

The weaknesses of China's contractors in overseas construction project management: 2 case studies

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Abstract: The practices of international construction contracting have been prevalent increasingly over the past half a century. Although the contractors of highly developed world have dominated this field, there tends to be more players from newly emerging countries like China. The history of China's contractors performing in the overseas construction markets is divided into 3 major phases, namely the planning economy era, reform and openness period and the latest new millennium. However, the know-how and techniques of modern project management have been widely deployed in China for merely 2 decades. While competing with those veterans in overseas markets, China's contractors still lack adequate advantages as well as experiences, leading to the underperformance or even failures. A 2-dimension framework of overseas project management, comprising the external risk and internal function aspects, is proposed. Based on the analysis of 2 recent cases in Saudi Arabia and Poland respectively, it's found that the low cost strategy, management in risk, commerce, cost, human resources etc. are their fatal weaknesses.

Keywords: weakness; China; international construction; project management.

1. Introduction

There is no doubt that the construction sector plays a crucial role in the economy. The proportion of construction industry accounts for roughly 10%, in the context of global economic volume (Gunhan, 2009). With the globalization sweeping the whole world, construction has also been involved in inevitably. Seymour (1987) defined that international construction is where a company, resident in one country, performs work in another country; an international contractor is the one that works outside the country in which that company is registered. But Ofory (2003) argued the point that an international construction project was defined as the one undertaken by an enterprise outside its home-country is out of date, and that the definition must now include projects in a home-country involving foreign firms as competitors.

As early as 1960s, the contractors of highly industrialized nations in North America, West Europe and Japan started expanding their business into overseas markets, since the domestic demand had been saturated increasingly, meanwhile the demand in developing countries had kept rising rapidly. From that time on, the international construction activities began growing gradually. Particularly in the end 1970s and early 1980s, the construction boom in the Mid-east nations, which gained the huge build-up of fund thanks to the surging oil and gas prices, largely stimulated the development of international construction (Drewer, 2001). The worldwide decrease of international construction activities starting from 1997 Asia financial crisis, started to gain momentum in 2002, and continues to grow parallel to world economic expansion. In 2003,

growing liquidity around the world boosted the international construction revenues as well (Gunhan, 2009). Bon and Crosthwaite (2000) estimate that the global construction market is over \$3000 billion annually. The volume of the world construction market is approximately US\$ 4.6 trillion as of 2006 and is expected to grow at 4.6% annually until 2011 (Han et al., 2010). Following the footsteps of the earlier participants, those contractors from the emerging economies such as Korea, Turkey, China and so on, joined in the competition as well. Within the initial phase, the later ones combated by essentially selling the low cost labour resources of their own domestic economies (Drewer, 2001); after a few years of exercises, they tend to be competitive enough in many projects with complex technologies.

China, Germany, Vietnam, Malaysia, India and Russia would have the fastest growing construction markets in the medium-term (Bon and Crosthwaite, 2001). In the next 25 years, Western Europe and North America would become substantial importers of construction services, and Asia a substantial exporter (Ofori, 2003). However, construction firms from Western Europe and North America would continue to have competitive advantage in highly specialized construction services (Ofori, 2003). The objective is to identify the weaknesses in overseas project management of the contractors that come from one of those newly rising countries-China. Following the introduction is the historical review of China's internationalization in construction sector. The framework of international project management is presented. As the major method of this paper is one of the qualitative techniques-case study, 2 overseas projects contracted by China's contractors are

examined, with the discussion based on the 2 case studies. Finally comes the conclusion.

2. Review of China's internationalization

As a newly industrialized nation, China is still at the burgeoning stage of internationalization, despite it entered into the overseas construction markets as early as half a century ago. Historically, China's international construction practice is divided into 3 phases.

2.1 Planning Economy Era (1960s-1970s)

Indeed, China's contractors have begun undertaking overseas construction projects since 1960s when the international construction activities emerged. However, at that time China's economy was being predominated by the highly centralized planning mode that had been borrowed from former Soviet Union and featured arbitrary by authority. Thus, the overseas projects were as well managed by means of arbitrary administration. Besides those projects were all in the essence of foreign aids, most of which had been enjoyed by African countries that in exchange supported China in diplomacy. Almost each ministry administrating the infrastructure construction set up the department of foreign aid that specifically executed the overseas projects. One of the largest scale aids was the Tanzania-Zambia railway project, in which China provided nearly all fund and undertook all technological work including survey, site investigation, design, purchasing and construction, therefore it's akin to the EPC project to an extent.

