International Journal of Arts & Sciences,
CD-ROM. ISSN: 1944-6934 :: 5(1):427–441 (2012)

CHINA AND U.S.A. INTERNATIONAL CONTRACTORS IN EAST ASIA

Henrique Manuel Pimentel Reis

Polytechnic Institute of Setúbal, High School of Management, Management and Economic Department, Campus of IPS, Estefanilha, 2194-503 Setúbal, Portugal

Public works are one of the most international business areas. The largest works have to be done by large companies implying international contracts. Going on with the study of the largest international contractors we try to characterize the situation of the Chinese and U.S. companies in the East Asia, trying to compare their options and strategic profiles. Public works usually have as main customer the State or, sometimes, public institutions, bringing this activity to an important issue relating business and sovereignty. We begin with some literature review about internationalization motivations, traditional and emergent ones, and internationalization models, namely the Uppsala Model and the Networks Model. We present the international situation of the companies from both countries in the biennia of 2005/2006 and 2007/2008, analysing the evolution in a comparative way. Then we have built a Table with the distribution of international contractors by several market segments of East Asia, in order to analyse the options of both countries companies in terms of markets approach. We also analyse the distribution of those enterprises in terms of subsidiaries. Carrying out the study and considering a working line which prevents the dispersion of the analysis, we formulated the following hypotheses:

Hypothesis 1: The internationalization options of U.S.A. contractors in East Asia are different from the ones of Chinese contractors;
Hypothesis 2: The option for international operations, in these markets, is similar between U.S.A. contractors and Chinese contractors.

Our study allowed us to test the hypotheses and reach some significant conclusions conducive to new lines of research.

Keywords: Internationalization, Contractors, Market, East Asia.

1. Introduction

Public works are activities that play a very important role in the economic and social development of any region, because the construction of infrastructures that are socially and economically efficient is a prerequisite to economic growth and to a more efficient use of resources by each country. In this sense, political, economic, governmental and non-governmental organizations agree on the importance of this sector.

Public works are mainly based on two great areas:

1. construction;
2. conservation and maintenance.

On the other hand we know that nowadays organizations, independently of their reasons to exist and their goals, they must take a clear consciousness that internationalization is a crucial factor in order to avoid facing serious setbacks in short term. Their competitiveness and growth prospects, or even mere survival, must be considered taking into account a number of competitors and other influential forces of the environment, where economic agents are moving themselves in a complex network of inter-influences. The consequences of this process can go, and we certainly know they will, beyond what is perceived in the immediate term.

Contractors also face this reality and, more than others, we must sign that construction, in general sense, and public works in particular, are industries based on a wide range of projects. As written by Rodrigues (2005), there is no standardization of products or processes, and each work is, usually, one particular case. However we know that construction of buildings and houses may imply that some projects allow replication of various final products. An example is the construction of blocks of flats or houses. Also according to Rodrigues (2005), this context leads to the notion of irreversibility, meaning that it is reflected in the choice of a project, for a given time horizon, the exclusion of other options in terms of new works and their nature.

Largest contractors know how important it is to look beyond borders and know how important is their contribution to improve general well-being of people through job creation and infrastructures construction, meaning wealth improvement.

In this paper we analyse the involvement of international contractors from China and U.S.A. in the East Asia market, trying to understand their options and strategies, considering data from McGraw-Hill Construction, which considers the ranking of the largest international contractors based on the criteria of the turnover generated abroad home country.

2. Research Goals and Methodology

In this study, the relevant goal is trying to achieve conclusions, if possible, about the internationalisation process of larger construction contractors from U.S.A. and China in East Asia, analysing if they are similar or if we can find different strategies and some reasons that support that difference. We will mainly approach the internationalisation models and the international operation modes, trying to find variables that can explain those options.

Analysis Limitations

The study is based on McGraw-Hill Construction data disclosure, about larger International Contractors, considering the biennia 2005/2006 and 2007/2008, according with referred criteria. Considering the goal of our study we put two hypotheses that give guidelines to our work:

Hypothesis 1: The internationalization options of U.S.A. contractors in East Asia are different from the ones of Chinese contractors;

Hypothesis 2: The option for international operations, in these markets, is similar between U.S.A. contractors and Chinese contractors.

3. Internationalisation Models

The ranking of the international contractors, as I have already told, is supported by the criteria of the turnover generated outside the home country. Anyhow, considering the latter biennia, we must be aware that the number one of the ranking, Hochtief AG, has a total turnover of 29,284.4 million dollars, with 89.4% of it generated abroad, but, for instance, the 100th of the ranking is China Petroleum Engineering and Construction (Group) Corporation, with a total turnover of 1,444.2 million dollars with 46.3% of it generated abroad. We notice that we have significant differences of economic dimension between the largest international contractors.

Considering the previous paragraph we defend that the internationalization models adapted to SME are relevant when analysing the internationalization process of these companies. We find companies whose option is to go to developed markets and we find companies preferring developing markets.
The following scheme shows that the internationalization level of a company and the internation alization level of each market should constrain the internationalization models options:

Table I.

