

# Strategic considerations for construction in the People's Republic of China: the case of German contractors in the 1990s

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## ABSTRACT

The construction industry has been struggling to integrate business strategies that are anticipating the internationalisation and infiltration of international markets. This article attempts to evaluate the China operations of German contractors from a strategic management decision perspective in the period between 1990 and 2000. Existing internationalisation theories have appeared to be inappropriate to explain international construction due to the unique project nature of construction business. The Ownership, Location and Internationalisation (OLI)-paradigm was initially developed to explain international production pattern was revised to form the basis for the evaluation of the Construction contractors' market activities. The interviews indicate an industry-specific culture that affects how companies approach foreign markets. Some exceptional companies illustrated a higher degree of openness towards a more strategic and consistent approach in terms of the development of overseas markets.

Keywords: Business strategy, German construction firms, international markets, positioning, project management, construction in People's Republic of China.

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## INTRODUCTION

The role of the People's Republic of China (PRC) as a provider of opportunities for foreign firms has been discussed since the beginning of the "Open Door Policy" in 1978 (Brunner and Taoka, 1977). Much research has been undertaken to explore, which underlying factors motivate foreign companies to serve this market either through export or licensing or by foreign direct investment (FDI) (for summary see Murdoch and Ziouziou, 2002). Many of the publications focus on particular industries, such as the automobile industry or the chemical industry to explain the business decisions made by mostly Western or Japanese firms (Murdoch and Ziouziou, 2003). However, one industry lacking an appropriate level of attention within this context is the construction industry (Ziouziou, 2001). Although construction contributes a substantial part of Gross Domestic Product (GDP) in most advanced economies, often between eight and fifteen per cent, it seems that recognition is often gained only when prestigious projects are involved (Flyvbjerg, Bruzelius and Rothengatter, 2003). This article attempts to evaluate the People's Republic of China operations of German contractors from a strategic management decision perspective in the period between 1990 and 2000.

## THEORETICAL BACKGROUND

Existing internationalisation theories (e.g. see, Johanson and Vahlne, 1990; Oviatt and McDougall, 2005) have appeared to be inappropriate to explain international construction due to the unique project nature of construction business (Murdoch and Ziouziou, 2003). Previous models (Buckley and Casson, 1985; Enderwick, 1989) illustrated a certain contempt towards industry specific characteristics of international services, as they attempted to combine international construction and engineering services with hotel and tourist industry, banking, insurance services, etc (Murdoch and Ziouziou, 2002; Oviatt and McDougall, 2005). This often led to service modes having been illustrated imprecisely, mixed up with different types of involvement with different forms of contracts. The construction industry is dominated by project based business and the types of operation differ often from foreign operations of other industries. Therefore, a taxonomy of internationalisation modes must refer to internal factors, which highlight sources of firms' competitiveness. These factors have been discussed in the literature of international business intensively and adequately on a general level; however, industry-specific considerations have not been taken into account to a sufficient extent. Most of the studies referring to competitive factors treat different industries as homogeneous (see for example Woodcock, Beamish and Makino, 1994) and therefore some of the features can only be transferred to a limited extent. The general approach fails to throw appropriate light on the internal factors, which are needed by internationally operating construction firms in order to *outcompete* indigenous and international rivals. This resulted in the development of a taxonomy of internationalisation modes to fit the requirements for international construction. For this purpose different theories of internationalisations reviewed and led to the recognised limited adequacy of the Ownership, Location and Internationalisation (OLI)-paradigm (Dunning, 1980; 1993). Whilst previous studies have only advanced specific aspects, i.e. Seymore (1987) and more recently Ofori (2003), who integrating employee distribution and Ling et al. (2005), setting parameters for FDI.

## MODEL OF REFERENCE

The OLI-paradigm was initially developed to explain international production pattern by three main strands of theory, Industrial Organisation Theory applied to identify ownership-specific advantages (O-advantages), Location Theory applied to identify location-specific advantages (L-advantages) and Internalisation Theory applied to identify internationalisation-specific advantages (I-advantages), which basically refers to the *why*, *where* and *how* of international production. A revised model adapted from the OLI-paradigm of Dunning (1980; 1993) developed by Ziouziou (2001) forms the basis for the evaluation of the contractors' market activities.