2.2 Reform and Openness Period (1980s-1990s)

Since the early 1980s, the leadership launched the unprecedented political and economic reforms, coupled with the openness of market, consequently unleashing the skyrocketing economic growth over the next 3 decades. Within this era, the predominant planning economy was gradually transited to the market-oriented mode, meanwhile not only the huge foreign direct investment but also the advanced technologies and management know-how have been flowing into China. It's in 1986 when the modern project management techniques were first brought into China by a Japanese contractor which in forms of joint venture participated in a hydroelectric project. Largely encouraged by this case, an increasing number of contractors across the country began deploying the modern project management, resulting in a revolutionary in China's construction industry. Concomitantly, China's strategy in overseas construction markets also shifted in line with the reform. The number of free aids fell dramatically, instead the contractors performed the projects according to the business disciplines more than the past years, as their competitors from developed countries did. Meantime thanks to the diplomatic policies that stopped exporting communism, the relationships between China and many nations, especially the Asian neighbours, have been greatly normalized, leading the overseas markets share to change largely. The revenue gained from Asian markets already exceeded that from Africa that used to be China's sole market. In 1985, merely 2 Chinese corporations were shortlisted by Engineering News Record (ENR) in the top 225 international contractors, the figure grew to 33 by 2000

(Low et al., 2004). Nonetheless, within that period most projects that China's contractors completed were characterized as those with low value, low technologies and low profit margin.

2.3 New Millennium (2000s)

China's policymakers at the outset of the new millennium introduced 4 major strategies in the long term plan, comprising 'Education, Urbanization, Internationalization and West Development', which are the 4 pillars expected to retain the prosperity in 21st century. For the purpose to internationalization the leadership of China has been largely encouraging the enterprises in various sectors to enter into the global competition while focusing on domestic market. In addition to the natural resources that provide ingredients for the industrialization, the overseas infrastructure contracting market is also what China's companies are aspiring to engage in, as not only can it gain the market share but also facilitate the import of capital, industrial products, technologies and labour. This strategy is being perceived meaningful at a moment when part of the home market is gradually saturated, for instance the hydro-electric construction.

A number of institutions backing the international business were accordingly created, such as Department of Foreign Economic Cooperation, Economic and Commercial Counselor's Office, China International Contractors Association and China Export & Import Bank (Chen and Orr, 2009).

Largely spurred by this policy, the progress that China's contractors have made over the past decade is obvious. The operational scopes of China's contractors are much more

plural, expanding to more than 180 countries (Ling, 2010). The number of enterprises ranking among 2011 Top 225 international contractors surged from 33 in 2000 to 51 dramatically. As of 2010 end, the annual revenue and value of signed contracts in overseas markets have totaled \$92.2 and \$134.4 billion, respectively, which were far more than \$8.38 and \$11.72 billion in 2000 and even the accumulative \$82.72 and \$114.78 billion by 2002.

Having practiced at the low-end markets for dozens of years, China's contractors are also committing to move towards the upstream of the industry, where they have successfully won a few projects valued at billions of dollars and with technological complexities, and the innovated delivery forms such as EPC, BOT/BOOT and PPP etc. have been used as well.