		Market Internationalization Level	
		Low	**High**
Company Internationalization Level	**Low**	Early Starter	Late Starter
	High	Lonely International	International Among Others

Font: Johansson and Mattsson, 1988.

3.1. The Uppsala Model

One of the most used models to study the process of companies' internationalization, particularly considering small and medium enterprises, is the Model of Uppsala, which emerges from research projects developed in the mid-60s at the University of Uppsala, by a group of researchers led by Professor Sune Carlson. According to Björkman and Forsgren (1997), the Nordic countries, compared with most regions of the world, form an area of great homogeneity. These countries have a similar geographical size, their history has common links and language proximity is significant. All of them are open economies and companies seek business opportunities abroad, because the limited size of the region where they belong to doesn't allow important growth. The importance and relevance of international trade also influenced the Nordic academics and researchers.

Björkman and Forsgren (1997) stated that initially the hypothesis in question considered that it was against human nature to develop international business, as companies were constrained by rationality and had limited access to knowledge. They intended to express that companies exporting or investing abroad had always incomplete knowledge about foreign markets and about the various alternatives to develop international business.

This perspective portrayed two fundamental perceptions. The first concerns the fact that they consider it exists a profound difference between operations in domestic market and operations in foreign markets, which must be analysed taking into account the limitations of internal company knowledge. The second key issue is that the concept of company behind the study of Scandinavian researchers is not the same as that used in the main currents of theoretical economics. As we are told by Björkman and Forsgren (1997), researchers at Uppsala University found that managers had developed their functions with less rationality and less organized form than what was normally assumed by various economic studies, and these findings were equally applicable to international business.

Kurke and Aldrich (1983) confirmed that organizational behaviour framework of managers, resulting from studies they have done subsequently, supported the belief that the theory on international companies could not be based on traditional concepts of economic theory.

Also the studies of Johanson and Wiedersheim-Paul (1975), and the studies of Johanson and Vahlne (1977), took as their starting point the model above, emphasizing that it is characterized, precisely, for considering that the process of internationalization is an incremental progression. This leads to successive stages of greater involvement in foreign markets through different operation modes with growing international level of needs in terms of resources. In addition, geographical distances between the country of origin and the company's target markets are becoming larger when international experience becomes greater.

These studies began to focus on international expansion of companies in the Nordic countries, namely Swedish ones, and later they were confirmed by studies on other industries in other countries. One of the studied cases was the Finnish, by Luostarinen (1979), which confirmed the theory of internationalization by stages, with preference for geographical proximity in the early stages of the process.

The model of Uppsala notes that uncertainty, coupled with the physical distance between markets, will be eliminated or overcome by the knowledge acquired with practical experience in each market. However, this kind of knowledge is not transferable, or, at least, not easily transferable among markets and among businesses, being specific to each binomial company/market. The main explanation for Nordic researchers decided to persist, in their research, with the perspective of internationalization by stages, and considering that the managers are essentially adverse to risk, not risk takers, is based on influence suffered by the studies of Cyert and March (1963), which referred to the restrictions of rationality, the aversion to uncertainty, the organizational learning and conflict resolution.

Petersen and Pedersen (1997) said that Uppsala Model could be considered at two levels: the operational and theoretical. We are told by the same authors that it began to be studied in the operational plan and then was inferred the theoretical level. Petersen and Pedersen (1997) argue that it is clear that the incremental process is essentially supported by the geographic variable, considering that companies prefer to begin the internationalization process for markets that have similarities with the domestic ones. The authors speak about psychic distance.

However, Langhoff (1997) emphasizes that the concept of psychic distance has a cultural nature, and should be considered on the basis of individuals' decisions rather than as an independent variable that explains the internationalization process of companies. Indeed, the author claims that psychic distance is not an objective factor and can not be considered an independent variable that affects all enterprises in an equally way. Therefore, Langhoff (1997) questioned whether psychic distance should not be a concept which covers the cultural differences or the cultural similarities. The author clearly draws attention that the model in question assumes that all companies, in a given stage of internationalization, are encouraged to consider cultural differences, and they exert their influence in the same direction. It means it is both important to study these differences, whether they are small and medium-sized enterprises or multinationals. Moreover, the psychic distance, in the broadest sense, embracing both geographical and cultural components, should not be seen from the perspective of the unit country, but especially taking into account regions with some uniformity.

This last reference raised some criticism to the model, adding that Bridgewater *et al*. (2004), said that remains unclear how knowledge affects the increase of resource allocation in the process of internationalization.

Björkman and Forsgren (1997), stated that constraints of the model were not properly specified, and this one is less valid when studying large multinationals. These companies have a significant international experience, trying to use the latest generation technology; international operations are not only motivated by the quest for new markets and there is a great bet in services and industries with innovative technology.

Johanson and Vahlne (1990), however, made relevant efforts to develop the model, even accepting the critical remarks, and considering them in a positive perspective. Although the Model of Uppsala has occupied the leading position in the researchers' concerns about the internationalization of enterprises, namely among the Nordic researchers, is well known that, from the beginning of the eighties, the development of alternative models and differential analyzing structures characterized the works on the process of internationalization.

