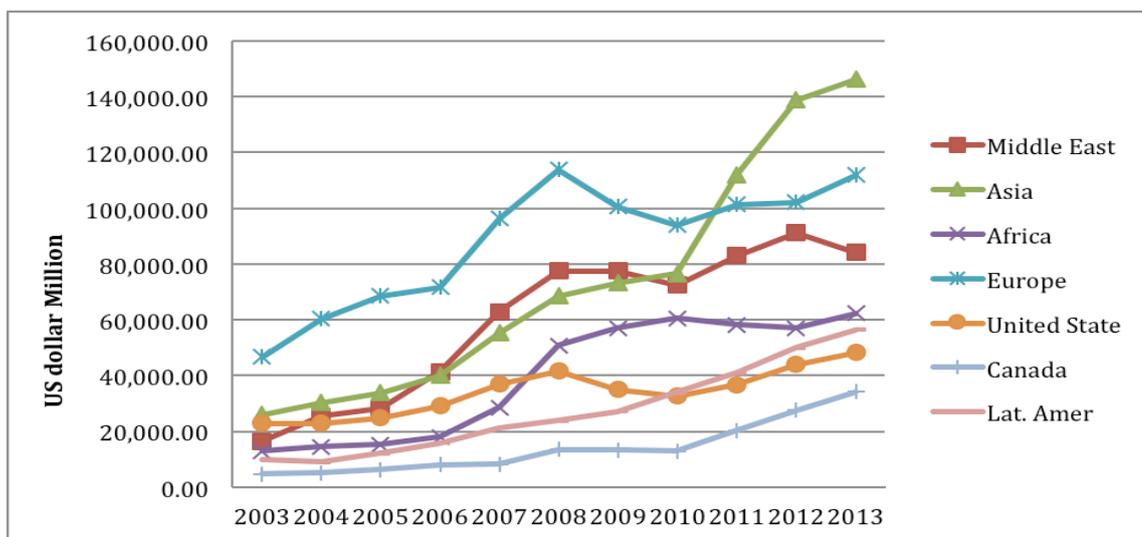
In summary, the historical development of the Chinese construction industry shows that Chinese contractors have experienced sustained positive growth through the momentum of the expanding international construction sector. However, they have also faced threats as international construction market conditions have changed rapidly.

5. The review of the international construction sector

Engineering News Records (ENR) defined the international construction market as the specified volume open to foreign construction firms in the global market (ENR, 2014). The Global construction 2020 report (2009) forecasted that construction in emerging markets would double in size over the next decade, growing by an estimated 110% to become a market worth \$7 trillion, representing a massive 17.2% of global GDP in 2020.

The increasing international construction sector could be supported by the ENR's annual statistics, which has shown that ENR 'Top 250 International contractors' have increased their revenue from international construction contracts in the global markets over the last decade (ENR, 2014). In comparing the top 250 international contractors over the past decade, the revenue generated by these firms has increased from US\$167.5 bn in 2004 to US\$544.0 bn in 2013(ENR, 2014); therefore it can be stated that large international contractors are finding an abundance of work in the global market. See Figure 1 below.

Figure 1: The international revenue of region by top 250 international contractors in last decades.



Source: Top 225/250 international contractors (ENR, 2004-2014)

Figure 1 shows that the trend of international construction revenue by top 250 international contractors in every region has increased over the last 10 years. The important markets are Asia, Europe and the Middle East, those which have had significant positive growth from 2006. In the above figure, the Asian market exhibited a significant growth rate between 2010-2013, being valued at 1.91 times its pre-defined value in 2010; which allowed the Asian construction market to have a higher value than its European equivalent.

However, In spite of the observable growth of the international construction market, the uncertainty and dynamic changes surrounding global construction pose serious threats to global contractors (Han, et al., 2007). Kim, et al. (2010) indicated that competition has been shifting from conventional price competition to a more complex competitive framework where non- price factors such as key products and quality-focused

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competition rules are more critical in their effect on the selection of contractors. Some experts agreed that not only financing capability but also a high level of technology, foreign firms' advanced experience, the knowledge and management skill of overseas project managers all play a key role in the international construction market (Mahalingam and Levitt, 2005; Low and Lim, 2000; Kim, et al., 2010; ENR, 2014), This suggests that Chinese contractors are capable of managing the multiple dimensions of construction projects including design, engineering, procurement and construction.