Figure. 1 Annual Revenues of Overseas Projects in 1980s and 1990s

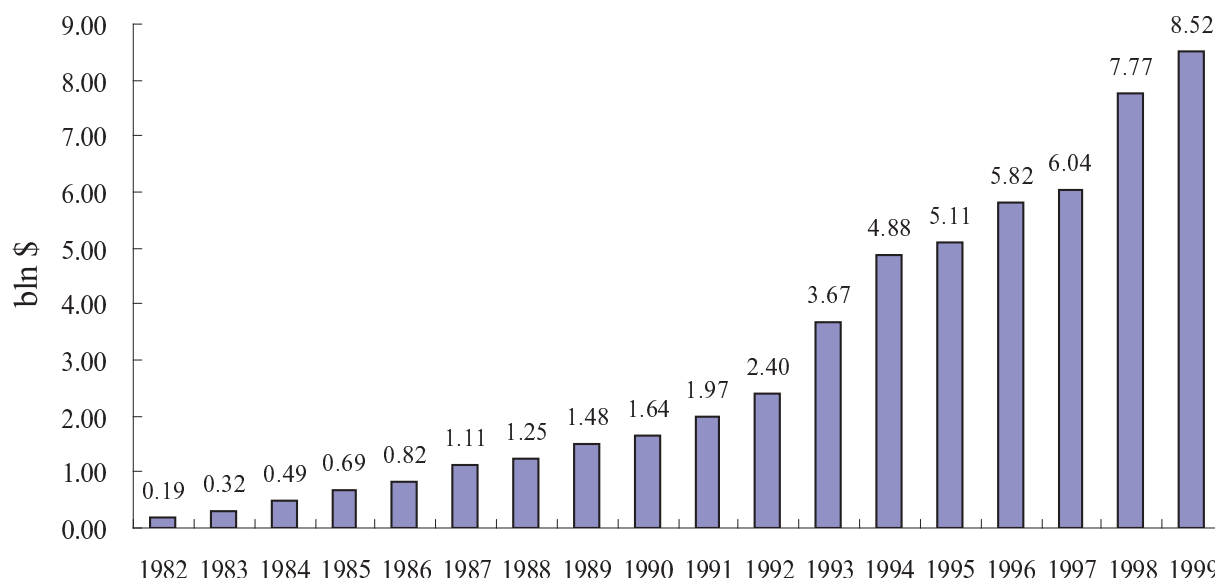
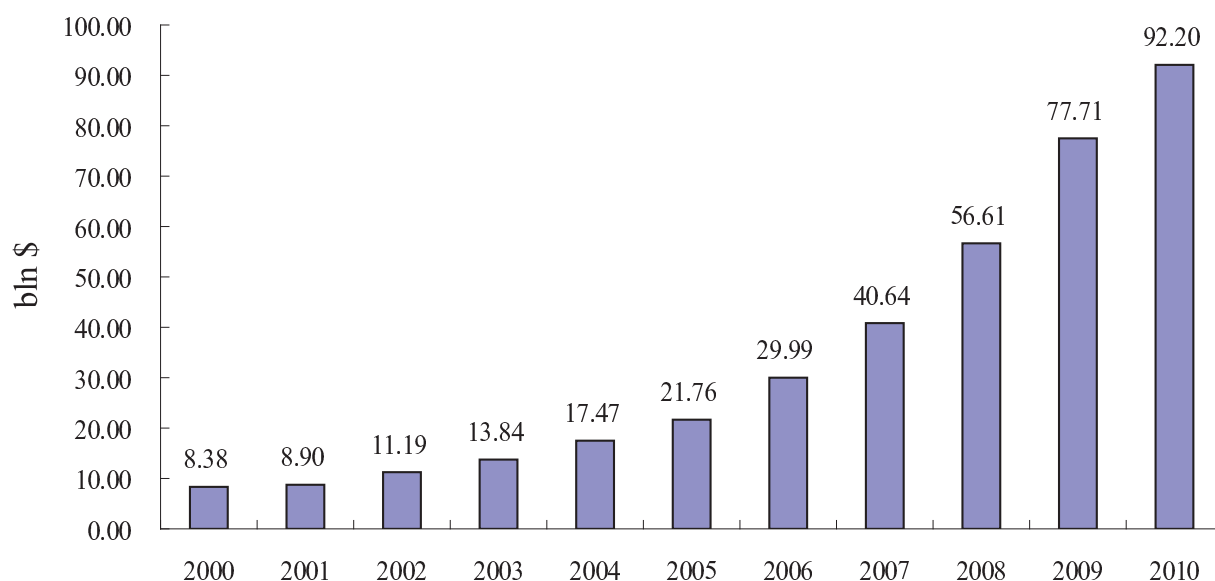


Figure. 2 Annual Revenues of Overseas Projects in 2000s



3. Management of international construction project

By distinguishing between project and project management, Munns and Bjeirmi (1996) proposed their definitions, respectively: a project comprised a series of activities

and tasks aiming to achieve the specific objective, within the scheduled time span that has definite start as well as end dates; project management is the process of controlling the achievement of the project objective. The modern know-how and techniques of project

management have originated from the aerospace and defense sectors of USA since 1950s and 1960s (Chen et al., 2008) when the international construction contracting started to emerge coincidentally. Given the success in aerospace and defense projects that demonstrated the superiority, the methods of project management were soon borrowed by the construction industry. As is compared with the manufacturing, construction is likened to an outdoor factory producing a one-off product (Levy, 2010). Thus, construction process is project-based and features uniqueness, as those one-off products, ranging from the resident houses, to the industrial and commercial buildings, to the heavy civil engineering works, are all competed in the form of project. In general, the project management team (PMT) is the execution organization of a construction project. The work of project management in terms of function is broken down into a few aspects, mainly including engineering and technologies, commerce, finance and accounting, procurement and equipments, human resources, administration and public relation, along with others such as information, security, logistics etc. Accordingly, the functional departments are set up within the PMT. When it comes to the overseas projects, despite the structure of PMT remains almost the same with the domestic one, the management process is definitely internationalized and complicated. Unlike the projects in home market, the overseas condition gives rise to the difficulties in the project management, because a large number of issues rarely encountered at home are meant to arise in the overseas market. The major challenge is the risk which so many researchers have spotlighted. In contrast to the domestic projects, those in overseas markets

where the operational environments are distinctive face much risks stemming from a variety of sources. Han and Diekmann (2001), Wang et al. (2004) and Neerajjha and Devaya (2008) have studied the international project management purely from the perspective of risk. Based on their researches, those sources of risks are classified into 5 primary groups, namely politics, economics, industry and market, legislation and culture, each also including a few constructs.