The taxonomy (see table 1) is sought to help analyse the different types of involvement in a more systematic and more realistic way but also enables comparison between different types of involvement, export or FDI with equivalent forms of involvement in other industries.

Type of Involvement or Ownership Pattern	Forms in Construction	Examples
<b>FDI (Firm's assets long-term bound in host market)</b>		
Wholly-Foreign Owned	As in other industries:	Acquisition of foreign firm
Subsidiary (WFOS)	Greenfield or acquisition	
Equity-Joint Venture	Equity participation in pre/construction/post-activities	Build Operate Transfer BOT-models; acquisition of shares in foreign firm
<b>Export (Firm's assets short-term bound in host market)</b>		
Export by one Firm only	Project-based export of construction services	Project carried out in host country through home country
Contractual Joint Venture	Project-based joint venture	Joint venture with foreign and/ or local firms to complete project
Consortium Arrangement/ Strategic Alliance	Project-based joint activity without equity participation of different construction firms	Consortium of different contractors bid for project

Table 1: A Taxonomy of Construction-Specific Host Market-Servicing Modes

The findings of German contractors' construction activities in PRC confirmed in some cases the identified theory, however, in other cases revealed new dimensions (Murdoch and Ziouziou, 2003). These modifications to the model are discussed and implications to praxis are drawn. The new parameters are important for the analysis of the internationalisation of construction contractors, especially when evaluating the entry into to large markets such as the People's Republic of China.

## METHODOLOGY

To inform and test the applicability of this model, the top 20 largest German Construction companies (based on annual turnover) approached to identify firms based on the following two main parameters. Firstly, the firms' exposure to the construction market of the People's Republic of China and then, their ability to illustrate the undertaking of value adding activities in the period 1990–2000. Primary focus was given to German contractors only in order to test and inform the model; thus building a sound base for the forthcoming international cross-comparison with U.K. originating companies.

To gain access to the sample companies consultation was sought from the German Federal Contractors Association (*Hauptverband der Deutschen Bauindustrie e.V.*) and additional findings were drawn from a critical meta-analysis of the relevant German literature (ENR, Le Bulletin, Baumarkt & Bauwirtschaft) which allowed the identification of construction companies that delivered, via annual questionnaire surveys, the premise for the fine tuning of this model.

Initially, the 20 largest (based on annual turnover) German contractors were approached under consideration of the former criteria leading to the sample size of six German contractors. The primary data originated from interviews with managers of the international department seeking in depth explorations,