The analysis above, describes the rapid development of the global construction market especially in Europe, Asia and the Middle East. In this globalised market numerous key factors have been identified to appeal to overseas investors when selecting foreign contractors. These include: financial capabilities, technology, project experience, management skills and risk protection.

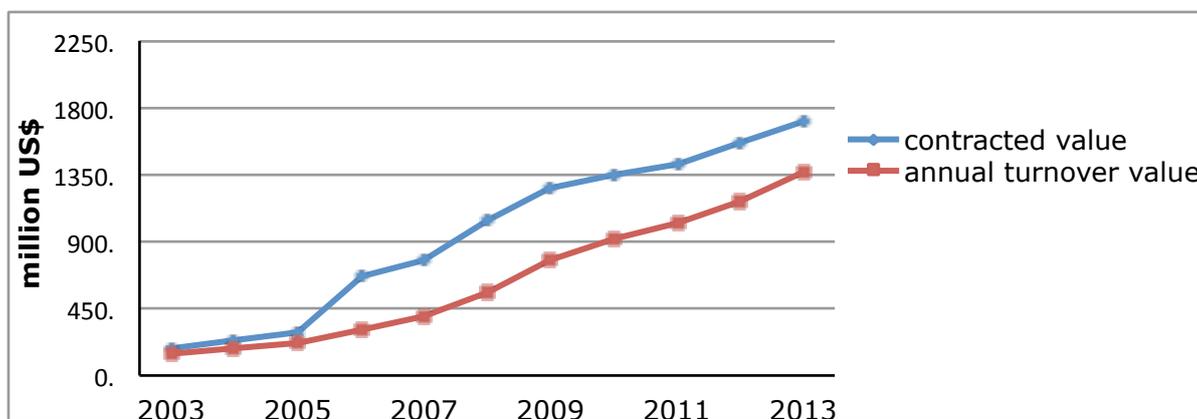
6. Chinese construction firms' share in the global market

The construction projects undertaken by CCFs in the international market usually fall into six categories (Zhao and Shen, 2008):

- 1) Projects loaned from the World Bank, Asia Development Bank and Africa Development Bank;
- 2) Investment by the host governments;
- 3) Projects financed by Chinese export credit to developing countries;
- 4) Aid projects by the Chinese government;
- 5) Projects invested in by Chinese enterprises;
- 6) Chinese embassy or consulate buildings in foreign countries.

In line with these methods of industry competition, China's construction industry is becoming increasingly developed; this can be showed in Figure 2 and table 2 below.

Figure2: CCFs' overseas contracted value and annual turnover value



Source: China Statistical Yearbook (2004-2014)

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Data presented in Figure 2 evidences the contracted value and annual turnover value obtained by Chinese construction firms increased rapidly year-on-year and increased more than 9 times its initial value (CSYB, 2004-2014).

Table 2: Top 100 international contractors by countries in 2013

<i>Countries</i>	<i>Number of firms</i>
<i>China</i>	<i>21</i>
<i>S. Korea</i>	<i>9</i>
<i>Japan</i>	<i>10</i>
<i>India</i>	<i>2</i>
<i>American</i>	<i>9</i>
<i>Spain</i>	<i>10</i>
<i>Germany</i>	<i>4</i>
<i>France</i>	<i>4</i>
<i>Italy</i>	<i>6</i>
<i>Netherlands</i>	<i>3</i>
<i>UK</i>	<i>2</i>
<i>Other European (Greece, Ireland, Portugal, Belgium, Austria, Sweden)</i>	<i>8</i>
<i>Brazil</i>	<i>3</i>
<i>Australia</i>	<i>3</i>
<i>Turkey</i>	<i>4</i>
<i>Lebanon</i>	<i>1</i>
<i>Canada</i>	<i>1</i>

Source: Top 250 international contractors (ENR, 2014)

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Table 2 shows that 21 Chinese contractors rank in the top 100 international contractors (ENR, 2014). This means Chinese contractors play an importance role in the international market.