Björkman and Forsgren (1997), said that neither the Model of Uppsala, nor the theory of networks, we address below, include the determinants economic variables when trying to explain the internationalization process of several companies. Actually, while most of research studies on international business were based on an economic perspective, the Nordic School model is based, essentially, on the behavioural theory of the firm.

The perspective of networks theory adds to the analysis assumptions hitherto considered the fact of giving relevance to the strong links formed between the various partners which are integrated in international business relations in terms of social and cognitive component. The latter perspective reveals that there are significant difficulties in the strategic planning and strategic formulation of internationalization process and to define the entry mode into foreign markets.

In the second half of the 90s, Petersen and Pedersen (1997), considered interesting to test the Uppsala model and they made so on two levels: the theoretical level and operational level. At the theoretical level they concluded that the model maintains its strength, being empirically unchanged the statements concerning the incremental internationalization. However, it becomes more difficult to justify that the accumulation of knowledge and experience in international markets are the only explanations for the option of investing by stages in foreign markets. Thus, at the operational level, the increased involvement of resources in new markets can also influence business decisions, knowing that resources are not infinite. The authors call attention to the fact that many of the studies conducted at the operational level did not sufficiently take into account the limitations of the model, so there is still a long road ahead of research studies on the process of internationalization.

3.2. Theory of Networks

Johanson and Vahlne (1990) as well as Forsgren and Johanson (1992), developed several works looking out for networks creation as a process of companies' internationalization. The networks perspective leads us to pay attention to long-term relations between companies of the same sector of activity or between companies that are economically interrelated or belong to complementary sectors. The authors state that the development of operations in international markets is influenced by the increasing existence of proximity relationships in those markets. From this perspective, the internationalization of the organization depends on a set of relationships inside the network, being the developed standards and the expressed behaviours the corollary of established relations between the various actors, introducing an international multilateral element in the process, as Johanson and Vahlne (1992). According to Madsen and Servais (1997), the internationalization process is influenced by the context in which the company operates. The authors state that the degree of internationalization of the company will depend, therefore, on networks established in the industry, and the position it occupies in this network. This position is strongly determined by the specific advantage of each company, meaning that hardly an economic unit with nothing to offer will gain access to such type of networks or will develop its process of internationalization.

According to Nieminen and Törnross (1997), the industrial development of enterprises in new markets faces a multiplicity of factors integrated in the environment and affecting business relationships. In this sense, it is important to understand the basic construction of networks as a way to approach the market, which, still according with the same authors, has to do with understanding how to combine heterogeneous resources with different actors and various activities.

Nieminen and Törnross (1997), argue that the networks can be used as a way to look at the process of business developing in a more holistic perspective. They highlight that one can identify the existence of networks taking into account the different aspects of the business-to-business, as well the context in which it develops, whether geographic, economic, social, cultural or political one.

Cook and Emerson (1978), consider that if there is a set of organizations, even small, that are related to each other regularly, they form a network of exchanges, understanding that it may be to exchange economic, social or cultural issues, among other possible fields.

According to Johanson and Mattsson (1988), the industrial systems imply that companies are incorporated in processes of production, distribution and consumption of goods and services, describing these systems as networks of business relationships. The division of activities, actions and work among the various economic units considered show that they are mutually dependent. However, same authors emphasize that the various activities that occur between the network elements, and between them and its outer space, must be coordinated, and there isn't a central unit to manage the entire system. It is through the interaction of different firms participating in the network that it is possible to coordinate the efforts of each component. The price can be, for example, one of the variables, among many others, leading to situations of balance.

The need for adjustments between the interdependent companies, in terms of quantity and quality of various goods and services that are traded, calls for some joint planning, or that a party has ascendancy over the other, in each transaction, according with Johanson and Mattsson (1988).

Axelsson and Easton (1992), said that companies, or organizations linked to business activities, in general, operate in environments that include a set number of players. They are in constant relationship between them and this leads to the development of a stable relationship that will translate into a process of organized trade. In the long term the consolidation of mutual understanding will lead to risk reduction of within network relationship development.

Nieminen and Törnross (1997), consider that dynamics of networks can not be understood without reference to the basic concept of learning. The authors define learning as a cognitive exchange between actors and based on the ability to perceive the world in a new perspective. Learning allows to a new behaviour development for dealing with situations and problems of the contemporary world. According to Nieminen and Törnross (1997), a change in behaviour involves compromise and adaptation. The commitment is based on trust and mutual cooperation among members of the network. The adjustment is the result of learning process and means that a company fits in production, technological and trade systems, or even in social and cultural issues, of the other partners.

Anderson and Narus (1990), argue that the success of a company depends, in part, on third ones, including one or more other companies. Based on a study of partnerships between producers and distributors contend that both are involved in fewer but ever larger networks of cooperation, in which the coordination of marketing and technological resources is increasingly challenging to achieve success near the markets.