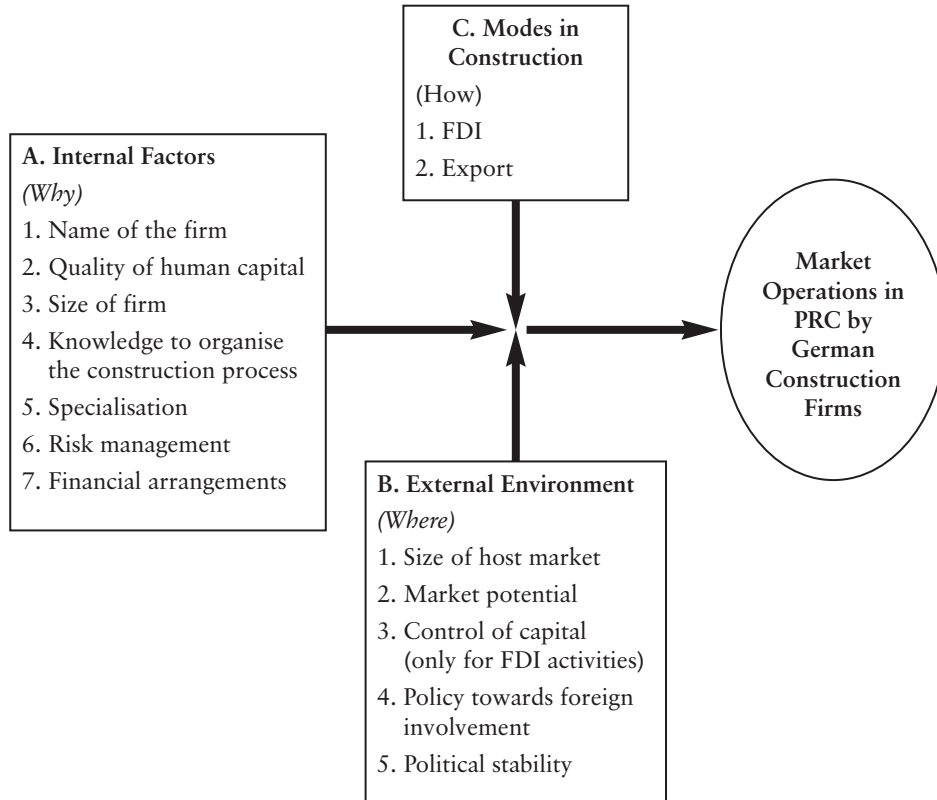


Figure 1: Frame of Reference for German Construction Firms' operation in the PRC

to date 68 interviews with 24 individuals have been conducted. Part of these interviews included the discussion of the supporting taxonomy of international market-servicing modes in construction. To avoid misrepresentation, interviewees were asked for feedback and consent of the interpretation of the interview-data thus adjusted accordingly and at the same time allowed the validation of the final version of the modes (Eisenhardt, 1989; King and Horrocks, 2010).

The taxonomy was tested against the six case studies whereby Dunning's OLI-paradigm (1980) and the model of Ziouziou (2001) served as a structure for orientation during the interviews. The purpose of these case studies (Yin, 2010) is to draw on the differences in the contractors' experience in engaging with construction in PRC. Moreover, the individual case studies will be used to validate the findings in a cross-case analysis.

## MAJOR FINDINGS

It is worth noting that in addition to the often stated firm-specific advantages (FSAs), that were briefly explained in table 1, (see also Murdoch and Ziouziou, 2002; Oviatt and McDougall, 2005) two more factors were suggested by the interviewees, which seem to be relevant in particular for international construction:

- *price of the construction services* and
- *networks*.

*Price of the construction services* seemed to be very important and as competitiveness is based on price, hence forms a major FSA for construction firms in most markets. Surprisingly, the firms claimed that price competitiveness is very important in high technology segments. This implies that construction firms are forced to utilise their internal resources most efficiently in order to maintain their position regardless of the market segment. Most of the suggested FSAs outlined in the frame of reference were often referred to by the firms as being important in most markets and not only in the PRC, contrary to *networks* which was mentioned as an important factor in particular to the market of the PRC.

The firms indicated that *networks* are important for all Western firms in the PRC. During the interviews the theme *networks* was mentioned from three firms explicitly and from two firms implicitly. The latter firms considered *networks* or networking as a part of a quality of human capital. In this sense, the research initially undervalued the importance of *networks* as an important FSA (Murdoch and Ziouziou, 2002; Murdoch and Ziouziou, 2003). This assessment has been corrected with the revised frame of reference, which includes nine FSAs, the initial seven and 8. *Price of the construction services* and 9. *Networks* as outlined in Figure 2.