However, Chinese contractors' share of the international market is still much smaller in comparison with their competitors (Zhao and Shen, 2008; Liu, *et al.*; 2013). ENR (2014) analysed the global market share through the international revenue generated by the 'top 250 international contractors' in each international region. The findings are represented in Figure 3, below:

Figure 3: The market share of top 250 international contractors in 2013

HOW THE TOP INTERNATIONAL CONTRACTORS SHARED THE 2013 MARKET																	
DESIGNER NATIONALITY	#OF FIRMS	INT'L REVENUE		MIDDLE EAST		ASIA		AFRICA		EUROPE		UNITED STATES		CANADA		LAT. AMER / CARB.	
		\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%	\$ MIL.	%
AMERICAN	31	70,955.4	13.0	7,658.9	9.1	22,908.0	15.6	1,026.7	1.6	7,041.1	6.3	NA	NA	23,281.6	68.1	9,039.2	16.0
CANADIAN	2	1,112.4	0.2	111.3	0.1	13.8	0.0	96.0	0.2	254.5	0.2	427.9	0.9	NA	NA	208.8	0.4
EUROPEAN	58	272,040.6	50.0	25,779.2	30.6	58,620.2	40.0	20,030.7	32.2	91,206.4	81.5	41,255.4	85.2	8,434.6	24.7	26,713.1	47.3
BRITISH	2	5,954.9	1.1	2,017.1	2.4	1,228.1	0.8	707.5	1.1	1,527.4	1.4	35.0	0.1	124.0	0.4	315.8	0.6
GERMAN	5	46,546.7	8.6	1,658.4	2.0	23,105.5	15.8	418.2	0.7	7,676.3	6.9	11,828.5	24.4	1,447.6	4.2	412.3	0.7
FRENCH	5	50,743.1	9.3	1,955.2	2.3	7,351.9	5.0	5,985.9	9.6	25,252.8	22.6	4,297.0	8.9	2,908.8	8.5	2,991.6	5.3
ITALIAN	16	28,898.5	5.3	7,392.4	8.8	3,560.6	2.4	6,387.7	10.3	4,933.0	4.4	1,031.7	2.1	1,120.9	3.3	4,472.2	7.9
DUTCH	3	9,967.2	1.8	1,161.2	1.4	1,255.3	0.9	611.8	1.0	5,984.4	5.3	794.1	1.6	0.0	0.0	160.4	0.3
SPANISH	13	79,851.8	14.7	4,279.6	5.1	20,373.9	13.9	2,843.3	4.6	17,553.4	15.7	15,924.1	32.9	2,572.0	7.5	16,305.5	28.8
OTHER EUROPEAN	14	50,077.3	9.2	7,315.2	8.7	1,744.9	1.2	3,076.4	4.9	28,279.1	25.3	7,345.0	15.2	261.4	0.8	2,055.3	3.6
AUSTRALIAN	4	10,589.1	1.9	870.1	1.0	4,332.4	3.0	89.1	0.1	1,065.9	1.0	2,675.7	5.5	1,311.4	3.8	244.6	0.4
JAPANESE	14	22,243.8	4.1	1,620.3	1.9	15,283.8	10.4	876.6	1.4	585.8	0.5	2,729.8	5.6	425.3	1.2	722.3	1.3
CHINESE	62	79,013.0	14.5	13,779.8	16.4	25,392.8	17.3	30,339.8	48.7	2,478.9	2.2	789.2	1.6	287.5	0.8	5,945.0	10.5
KOREAN	13	42,415.9	7.8	21,688.7	25.8	14,578.2	10.0	3,026.5	4.9	330.6	0.3	220.9	0.5	60.4	1.3	2,110.7	3.7
TURKISH	42	20,409.2	3.8	6,292.0	7.5	3,583.7	2.4	2,123.5	3.4	8,226.5	7.4	62.4	0.1	0.0	0.0	121.1	0.2
BRAZILIAN	4	12,977.4	2.4	47.9	0.1	0.0	0.0	2,948.3	4.7	65.6	0.1	132.2	0.3	0.0	0.0	9,783.4	17.3
ALL OTHERS	20	12,084.6	2.2	6,280.8	7.5	1,761.4	1.2	1,679.0	2.7	609.2	0.5	112.3	0.2	0.1	0.0	1,641.8	2.9
ALL FIRMS	250	543,840.4	100.0	84,129.0	100.0	146,474.2	100.0	62,236.1	100.0	111,864.4	100.0	48,405.8	100.0	34,200.9	100.0	56,530.1	100.0