- Politics: ruling regime, government instability, expropriation, turmoil or war, bilateral relationship etc.;

- Economics: recession, exchange rate, inflation or deflation etc.;

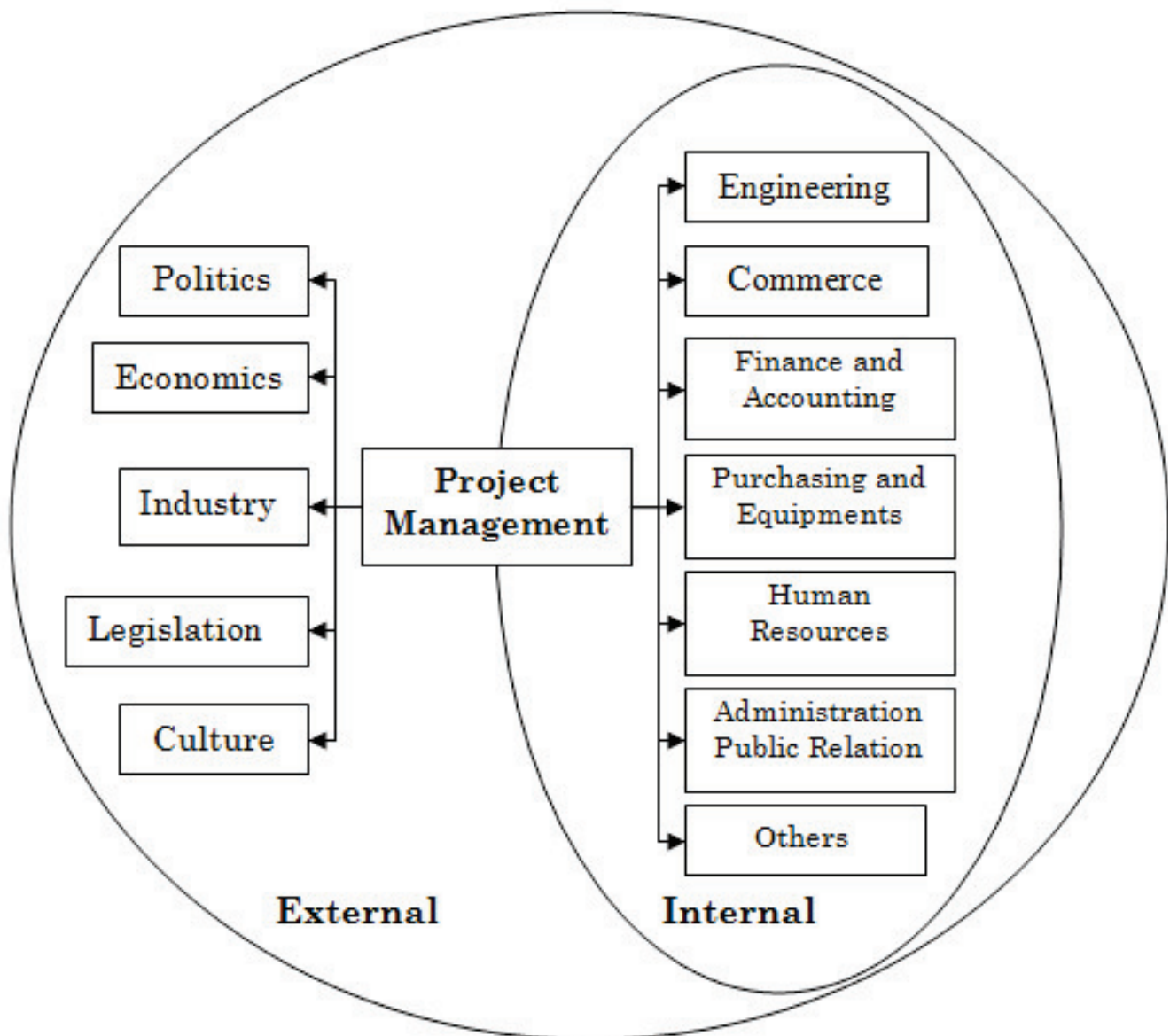
- Industry: authority regulatory, specification, local competition, restriction on foreign companies, tax etc.;

- Legislation: completeness of legal system, justice enforcement, corruption etc.;

- Culture: language, region, custom etc.

A 2-dimension framework of overseas project management, consisting of the external risks and internal functions, is proposed and demonstrated as follows:

Figure 3. Framework of Overseas Project Management



4. Case studies

By means of empirical study on 2 cases, it from the perspective of the framework above explores the weaknesses of China's contractors in the overseas project management.