Holm and Johanson (1997), refer that, in the Social Exchange Theory, networks are defined as combinations of two or more partners linked by relations of mutual exchange, in which the change in a dual relationship is constrained by the change, or the absence of change, on the other. In this sense, the use of the exchange networks theory in the perception of the transactions, in the business world, means that the implementation of a business is sustained by the realization of another one.

Therefore, the authors explain that, considering a relationship focused on business between a supplier and a customer, it is expected, in order for both to have access to resources controlled by others, without coincidence between these resources, that the two companies have other relationships of exchange that go beyond the named focal relationship. However, these relationships with third parties may have impacts in the latter, positive and negative, because of what Holm and Johanson (1997), called them interdependent relationships within the networking.

4. Cultural Differences and International Business

Brouthers *et al*. (2004), referred that cultural differences between nations can influence the choices of entry in foreign markets, especially regarding the modes of operation. Already in Geletkanycz (1997), we could read that cultural attributes were related with strategic options of entering international markets. The author referred, however, that it was not yet clear which cultural characteristics influenced the decisions on choosing foreign markets as well as the decisions about the entry modes in those markets. In Erramilli (1996), we read that the choice of how to approach the markets across borders is done by weighting heavily the cultural distance between countries, whereas the control of uncertainty and power distance are the two dimensions of culture with more influence on decision about internationalisation and mode of entry in foreign markets. Brouthers *et al*. (2004) used the theory of transaction costs for carrying out their research on this topic. The basic premise states that this theory says that firms opt for the governance structure that allows the most efficient mode of operation. According to the authors, this efficiency is related to three factors:

► The ability to write complete contracts that avoid the costs of opportunism or escape the responsibilities of the counterparty;

► The costs of controlling the actions of workers of the country where the company will be located;

► The costs of monitoring the performance levels of workers in the same recipient country.

According to the authors, the larger the cultural differences between the companies' country and the investment host country, the greater the concerns of the managers with the possibility of facing higher costs and risks in realizing internationalization to the market in question.

In this sense the authors report that more recent studies suggest that firms entering culturally distant markets prefer a sole venture, which ensures the ownership of the entire business structure to form, rather than the option of holding a joint-venture. The latter has in disfavor certain factors, including the fact that it is impossible to prevent contractually all situations that might influence the successful development of partnership and therefore the development of the business. The possibility of reaching an agreement for the achievement of an economic alliance also becomes more difficult, adding that it becomes complicated to evaluate the performance of the company with whom the organization will achieve the joint venture.

Brouthers *et al*. (2004), based on several studies, which considered relevant information from Dutch, German, Greek and American companies, serving in Central and Eastern Europe, reached some conclusions, while acknowledging that the study had some limitations. One was related with the fact that they have worked with the values that Hofstede calculated in 1980 to measure the dimensions of culture, which may be outdated when the study took place.

Regardless of this fact the main findings on factors influencing the choice of internationalization and entry mode were:

► In general managers consider not only the cultural distance, as the bias of their culture in connection with another, and a cost/benefit analysis associated with the cultural behavior of the recipient country;
► Managers consider the attitudes of potential employees and managers to recruit locally and there is greater flexibility in the choice of entry mode when you are dealing with a culture that offers more confidence;
► Companies wishing internationalization through strategic alliances are also concerned with the attributes of their own culture, the culture of the destination country and the cultural distance between the two, evaluating the attitude of both towards risk and trust in the partnership.

Indeed, the impact of cultural differences has been the subject of important studies of researchers in the field of international business, not only as a result of natural curiosity of those who are willing to learn and develop scientific knowledge, but also because it reveals essential to provide managers with tools and information enabling them to operate across borders.

Taggart and Taggart (2004), tell us that cultural differences can have a lasting and continuous impact on the results of negotiations in international markets, with implications on the choice of internationalization into each market, in the form of relationship with national institutions ot the destination country, and also with the option of recruitment and training of expatriates or local managers and technicians.

Koopman (1991), stated that it was necessary to exist compatibility between the strategy formulated by a company for its process of internationalization in the various markets strategically targeted and cultural differences existing in different situations. The author also states that is also covered in this issue the question of managing change on an international basis, since it is essential to sensitize the international managers for all matters related to the subject. Koopman (1991), emphasizes that managers who are more present in the interface between the headquarters and subsidiaries are subject to greater liability in terms of understanding the variables related to cultural differences. The knowledge and correct understanding of the values that are shared between the two cultures and the values that are not common to them both, influence the development of business in a market culturally different from that where the company comes from. It is important to understand these differences that limit the strategic transformation to operate as well as the management style.

Jackson (1995), stated that the very managers who operate in domestic markets are increasingly facing international competitors and suppliers, as well as the changes in consumer preferences, resulting from product knowledge and information they have on similar products sold in foreign markets. Thus, managers who consider themselves confined to the domestic market quickly understand that the problem of cultural differences affect their functions. They became aware that they are influenced by a set of variables which is larger than the one that characterised the environment in which they acted until a few decades ago. These managers are thus led to concern themselves with learning about international environment.