SOURCE: ENR. NOTE: EXCLUDING \$128.4 MILLION FROM ARCTIC/ANTARCTIC OR UNALLOCATED

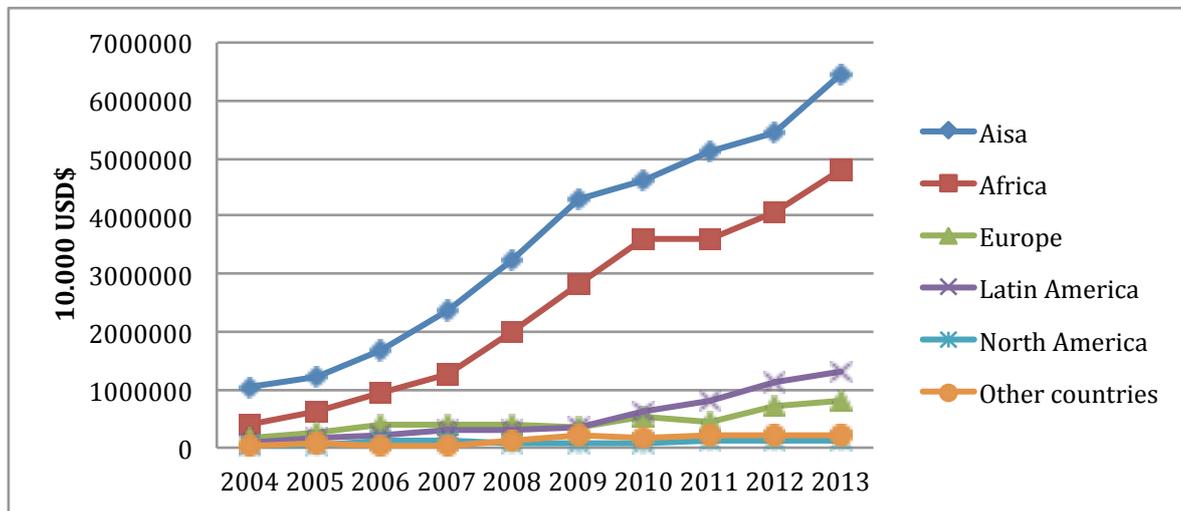
Source: Top 250 international contractors (ENR, 2014:8)

Figure 3, shows that the international revenue generated by the top 58 European construction firms accounted for 50% of all total international revenue received in 2013. The main markets of operation for European contractors can be observed as the United States, Europe and Latin America. In comparison, the top 62 Chinese contractors achieved 14.5% of total international revenue; with their main operational market as Africa accounting for 48.7% of total African revenue. This comparison indicates that Chinese contractors should enhance their international competitiveness to achieve wider markets, when compared to their Western counterparts.

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According to the China Statistical Yearbook (CSYB, 2005-2014), Chinese contractors' annual turnover value has increased over last decades. See Figure 4 below, which displays the distribution of CCFs' annual turnover in different regions.

Figure 4: Annual turnover value of CCFs in different global construction market



Source: China Statistical Yearbook (2005-2014)

Figure 4 shows African and Asian construction markets are key markets for Chinese contractors as stated earlier. But the annual turnover value has increased in Europe and South American regions.

Therefore it can be suggested that there are opportunities for Chinese contractors in international markets. It can be observed that since 2015 the Chinese government has put special emphasis on improving cooperation with Latin American countries. An example of this can be identified through the signing of a trade agreement worth US\$27 bn between the Chinese premier Li Keqiang and Brazil, aiming to support Brazil in speeding up its infrastructure development (GCR, 2015a).

One main driver behind the Chinese government's support in these geographical locations is to strengthen and develop global competitiveness by transitioning emphasis from cost advantages in low and medium-tech industries to differentiation advantages in hi-tech industries (Jansson and Soderman, 2013).