4.1 Mecca Light Railway Project in Saudi Arabia

When China's President in February 2009 was visiting Saudi Arabia, the 2 sides signed the contract of Mecca light railway

project awarded to a China's giant contractor. This railway connecting Mecca Mosque and Hill of Arafat with a length of 18.25 km is expected to attenuate the traffic congestion caused by the annual pilgrim where millions of Muslims flow into.

Other than the facilitation by the governments of 2 countries, it's the lowest tender price that made the employer opt China's contractor. The most competitive indigenous contractor's price was as high as \$2.7 billion, by contrast China's contractor tendered for

Table 1. Profile of Mecca Light Railway Project

Condition of Contract	EPC+OM
Accepted Contract Price	\$1.77 billion (non-adjustable lump sum price)
Time for Completion	22 months (10 Feb 2009-13 Nov 2010)

only \$1.77 billion that was nearly \$1 billion lower than the former. Borrowing the experience of a municipal light railway already completed in China, the contractor estimated the tender price using the norms of China, as they ideally assumed that the site condition would be similar to that in China. Shortly after the signature of contract, many contingencies unexpected arose. First of all, the project was performed not fully subject to the contract, which deployed the condition of EPC+OM also dubbed 'turn key' contract. On this condition, the prime contractor should undertake the work of survey, investigation, design, procurement and construction, as well as the operation and maintenance after the completion for a stated length of time. However, the task of engineering was actually assigned by the employer to an U.S. contractor adopting the American specification. Regarding the procurement, a number of key equipments such as the locomotives, signal and manipulation systems etc., the most profitable parts, were also taken over by the European suppliers due to the employer's nomination. Indeed, the engineering and part of the purchasing were both in the employer's control, rather than the so-called prime contractor that instead performed like the construction subcontractor. Consequently, the speed of design and purchasing lagged behind the anticipation of China's contractor. It's estimated that under normal circumstance the time for completion should be at least 2 years. The construction

didn't commence until July 2009, leaving mere 16 months for the contractor. On the other hand, the engineering and procurement out of prime contractor's control gave rise to the cost. If these jobs had been subcontracted by China's companies as the prime contractor expected initially, the cost would have been much lower.

The contract stated that 35% of the entire transport capacity should be reached by the completion time on 13 Nov 2010. But the employer after the commencement proposed a significant variation that the 35% was more than doubled to 75%, largely increasing the quantity of works. On the side of China's contractor, what it failed to foresee was the ferocious natural and cultural environments. Unlike the commonplace municipal railway, the majority of this railway was built in the desert area, where the high temperature, vicious shortage of water and sand storm led to the difficulty in outdoor work and decline in productivity. A few Chinese labour refused to work overtime as they did in domestic projects as before, and argued to increase the wages. Even strike and other violent incidents occasionally took place at construction site. Performing in a Muslim country, China's contractor not good at the affairs of religion and language, failed to cope with the local residents who always impeded the land acquisition, which badly slowed down the execution speed.

Caused by these negative factors, the contractor incurred enormous overrun of

both cost and time. As of 31 Dec 2009, only 5 months after the commencement, the cost sharply mounted to \$1.81 billion that had already exceeded the contract price, meanwhile the process also lagged far behind the schedule. Despite the contractor was put at a passive position, the decision makers still determined to continue this project instead of claim or termination, as they were aware of the project's extraordinary importance that the signature of contract was host by President and King, the delay or failure would lead to not only destructively political impacts but also bad impression by the Muslims worldwide. In order to address the problems, the contractor in April 2010 temporarily arranged more than 4,000 workers from China to aid this project, while infusing hundreds of million dollars itself for filling the hole hollowed by the cost overrun. Eventually, the project was completed within the time in accordance with contract, with all

the requirements satisfied by the employer. However, what the contractor achieved in both time and quality was at the huge expense of overrun cost that totaled to \$2.36 billion, which along with other spending resulted in the net loss of \$609 million.

4.2 A2 Motorway Project in Poland

This case is summarized mainly on the basis of the report by Ni (2011). In order to improve the outdated transport infrastructure, Poland launched the project of A2 motorway that was also one of the preparations to host the imminent 2012 Europe Cup. The motorway includes 5 packages (A-E), with package A and C awarded to the Sino-Poland joint venture which involved 3 China's contractors (hereafter referred to as C1, C2 and C3) and a Polish company, and was led by C1 at the outset.