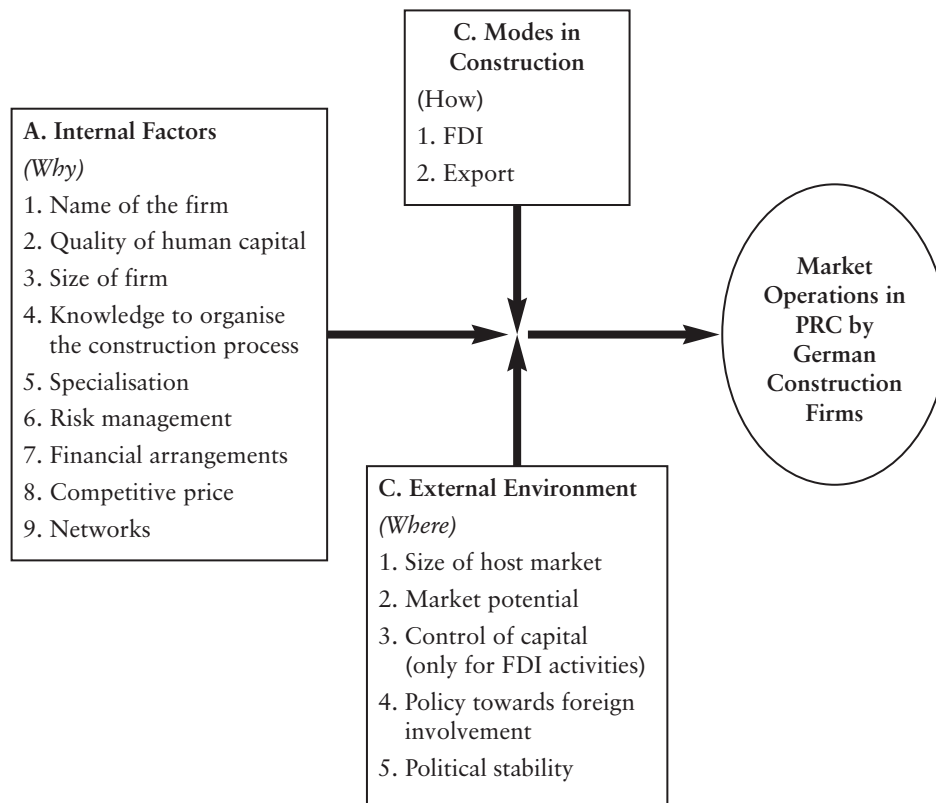


Figure 2: Informed frame of Reference for German Construction Firms' operation in the PRC

Emerging findings confirmed the reliability of the developed model but, at the same time, contributes to a better understanding of the already known FSAs. It seemed that *specialisation* was previously seen as an advantage based on technical aspects and was treated in the literature as a 'mono-specialisation'. Interestingly *specialisation* seems also to occur as 'multi-specialisation' i.e. a construction firm can be

specialised in more than one area, e.g. airports and tunnel construction. More recently, *specialisation* was also extended by financial and procurement implications. One of the construction firm was technically 'multi-specialised' but focused application efforts only on projects based on a particular financing mode thus appeared in the sense financially 'mono-specialised'.

The *knowledge* [of how] *to organise the construction process* was important. FSA proved to be significant to the Construction firms. Technically, Chinese contractors can organise the processes involved in construction as comparably good as other construction firms. The FSA for the German construction firms arises due to the time efficiency driven co-ordination of the processes respectively planned time schedule, which lead in the PRC to more profitable operation from German firms. Due to this build reputation of time efficiency, especially on project operations where time plays a major role, German firms have gained a competitive advantage in relation to Chinese contractors. Moreover, the German contractors tend to sub-contract construction-value-added activities to a higher degree than the Chinese contractors, which leads to a higher degree of entrepreneurial freedom and flexibility and in many cases to cost advantages for the German competitors.

*Risk management* proved to be an important factor for the German construction firms. The risk mainly arises in the pre-construction stage and relates to the calculation in the bidding stage and to the contract design. The investigation of the risk assessment and the involved evaluation was of particular interest as this allowed the identification of measures taken to deal with the identified risks. The importance of contract design was previously underestimated for the commercial success of the project. As a result of this study the importance of contract design for the German construction firms in People's Republic of China became apparent.

The interview data, of construction firms, suggests that the development and the establishment of a competitive platform (*internal factors* or FSAs) is, to a great extent, within their influence and control. However, after closer investigation many companies could not provide a structured way of how these factors are being generated. Instead findings suggest that once a set of competitive factors has been set, companies do little to maintain them or to develop them in a strategic manner. This became particular apparent when referring to increasing international operations, where an appropriate set of intercultural awareness would be desirable, but no company could demonstrate a structured development of these key requirements. In many cases personnel were sent overseas without market specific training, a fact, which could be explained by the cyclical nature and project character of construction business.

The *External Environment* (*where*) factors, initially comprising seven (Ziouziou, 2001) elements of importance for construction firms in terms of *where* to locate their value-added activities:

1. Size of the host market,
2. Control of capital,
3. Attitude of clients to company,
4. Home and host government ties,
5. Tariffs and import controls,
6. Policy towards foreign involvement and
7. Political stability.