As a result of the above references we can understand that some authors see a strong link between business strategy and organizational performance. Already in Schein (1985), we could read that there was a strong link between cultural differences and how companies develop, implement, monitor and evaluate the achievement of their strategic objectives for business across borders. In this sense, the author believes that there are five points related to business strategy in the internationalization process and its performance, which allow the companies to aspire a successful organizational culture, which are:

- Mission and Strategy: to obtain a shared understanding of key tasks, from basic tasks and functions apparent and latent;
- Objectives: to develop a consensus among key objectives derived from the mission;
- Means: developing a consensus on the means used to achieve the objectives, namely, organizational structure, division of labor, remuneration system and system of authority;
- Evaluation: developing a consensus on the criteria used to ascertain to what extent the company is achieving its objectives;
- Correction: developing a consensus on the strategic changes to be implemented if the objectives are not being met.

Simultaneously, the author claims that these five points are also weighted, probably, taking into account the specificities of national culture. What we exposed till now is essentially the highlight of internationalization process that leads us to confront two cultures: the culture of the country that is the birth of the company going abroad, investing in foreign markets, and the culture of the host country, who is the recipient of foreign investment.

5. Empiric Study

5.1. General Framing

According with McGraw Hill Construction reports, namely in its publication named Engineering News Record, the international market for public works was going on blooming in the years 2005 to 2007, being a strong business in developed countries and a growing business in developing countries. In these ones, inner investment, namely public investment, as well as foreign investment and international organisations support, mainly from financial sector, has been strongly led to major infrastructures construction, considered indispensable for economic development, as roads, basic sanitation structures and energy production.

In 2006 public works projects, allocated to major international contractors, raised to 224.43 billion dollars, representing an increase of de 18.5% comparing 2005, when the homologous value was 189.41 billion dollars. However, in 2008, the revenue generated by international contractors from projects outside their home countries was already 390.01 billion dollars, more 25.7% than de 310.25 billion dollars in 2007. From 2005 to 2008 the turnover from these abroad projects more than doubled.

With the crisis there were some adjustments in terms of products segments, and the international contractors recognized recession in petroleum facilities, but it was considered that the companies were buoyed by infrastructure orders. It is noticed that the general turnover is still growing, and this is good news for the sector.

We begin with data from Table II and Table II-A, where we can observe the distribution for home countries of larger international contractors and global contractors, particularizing only the most relevant. The international contractors ranking is built considering the turnover generated abroad for each company, and the global contractors ranking is built considering the total turnover of each company.

Table II.

Countries 2005/2006	International Contractors	Global Contractors
U.S.A.	51	103
China	49	25
Turkey	22	8
Japan	15	15
Italy	11	10
South Korea	10	10
Spain	8	8
France	8	6
Others	51	40
Total	225	225

Table II. A.

Countries 2007/2008	International Contractors	Global Contractors
China	50	32
Turkey	31	9
Italy	26	14
U.S.A.	25	86
Japan	15	15
South Korea	13	14
Spain	11	11
France	6	4
Others	48	40
Total	225	225

Font: McGraw-Hill Construction (author conception).

The first highlight we want to do is about the strong presence of Chinese companies in the international market of public works. In the biennium of 2005/2006, reflected in the 2007's ranking, China was the second home country with more international contractors among the largest ones (49 in 225, representing 21.8% of total). In the biennium 2007/2008, reflected in 2009's ranking, China had 50 international contractors among the largest ones and was the home country with the largest contribution to the international ranking. We can also notice that we always have more Chinese companies among the largest international ones than among the largest global ones.

Looking now to the U.S.A. companies we have the opposite situation. There are more contractors in the ranking of the largest global ones than in the ranking of the largest international ones. We had 51 international contractors in the first biennium, representing about 22.7% of total, but we just have 25 companies in the second biennium, representing about 11.1% of total.

We have here an important difference. The inner market in the United States is stronger and allows more competition. The inner market in China allows less competition and we can understand this because we are facing a central planning economy, with the largest companies owned by the State.

We consider that is acceptable to refer that Chinese contractors are betting more on international markets, increasing their presence abroad, but U.S.A. contractors are reducing their weight in some foreign markets.

We can still add, given the relevance of the data, that the highest growth in terms of presence in this ranking was from Italy, passing from 11 to 26 international contractors, and Turkey, from 22 to 31 companies.

Next step is to read Table III, where we find the number of companies from each home country considered in this work, distributed by the several market segments of East Asia.

Table III.