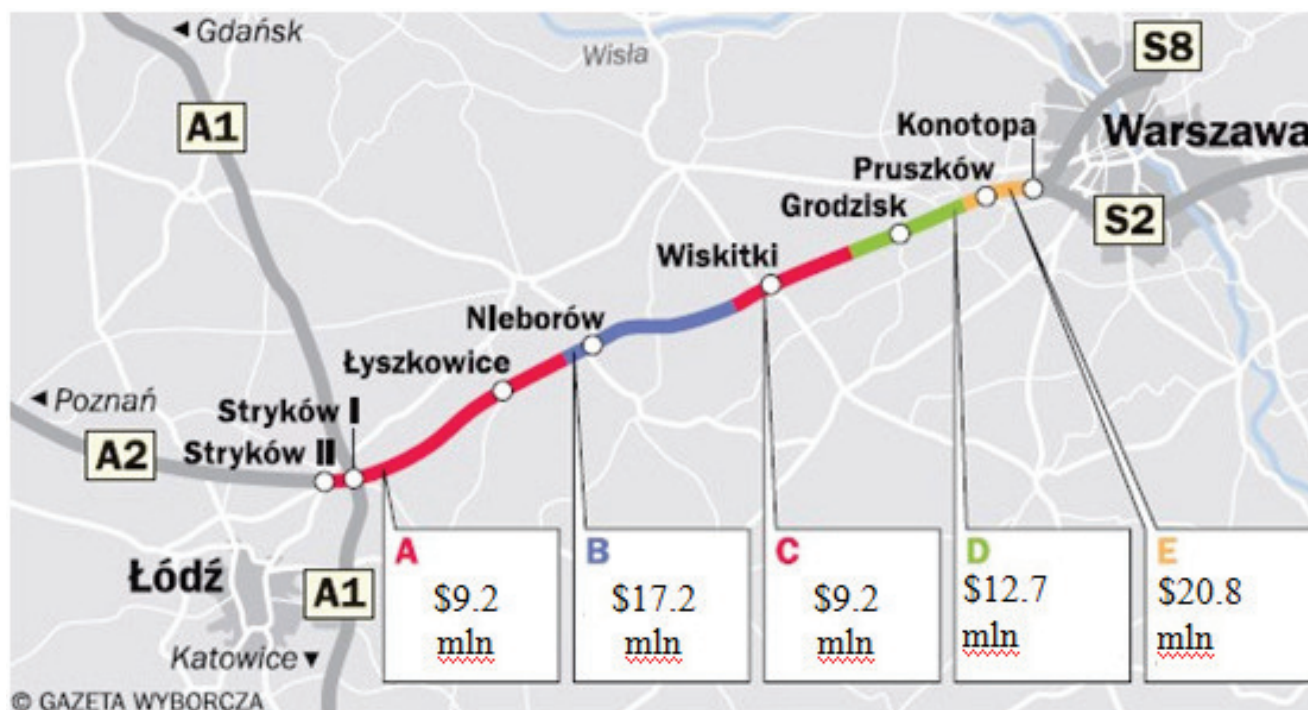
Table 2. Profile of A2 Motorway Project

Condition of Contract	EPC
Accepted Contract Price	\$477 million (non-adjustable lump sum price)
Time for Completion	32 months (28 Sep 2009-31 May 2012)

Compared with the European companies, the Chinese-led contractor's lowest price played a decisive role in the tender, as the price of \$477 million was less than half of the employer's budget estimated at \$972 million. The disparity between the estimated

costs of package A & C and another 3 won by European contractors is manifest as shown in the following Figure:

Figure 4. Project's Packages and Contractors' Estimated Costs



This surprisingly low price could be explained by the 3 points:

The contractor ambitiously aspired to win the project, through which they hope to enter into the markets of European Union;

The advantage of low cost in personnel, material and equipments was perceived to make sense in spite of the lowest price;

Even if the cost rises in the later phase, the contractor expected to have the payment increased by adopting the variation, an approach that China's contractor frequently used in domestic and African markets.

The employer and contractor on 28 Sep 2009 signed the EPC contract formally. Although the contract was drafted on the basis of the condition published by International Federation of Consultancy Engineers (FIDIC), many critical clauses that are beneficial to contractors had been arbitrarily cancelled or changed by employer, shifting the risks to contractor. These clauses included:

Advance payment: the employer would make no advance payment;

Variation and Adjustment: the employer would never compensate the contractor if any variation and adjustment for changes in legislation and cost takes place;

Quantity of works: if the actual quantities of works exceed that initially set up in the bill of quantities, the contractor is entitled to no additional payment;

Dispute: any dispute arising between the 2 sides shall be referred to Polish court rather than arbitration institution.

Besides, the ruling language of contract was Polish in which China's contract was improficient.