According to above statistical data analysis, it can be identified that the contract value and turnover revenue of CCFs has grown significantly over the last decade. However as stated above the international market share attributed to Chinese contractors is lower than European counterparts. Numerous underlying reasons are suggested, but the most prominent is that of the Chinese contractors' focus on the African construction market, where a significant number of projects are government supported aid projects.

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Therefore it must be stated that in order to achieve more market share, Chinese contractors need to improve their international competitiveness, which in turn will allow them to increasingly appeal to overseas investors.

7. Chinese construction firms' international competitiveness

SWOT analysis facilitates to identify the current issues of Chinese contractors in the global construction market, which will provide a systematic review of CCFs' international competitiveness. The study mainly by Zhao and Shen (2008) has identified the key SWOT of CCFs. The following section will utilise this basic SWOT to analyse the international competitiveness of Chinese contractors.

Figure 5: SWOT of CCFs' international competitiveness

	Helpful	Harmful
Internal	<p>Strengths</p> <ul style="list-style-type: none"> • <i>Human resource capabilities</i> • <i>Lower bidding price</i> • <i>Advanced technology</i> • <i>Good relationship with developing countries</i> • <i>Financial support by state-owned banks</i> 	<p>Weaknesses</p> <ul style="list-style-type: none"> • <i>Lack of professional project managers</i> • <i>Absence of design capability</i>
External	<p>Opportunities</p> <ul style="list-style-type: none"> • <i>Government encouragement and promotion</i> • <i>Good relationship with developing countries</i> • <i>Asian Infrastructure Investment Bank (AIIB) was initiated by China</i> 	<p>Threats</p> <ul style="list-style-type: none"> • <i>High business risk</i> • <i>High political risks</i>

Strengths

- *Human resource capabilities; low cost, highly skilled and highly adaptable to work in overseas environments*

According to statistics, the overall labour productivity of Chinese contractors in the international market has increased 1.1 times from 2003 to 2013 (CSYB, 2004–2014). There are numerous reasons for this, with Pheng *et al.* (2004) and Zhao and Shen (2008) indicating that Chinese workers attend intensive training programmes before being sent to overseas construction sites and those most Chinese workers are multi-skilled and will be involved in each stage of construction. Furthermore it is also suggested that Chinese managers, engineers and labourers often live onsite with simple accommodation, which facilitates effective understanding and communication, as well as reducing costs (Corkin, 2007).

- *Lower bidding price of construction contracts*

It is suggested by Pheng *et al.* (2004) that the relatively low cost of construction machinery, material and equipment from China facilitates the reduction of the bidding price for CCFs. This is echoed by Corkin (2007) that the cost per square metre of construction to Chinese contractors is one-quarter of that of Europeans companies. Therefore, the practice of construction contracts to the lowest bidder in the global market has given an advantage to the Chinese firms.

- *Advancement in construction technology*

It is argued that CCFs have been making progress in improving productivity by using advanced technologies. According to the report by Hu (2007), Chinese construction enterprises have world-class advanced construction technologies and have the capability of undertaking more technically complex projects in the global construction market.

- *Financial support by state-owned banks*

Before 1990s, the lack of financial capability can be identified as one of the major weaknesses of numerous Chinese contractors (Zhao and Shen, 2008). To mitigate this weakness, the State Council of China published a document in 2000 requiring the Ministry of Finance and state-owned banks to adopt measures to assist Chinese contractors, when they undertake projects in overseas construction markets (SCC, 2000). In 2014, Asian Infrastructure Investment Bank was established to facilitate Chinese capital funding for overseas construction projects (AIIB, 2015). Thus contractors can apply for loans from those banks and enjoy a special interest rate.

Weaknesses

- *Lack of professional project managers*

Zhao and Shen (2008) indicated that the low salary and poor working conditions in construction make the industry unattractive to well-educated people. The studies by Yan (2005) and Zhu (2006) pointed out that Chinese contractors generally lack sophisticated project managers particularly in the areas of project management, contract administration, risk management, finance management and international laws. This human resource problem affecting Chinese contractors can be considered as one of the most serious weaknesses contributing to poor business performance.