The perceptions drawn from the international departments of the six contractors, manifests surprisingly only four factors are important to the German contractors for the decision of attractiveness of the Chinese market. The mentioned *External Environment* factors came down to:

1. Market size,
2. Market potential,
3. Policy towards foreign involvement and
4. Political stability.

In contrast to literature (Dunning 1980; 1993), *attitude of clients to company, home and host government ties*, and *tariffs and import controls* were perceived of minor importance. Dunning (1980; 1993; Ling et al., 2005) highlighted *Control of capital* of general importance, however, in People's Republic of China it seemed only relevant to firms which operated through FDI. It has to be added that the *size* of the Chinese *market* is only important in particular segments. This applied mainly to specialist construction or large and complex construction segments. Another emergent theme that has not been discussed to a sufficient extent is the causality between industry-specific factors and the significance of location factors.

The dominating form of projects-based business impacts on the way construction firms proceed. The management of discontinuity creates the need for the firms to organise their resources in a relatively flexible way. This can best be illustrated by the way the German construction firms organised their operations in the PRC over a period of time. In the market entry stage, the firms tended to operate by export due to risk considerations thus intending to learn about the market during the project. This would serve as experience base which was at later stage used to decide on *how* to continue in this particular market. The construction firms entered the market by export, expanded the foreign market operations in the later stages by FDI and if the demand level exceeded the capacity of the FDI-based company resources, the firms additionally shifted capacity to the host country through export. This strategy was observed throughout the six cases. This suggests that construction firms generally behave according to existing theories on internationalisation i.e. from less capital intensive to higher capital intensive forms under the condition that they perceive the demand level as sufficient to undertake FDI operations. Beyond this relatively predictable demand level, the firms allocated resources through less capital intensive forms, which allows a faster reaction on demand fluctuations. The construction industry seems to prefer export-FDI-export approach which became transparent through the empirical study.

This allows a divide of construction processes in *pre-construction activities*, *construction activities*, and *post-construction activities* each adhering different levels of risks involved with respect to each of the above stages. The German construction firms cope with the different risk levels by operating with different operational modes, in tendency, lower levels of involvement where the risks seem relatively high.

## CONCLUSION

The emergent theme from the interviews indicates an industry-specific culture that affects *how* companies approach foreign markets. Two of the case companies illustrated a higher degree of openness towards a more strategic and consistent approach in terms of the development of overseas markets.

The dominating approach toward new international business is project oriented, which implies a rather reactive approach than a strategic approach towards the development of markets. Although People's Republic of China has one of the largest construction markets in the world with good prospects, a country-specific long-term approach could not be identified.

Based on the results of this study the following key lessons learnt are made:

Construction firms need to establish a long-term oriented competence in order to approach the markets in a more strategic way.

Contractors should depart from the traditional project-view in terms of their break-even horizon, not each initial project in a new country can be sufficient profitable. Insofar companies should perceive initial losses of their first host market operations as partly learning costs, which may pay off in future.

Many companies still neglect the opportunities of strategic alliances in export business due to various factors. A broader operational basis with German contractors through a more co-operative approach for host markets may result in more opportunities and less risks. A further aspect of a more co-operative approach is the collaboration with indigenous firms; this opportunity has not been exploited most effectively.

This research will enable construction firms to explore potential areas of focus when approaching the proper market of the People's Republic of China.

## FURTHER RESEARCH

The testing and informing of the model serves as a sound base for the forthcoming international cross-comparison with U.K. originating companies that have business affairs with the People's Republic of China.

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# The role of early supplier involvement in managing risk in supply chains

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## ABSTRACT

This paper aims to explore the role of Early Supplier Involvement (ESI) in managing supply risks and reducing disturbing events that occur in supply chains, generally during the acquisition stage. The theoretical foundation of the paper lies in agency theory, which presents the authors with an opportunity to examine how risk can be managed in supply chains. The study is baselined against earlier studies by Zsidisin and Smith (2005). The method of research is a case study in a Small Medium Enterprise (SME) providing financial handling solutions. The preferred method of research was grounded theory. The outcomes of the data analysis confirm earlier findings of Zsidisin and Smith (2005). Of particular importance is the outcomes reference to agency theory variables. Our findings however expand on Zsidisin and Smith's work by indicating that ESI tends to extend buyer and supplier relationships and increases the likelihood of goal achievement. This research enriches the existing knowledge and managerial perceptions of ESI and its relation to supply risks, contributing to the acknowledgement of the importance of ESI in risk management.

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