It's until June 2010 when the design and drawings hadn't been finished. Immediately after the commencement, the quantity of works dramatically increased, mainly including the steel and injection piles for bridges and ground improvement, since neither the employer provided detailed PFU nor

did the contractor investigate the site condition along the planned motorway, especially the geology. Additionally, the laws of environmental protection in Europe are strict, to which the contractor didn't pay attention either. As the local environmental administration intervened, the contractor added a number of structures designed to protect the wild animals living alongside the motorway, the cost of which was estimated to be 19% of the total but hadn't been taken into account in the budget at the beginning. The contractor wasn't entitled to any additional payment for these increase quantity of works according to the contract.

The purchasing management exacerbated the execution as well. The tender for this project was in middle 2009 when Poland's construction market was in depression infected by the global economic recession, with the prices index hitting the bottom. That's another reason why China's contractor dared tendering with so low a price. What's fatal was that the contractor didn't cling to the opportunity to sign the long-term supplying contracts with local manufacturers. Unfortunately, only a year later when the construction started, the prices for raw materials as well as rental machinery stimulated by the recovering economy began to surge, inevitably increasing the cost.

Aiming to cut the spending, the struggling PMT was forced reducing a few staff they viewed as unnecessary, such as the law consultant, translator and even technical personnel. Whereas it worsened the management furthermore instead of improvement. Given the poor performance of PMT over the past year, the parent company in the end of 2010 restructured the PMT significantly by replacing the project manager and

transferring the leading power to C2 from C1, both of which were the wholly-owned subsidiaries of the parent, a construction conglomerate in China. What's worse, another partner C3 quit the joint venture shortly after the restructure, which was attributed to the dissatisfaction in the collaboration. Despite these bailout actions were adopted, the performance of project has been hardly reversed as expected. In the 2nd quarter of 2011, the contractor encountered serious financial crisis. Without advance payment, the contractor funded \$100 million that afterwards was run out soon due to the increased quantities of works and continuously growing prices of materials. The payment by employer was monthly, but the prime contractor paid the subcontractors weekly in accordance with contracts. In May 2011, the angry Chinese workers and Polish subcontractors whose payments had been deferred for a while launched strike that escalated to the violent upheaval, followed by the suspension of project. As of that time, nearly two thirds of the stated time had passed, meanwhile merely 20% of the quantity had been completed yet. As the contractor estimated, the total cost would mount to \$786 million, but the remainder of payment would be \$ 392 million, with the potential loss of \$394 million. Hence, the contractor proposed to increase the contract price, which the employer determinedly rejected because it's subject to neither the contract nor the 'Public Procurement Act'. As a consequence the contractor terminated this project, badly angering the employer and authority which then claimed \$271 million and decided to prohibit the contractor in Poland over the next 3 years. Finally, China's first infrastructure project in European Union market culminated in the painful failure.

5. Finding and discussion

One of the case study's shortcomings is that the research is concentrated in a narrow scope, the findings of which cannot be generalized, but a number of similar weaknesses of China's contractors in overseas project management have been identified, despite the studied projects were in Saudi Arabia and Poland, respectively, which are largely distinctive in terms of political regime, economy, culture, natural environment etc. These weaknesses are perceived general to the extent that the contractors of both projects are 'central enterprises' owned and operated by China's cabinet, representing the highest grade in construction sector.

5.2 Low cost strategy

Except for the advantage in low cost, China's contractors hardly possess any other edges such as the track record, technologies, expertise, management skills and so on when they compete with the veterans. This phenomenon has also been proven by Low (2004) and Ling (2010), the former of whom argued that cheap labour was indeed the sole advantage that China's contractors enjoyed. Historically, this strategy has been fostered within the long-time practices in domestic and traditional African markets, where the personnel and procurement with lower prices than other regions were easily accessible. The construction industry features low profitable margin but high risk, particularly for the contractors engaging in international markets face much higher risks. In contrast to other strengths, low cost is far more vulnerable as it can hardly be realized because a set of uncertainties. When China's contractors expand their business territory into other

markets including the highly matured one in Europe, and perform the projects in more complex delivery forms such as EPC, BOT/BOOT and PPP, their weak capacity in the project management cannot guarantee the execution of low cost.