- *Absence of design capability*

Zhu (2006) suggests that very few of the CCFs have the ability to undertake both design and construction works. China has played host to foreign designers, who have worked alongside CCFs to initiate and complete numerous projects. An example of this can be seen as the UK-headquartered architect BDP designed a central business unit for Wuhan (GCR, 2015b). Zhao and Shen (2008) argued that many clients in international markets prefer to award the main contract to a contractor who can undertake collectively the consultancy, design service and the construction work. This practice shows a weakness and puts CCFs in a disadvantageous position for large projects in the international construction market.

Opportunities

- *Government encouragement and promotion*

In order to integrate China's economy with global economies, the Chinese government has been encouraging its enterprises to enter into overseas markets (Zhao and Shen, 2008). In line with this, the Chinese government has been helping Chinese contractors to compete for construction contracts in overseas markets by developing and enhancing bilateral and multilateral cooperation with foreign countries, through improving the efficiency of administration in approving overseas construction works and by reducing the customs duties of CCFs (Zhao and Shen, 2008).

- *Good relationship with developing countries*

It can be suggested that a number of developing countries, particularly in Africa and the Middle East, have established longstanding relationships with China. In which the bilateral construction business activities in these developing countries have been highly promoted by both governments (Pheng et al. 2004; Zhao and Shen, 2008). These business connections facilitate CCFs to build up strong relationships with the local governments, clients and the local people. Consequently, CCFs have accumulated good experience in operating a business in the international market.

- *Asian Infrastructure Investment Bank (AIIB) initiated by China*

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AIIB was established by China's President Xi Jinping and Premier Li Keqiang in 2013 and includes founding members from 57 countries. AIIB aims to provide support capital for infrastructure in developing countries (AIIB, 2015). This facilitates CCFs to explore wider market and undertaking international.

Threats

- *High business risk*

According to Zhao and Shen (2008), two major reasons contribute to the risk to CCFs. Firstly, in general developing countries lack funds, and the project clients in these countries have a poor knowledge of legally binding contracts. Therefore, CCFs face a higher probability of clients' defaulting on payments. Secondly, the unexpected high inflation in these countries can greatly increase projects' costs; this is considered as a major factor that affects the profits of CCFs'.

- *High political risks*

Political risks are high in developing countries. Typically, the policies concerning the appointment of CCFs can change dramatically as a result of a change or replacement of government leaders. This is echoed by Zhao and Shen (2008), suggesting that many Chinese contractors have experienced substantial business losses because of changes in governments or officials. Another political risk is act of terror which affect personnel security. For example, according to the policy of the Ministry of Commerce (MOC), the Chinese government has helped Chinese staff that worked in Yemen to leave, due to fears of staff safety (MOC, 2014)

7. Conclusion

This paper explores the international competitiveness of Chinese construction firms using secondary resources of literature review, statistical data and policy reports.

Whilst Chinese contractors' overseas business has increased in the last decade, the relative share of international revenue remains lower than that of European and American contractors. The main reason for this is the Chinese government's focus on aid projects in Africa. However, Chinese construction firms' overall international competitiveness continues to improve due to on-going government financial support, relatively low costs and resulting competitive bidding prices.

The global construction market has dynamically changed in size and structure in recent decades, especially in regard to emerging markets. Notwithstanding the evolution of global construction markets, the key factors influencing overseas investor select foreign contractor remain financial capability, technology and human resource capability (Fong and Choi, 2000; Marzouk, *et al.*, 2013).

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- Financial capability includes projects cost, tender price, financial stability and financial references;
- Advance construction technology to deliver merit quality performance;
- Human recourse capability relating to staff's experience, knowledge and skills in quality, energy saving, jobsite safety, risk avoidance and time management.

Going forward, current Chinese government support structures for Chinese contractors' expansion into other overseas markets may prove inadequate. To sustainably increase international competitiveness, Chinese contractors should pay more attention to areas of

- Improve technology to support excellent project quality;
- Innovate in finance to achieve more international revenue and turnover value, thus improving rank/position in the global market.
- Advance project management skills to control energy saving, risk avoidance and project progress.

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