East Asia	INTERNATIONAL CONTRACTORS 2005/2006			2007/2008		
	Chinese	**U.S.A.**	**TOTAL**	**Chinese**	**U.S.A.**	**TOTAL**
Bangladesh	11	0	15	7	0	12
Brunei	0	1	1	1	0	2
Burma	8	1	12	5	1	8
China (P.R.C.)	1	14	57	0	11	54
Macau	11	0	16	5	0	10
Hong-Kong	14	4	37	13	3	31
India	11	11	52	18	13	65
Indonesia	9	8	42	19	5	55
Japan	5	11	21	5	8	20
Kazakhstan	9	8	37	10	3	43
Philippines	5	8	35	10	5	43
Singapore	2	9	54	15	8	58
Sri Lanka	8	2	22	6	1	18
Taiwan	2	8	31	1	5	26
South Korea	3	9	22	5	5	21
North Korea	0	0	0	1	0	1
Kyrgyzstan	3	1	5	5	2	8
Laos	7	0	15	7	0	14
Malaysia	10	4	43	10	4	47
Mongolia	6	1	8	10	2	14
Nepal	4	1	9	7	0	11
Tajikistan	3	0	6	5	0	8
Thailand	6	7	47	9	6	49
Turkmenistan	3	0	10	2	0	9
Uzbekistan	3	3	11	6	1	10
Vietnam	13	4	42	17	6	59

Font: McGraw-Hill Construction (author conception).

We think that it was expected to find a stronger presence from international Chinese contractors than American ones, and this is confirmed in general and in almost all the market segments here considered. Additionally we notice that, in most part of the market segments, Chinese presence represents the highest weight of largest contractors, considering the total of international contractors in each territory.

Paying attention to the evolution between 2005/2006 and 2007/2008 we see that Chinese companies reinforce their position in the latter biennium in most part of the East Asia markets. Regarding the U.S. situation we have the opposite evolution, being clear that we face a reduction of the American presence in this group of public works markets.

Finally, we built Table IV to complete the support to the discussion of the hypotheses we put.

Table IV.

Countries/Companies Ranking Position	Asia	Nº of Subsidiaries
China		
China Communications Construction Group Ltd. 17	16	40
China State Construction Eng'g. Corp. 25	6	5
China National Machinery Indus. Corp. 28	19	12
China Railway Construction Corp. Ltd. 51	3	7
Sinohydro Corp. 56	12	6
CITIC Construction 59	3	2
China Metallurgical Group Corp. 61	14	30
China Railway Group Ltd. 62	14	6
China Civil Engineering Constr. Corp. 72	4	6
Dongfang Electric Corp. 80	3	5
Shanghai Electric Group Co. Ltd. 83	3	1
China National Chemical Eng'g. Group Corp. 90	8	13
Sinopec Engineering Inc. 94	0	n/a
SEPCOIII Electric Power Construction Corp. 95	1	n/a
China Gezhouba Group Corp. Ltd. 99	5	40
China Petroleum Eng'g. & Constr. (Group) Corp. 100	2	2
Shanghai Constr. (Group) General Co. 103	5	n/a
China Nat'l Technical Import & Export Corp. 109	4	n/a
Zhongyuan Petroleum Explor. Bureau 112	3	n/a
China Petroleum Pipeline Bureau (CPP) 120	3	11
China Int'l Water & Electric Corp. (CWE) 122	5	5
Shandong Electric Power Constr. Corp. 123	2	6
China Geology Overseas Constr. Group Co. 131	1	7
Harbin Power Engineering Co. Ltd. 137	4	n/a
Beijing Construction Eng'g. Group Co. Ltd. 140	2	16
China Overseas Engineering Group Co. Ltd. 141	2	5
China Geo-Engineering Corp. 142	5	14
Qingjian Group Co. Ltd. 143	3	5
Hefei Cement Research & Design Institute 145	2	n/a
China Jiangsu Int'l Econ-Tech. Coop. Corp. 147	1	5
China Wanbao Engineering Corp. 153	3	n/a
China Henan Int'l Cooperation Grp. Co. Ltd. 165	0	n/a
Anhui Constr. Engineering Group Co. Ltd. 168	2	18
China Dalian Int'l Econ. & Tech. Coop'n (Group) 172	1	1
China Zhongyuan Engineering Corp. 175	1	n/a
China Nat'l Machinery Import and Export Corp. 185	4	n/a
China Huanqiu Contracting & Eng'g. Corp.189	2	7
Xinjiang Beixin Constr. & Eng'g (Group) Co. Ltd. 191	3	1
China Jiangxi Corp. for Int'l Eco. & Tech. Coop'n 192	1	10
Sinosteel Equipment & Eng'g Co. Ltd. 193	1	n/a
China Nonferrous Metal Ind. Frgn. Eng'g. & Const. 194	2	n/a
Weihai International Eco. & Tech. Coop. Co. Ltd. 199	0	n/a
Shanghai Urban Constr. (Group) Corp. 202	2	8
Anhui Foreign Econ. Constr. (Group) Co. Ltd. 212	1	n/a
Hydrochina Corp. 214	0	9