5.2 Risk management

Another reason for the low cost strategy is the near-zero risk management in overseas projects. Generally, an experienced contractor's estimation of tender price includes those which the potential risks are likely to erode lest the low profit margin turns to be the loss. But as is described in the case studies, China's contractor rarely took into account the risks, generating the extraordinarily low tender prices. The life cycle of a project is normally comprised of 2 phases, namely i) start-up and ii) operation (including termination). Compared with the internal functional management taking place within the operational stage, the risk is managed throughout the whole life cycle, starting from the bid or even as early as the entry time. Accordingly, the risk management also consists of 2 aspects, the prediction and mitigation. While tendering for the project in start-up phase the contractor should investigate a range of conditions covering the politics, macroeconomics, market, legislation, society and culture etc. as proposed in the framework, then evaluate and predict the likely risks as fully as possible. Following the prediction, the managers in execution phase also need to monitor and trace those potential uncertainties. Once the risks are bound to emerge, the alarm and action must be deployed immediately to mitigate the impacts of risks. It is seen in the 2 studied cases that the specific

risk management didn't exist at all throughout the entire life cycles of the projects. The necessary investigation prior to bid was neglected by contractors. Indeed, it's what they failed to discover and foresee that created nearly all the contingencies leading to the overrun of cost and time. Besides, when those risks arose the contractors lacked effective approaches to address them.

5.3 Commercial management

Regarding the internal functional management, the work of commerce, especially the contract is the biggest weakness. In the matured and completely legal markets, it's the contract that safeguards player's interests by steering the activities as well as preventing the opportunism. An international project generally involves a number of participants, provided the high risks each party ranging from the employer, to the prime contractor and to the subcontractors and suppliers prefer to shifting the potential risks to other sides frequently by means of contracts. Thus it's definitely worth for the participants negotiating the contracts to ensure that the fair and conducive clauses are stipulated. On the side of China's contractors that rarely emphasized the issues, the processes of drafting contracts are usually simplified. Besides, the deficient competitive strength except for the leadership in low cost bestows little bargaining power when they negotiate the contracts. Given that, their counterparts-the employers or projects-intend to draft harsh contracts transferring the risks to China's contractors. Nor is the work such as the consultancy in business and laws paid enough attention to. Therefore, when the interests are violated, they miss another powerful weapons such as

the claim, litigation etc. to protect themselves.

5.4 Cost management

The cost, in conjunction with the time and quality, are the 3 fundamental objectives of project management. The cost overrun that China's contractors incurred stemmed from 3 major sources: procurement, labour, and increased quantity and variation. It is estimated in the infrastructure project that the cost of purchasing the raw materials and equipments normally accounts for 30%-70% of the total. Since the cost estimation of China's contractors were base upon the assumption that the procurement would be done in the home market, the cost rose sharply where the purchasing from home couldn't be realized due to a host of factors such as the far distance, employer's nomination, and the prices surge. So does the labour management. As the construction is a labour-intensive industry despite the machineries have been widely used, the cost for labour is also considerable. Though the wage level in domestic market is relatively low, the employment of Chinese labour who require increasing the wages often leads the cost to mount. The added quantity of works and variation undoubtedly make the cost exceed the previous budget as well.

5.5 Human resources management

The process of project management does consume a wide range of resources. Fundamentally, what's perceived as the most crucial is the manpower, as it's the manager team comprising the general manager, functional heads and their staff who execute the whole work. Manifestly, assessed by the performances within the 2 projects studied, the manager teams were incompetent for

international projects. Although they could outperform other manager in home market, the exercises and experiences needed in overseas project management are what they still lack so far. Many issues that the veterans view as common, however, are unprecedentedly difficult for them. International projects need versatile managers being both businessmen and technicians (Gunhan and Arditi, 2005). Another factor that the companies' government-run nature inevitably has the managers infected by the bureaucracy and performing not like businessmen but like officers who sometimes can't distinguish between business management and government administration. This weakness is definitely harmful to the international project management. Regarding the labour, the strike or even violent protest triggered by the low wage and delayed payment also contributed to the underperformance. Actually, the mismanagements on workers have been seen not only in the 2 cases but also in many other projects of China's contractors worldwide.

6. Conclusions

The wave of globalization, coupled with the increasingly saturated infrastructure market at home, have conspired China's construction companies implementing the internationalization strategy which proves to be a necessary option with few alternative.

Despite they have committed in the overseas markets for nearly half a century, particularly the pace of internationalization has been accelerated from the outset of new millennium, they are still in the infancy phase when the capability of project management hardly keeps pace with the ambition. The cases study reveals a number of commonplace weaknesses of China's contractors in overseas markets. When they are expanding the business into broader territory, the traditional strategy of low cost has been inherited and continued as ever which proved unsustainable from the long run. With regard to the project management, they simply duplicated the internal functional management without taking into account another dimension-the external risks. It's the drawbacks in the management of commerce, purchasing, labour and deficiency of competent managers that weaken the performance or even lead to failures in overseas projects. Overall, it's bound to take a long time for China's contractors to overcome those weaknesses and improve the capability of project management, thus the leadership in low cost is meant to be maintained. But China's strength the robust financial power, e.g. the world's hugest build-up of U.S. dollars-tends to play a significant role, as the majority of China's international contractors are overwhelmingly government-owned, and can easily access the finance with the institutional supports.

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