Zhongding Inter'l Engineering Co. Ltd. 220	3	8
China Jiangsu Construction Corp. 221	1	1
China Wu Yi Corp. Ltd. 222	5	2
China Nat'l Complete Plant Imp. & Exp. Corp. 224	0	4
Zhejiang Constr. Investment Group Co. Ltd. 225	1	2
U.S.A.		
Bechtel 5	7	10
Fluor Corp. 11	6	6
KBR 13	9	6
Foster Wheeler Ltd. 21	5	19
CB&I 23	11	13
Mcdermott International Inc. 33	9	4
Jacobs 45	6	n/a
Kiewit Corp. 55	3	40
Black & Veatch 92	6	n/a
CH2M Hill Cos. 117	8	16
Willbros Group Inc. 118	1	12
URS Corp. 128	3	14
Flatiron Construction Corp. 133	0	5
B.L. Harbert International LLC 157	1	n/a
Alberici Corp. 160	1	4
The Lauren Corp. 170	0	3
Perini Corp. 176	1	5
The Shaw Group Inc. 177	4	6
Insituform Technologies Inc. 187	3	2
Great Lakes Dredge & Dock Corp. LLC 188	0	1
Structure Tone 195	6	4
AkerSolutions 197	0	13
Layne Christensen Co. 201	0	7
Parsons 209	0	5
Michels Corp. 218	0	3

Font: McGraw-Hill Construction (author conception).

5.2. Hypotheses Discussion

Hypothesis 1: The internationalization options of U.S.A. contractors in East Asia are different from the ones of Chinese contractors.

From the reading of the data that we compiled we can start saying that the geographic proximity is important for Chinese contractors, which is confirmed for the strong presence, in relative terms, in countries with which China has borders, as, for example, Vietnam, Laos, Burma, Kazakhstan, Kyrgyzstan, Tajikistan or Mongolia. In some of these countries we could also speak about cultural proximity, namely because, near borders, we have some culture diversity among Chinese people.

Regarding the new Chinese territories, as Hong-Kong and Macau, is obvious that the Chinese companies were expected to be the strongest group. We decided to keep these two segments apart because they appear like that in database.

In sequence of the latter two paragraphs it is acceptable to say that the Uppsala Model is applicable to explain the internationalization options of the Chinese contractors, either strictly or broadly. It is applicable in a strict way when we speak about geographic proximity and in a broad way when we speak about geographic or cultural proximity.

None of the previous arguments are applicable to U.S. contractors. Anyhow, we think that there are other important factors that explain the internationalization options of the companies coming from both countries. This means that the Networks Theory is also applicable. What we don´t know or we cannot be sure is about the specification of those factors.

If we look to Table III we can see that contractors coming from U.S. are mainly operating in countries that are friendlier or condescending with the international political options of U.S.A.. American contractors have their strongest positions in India, Japan, Singapore, South Korea and Thailand. The presence in China is a result of the significant relevance of this market, which is increasingly open to foreign investment.

It is interesting to notice that from the former to the latter biennium Chinese contractors gained considerable strength in India, Indonesia, Philippines, Singapore and Thailand.

Is it an answer to the presence of United States contractors? Can we conclude that China is trying to clearly assert itself in its geographic zone?

Maybe the answer is "yes" in both cases! We think that Hypothesis 1 is confirmed in theory but we cannot conclude how different are the factors supporting the options of contractors from China comparing with those of contractors coming from U.S..

Hypothesis 2: The option for international operations, in these markets, is similar between U.S.A. contractors and Chinese contractors.

In this case we are going to pay attention to Table IV. In both cases most part of the contractors has subsidiaries as the preferred operation mode for international activities. Usually the companies that are working in a larger number of markets also have more subsidiaries, but this is not always verifiable.

We think that it was expected that this Hypothesis 2 was accepted. Public works are an economic sector where companies operate with non-repetitive activities, because each project has its own characteristics.

In sequence of what we have just said we think that it would be very interesting to study the shareholders' composition of these companies.

Comments/Conclusions

We have already written that public works are an economic activity strongly connected with sovereignty. This is because the main customer is almost always the State and the level of investment usually subjacent is very high. Political relations on one hand and economic fragilities on the other hand, create special relations between countries and multinationals.

United States and China are two very important countries in the world. They are also two important economic strengths.

The above statements explain the conclusions we reached. Both countries have an important role in the international markets of public works. One of them, China, is trying to defend itself, consolidating its position in its geographic area of proximity. Defend itself means guarantee market shares to reach important targets. These targets are relevant to multinationals and to their home countries.

References

1. Anderson, James C. and Narus, James A. (1990), "A Model of Distribution Firm and Manufacturer Firm Working Partnerships", *Journal of Marketing*, Vol. **54**, pp. 4258.
2. Axelsson B. e Easton, G. (1992), Industrial Networks: A New View of Reality, London: Routledge.
3. Björkman, Ingmar and Forsgren, Mats (1997), "Nordic Contributions to International Business Research", in Björkman, Ingmar and Forsgren, Mats, (Editors), (1997), The Nature of the International Firm, Copenhagen: Handelshøjskolens Forlag.

4. Bridgewater, Sue, Sullivan-Taylor, Bridgette, Johnston, Robert, Mattsson, Jan e Millett, Bruce (2004), "The Internationalization Process and the Role of Learning in Small Service Firms", in McDonald, Frank, Mayer, Michael e Buck, Trevor (Editors), (2004), The Process of Internationalization: Strategic, Cultural and Policy Perspectives, New York: Palgrave MacMillan.
5. Brouthers, Lance, Brouthers, Keith e Nakos, George (2004), "How National Culture Influences International Entry-Mode Choice", in McDonald, Frank, Mayer, Michael e Buck, Trevor (Editors), (2004), *The Process of Internationalization: Strategic, Cultural and Policy Perspectives*, New York: Palgrave MacMillan.
6. Cook, K.S. e Emerson, R.M. (1978), "Power, Equity and Commitment in Exchange Networks", *American Sociological Review*, Vol. **43**, pp. 721739.
7. Cyert, R.D. and March J.G. (1963), The Behavioral Theory of the Firm, New Jersey: Prentice-Hall, Englewood Cliffs.
8. Erramilli, M. K. (1996), "Nationality and Subsidiary Ownership Patterns in Multinational Corporations", *Journal of International Business Studies*, Vol. **27**, nº2, pp. 601620.
9. Forsgren, M. and Johanson, J. (1992), Managing Networks in International Business, Filadélfia: Gordon and Breach, Ltd..
10. Geletkanycz, M. A. (1997), "The Salience of Culture's Consequences: The Effects on Top Executive Commitment to the Status Quo", *Strategic Management Journal*, Vol. **18**, nº8, pp. 615634.
11. Holm, D.B. e Johanson, Jan (1997), "Business Network Connections and the Atmosphere of International Business Relationships", in Björkman, Ingmar e Forsgren, Mats, (Editors), (1997), The Nature of the International Firm, Copenhagen: Handelshøjskolens Forlag.
12. Jackson, T. (1995), *Cross-cultural Management*, 1ª ed., Oxford: Butterworth-Heinemann.
13. Johanson, Jan and Mattsson, Lars (1988), "Internationalisation in Industrial Systems – A Network Approach", in Hood, Neil and Vahlne, Jan-Erik, (Editors), (1988), Strategies in Global Competition, New York: Croom Helm.
14. Johanson, J. and Vahlne, J.-E. (1977), "The Internationalisation of the Firm: A Model of Knowledge Development and Increasing Foreign Market Commitments'", *Journal of International Business Studies*, Vol. **8**, nº1, pp. 2332.
15. Johanson, J. and Vahlne, J.-E. (1990), "The Mechanism of Internationalisation", *International Marketing Review*, Vol.**7**, nº4, pp. 1124.
16. Johanson, J. and Vahlne, J.-E. (1992), "Management of Foreign Market Entry", *Scandinavian International Business Review*, Vol.**1**, nº3, pp. 927.
17. Johanson, J. and Wiedersheim-Paul, F. (1975), "The Internationalization of the Firm: Four Swedish Case Studies", *Journal of Management Studies*, Vol. **12**, pp. 305322.
18. Koopman, A. (1991), *Transcultural Management*, 1ª ed., Oxford: Blackwell, Ltd..
19. Kurke, L. B. and Aldrich, H. (1983), "Mintzberg Was Right!: A Replication and Extension of the Nature of Managerial Work", *Management Science*, Vol. **29**, nº8, pp. 975984.
20. Langhoff, Tine (1997), "The Influence of Cultural Differences on Internationalisation Processes of Firms – An Introduction to a Semiotic and Intercultural Perspective", in Björkman, Ingmar and Forsgren, Mats, (Editors), (1997), The Nature of the International Firm, Copenhagen: Handelshøjskolens Forlag.
21. Luostarinen, R. (1979), "Internationalization of the Firm", Acta Academiae Oeconomicae Helsingiensis, Helsinki School of Economics.
22. Madsen T. K. and Servais, P. (1997), "The Internationalization of Born Global: An Evolutionary Process?", *International Business Review*, Vol. **6**, nº6, pp. 561583.
23. Nieminen Jarmo and Törnroos Jan-Åke (1997), "The Role of Learning in the Evolution of Business Networks in Estonia: Four Finish Case Studies", in Björkman, Ingmar and Forsgren, Mats, (Editors), (1997), The Nature of the International Firm, Copenhagen: Handelshøjskolens Forlag.

24. Petersen, Bent and Pedersen Torben (1997), "Twenty Years After – Support and Critique of the Uppsala Internationalisation Model", in Björkman, Ingmar and Forsgren, Mats, (Editors), (1997), The Nature of the International Firm, Copenhagen: Handelshøjskolens Forlag.
25. Rodrigues, Jorge (2005), "Criação de Valor no Sector da Construção e Obras Públicas: Uma Abordagem Conceptual", Revista Portuguesa e Brasileira de Gestão, *Julho/Setembro*, Vol. **4**, nº3, pp. 21–29.
26. Schein, E. (1985), Organizational Culture and Leadership: A Dynamic View; 1ª ed., San Francisco: Jossey Bass, Inc..
27. Taggart, James H. e Taggart, Jennifer M. (2004), "Impact of National Culture Differences on MNC Subsidiary Management", in McDonald, Frank, Mayer, Michael e Buck, Trevor (Editors), (2004), *The Process of Internationalization: Strategic, Cultural and Policy Perspectives*, New York: Palgrave MacMillan.