

RISK MANAGEMENT IN JOINT VENTURE PROJECTS IN MALAYSIA.

Hamimah Adnan and Johan Victor Torrance

*Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA,
Shah Alam, Malaysia*

Email: hamimah689@salam.uitm.edu.my

ABSTRACT

Construction joint ventures have attracted a lot of research interest over the last two decades. Joint venturing can allow participating companies to rapidly change the scale or scope of their businesses. However, joint ventures are often regarded as a risky business. The construction industry is associated with high degrees of risk in the nature of its business activities, operational environment and organization. The success of a construction project depends on the results it is supposed to achieve. But achieving results depends upon how well companies manage the risks that confront their projects.

This paper aims to identify the risk factors associated with joint venture projects in the Malaysian construction industry at the project-specific, internal and external levels. The main factors crucial to joint venture success were identified from a literature review and through a questionnaire survey administered to both local and foreign construction organisations in Malaysia. The identification of these factors will assist the successful application of joint venture arrangements in construction projects in Malaysia.

Keywords: Risk management, construction, joint ventures

Introduction

A joint venture is a procedure used to respond to specific business phenomena such as access to new markets, specific government policy, business capacity, technology transfer or economies of scale. An international joint venture is a separate legal organisational entity representing the partial holdings of two or more parent firms, in which the headquarters of at least one is located outside the country of operation of the joint venture. The feasibility and the desirability of a joint venture must be assembled by careful analysis of the economic, political, social and cultural environment within which the venture will be implemented and managed. A planned approach necessitates a thorough and careful evaluation of these aspects by both partners to ensure successful implementation.

Research into risk management in joint venture projects is increasing but is mostly concerned with the manufacturing industries. However, the lack of empirical evidence in risk management in the joint venture construction projects motivates this research. Joint venturing had been labeled as the most risky form of business because of the rate of failure shown by previous performance but this had largely been in the manufacturing sector. Construction risk generally has not been well researched and much remains to be discovered. In particular, risk in construction in joint ventures is poorly understood and very little research has been directed at Malaysian construction joint

ventures. Currently there is no single organization in Malaysia providing or keeping data pertaining to the joint venturing companies. Risk management techniques are not so well developed in the construction industry and there is a need to develop proven techniques, rather than rely on intuitive methods.

Problem Statement

In Malaysia, there are a number of different combinations of Malaysian contractors and local partners and also Malaysian contractors with foreign partners. Also, these projects vary in type, scale and complexity. There is need, firstly to map out the range of variables then to select a suitable set of comparable JVs for further in deep limitations.

Objective of the Research

The main objective of this research was to determine the most critical risk factors which support the successful application of joint venture arrangements in construction projects in Malaysia. The result of this study are expected to provide useful guidelines for forming and operating effective and efficient joint ventures both in Malaysia in other similar economies.

Overview of Risk Management in the Construction Industry

A broader definition on risk indicates that it is not just a question of something negative happening, but also that something positive does not happen. Uncertainty can be regarded as the chance of occurrence of some events or events where the probability distribution is genuinely not known. Risk exists when a decision is expressed in terms of a range of possible outcomes and when known probabilities can be attached to the outcomes.

Risk management has been developed mainly in the USA to enable organizations to combat an ever-increasing exposure to risk. Risk management can be used to denote methods that aim to develop a comprehensive understanding and awareness of the risk associated with particular variables of interest in strategic decision-making, or with the successful accomplishment of the projects success criteria. These are variables such as project costs, project schedule and performance, net present value or return on investment.

Risk management applied to the construction industry refers to the assessment and reaction to the risk and uncertainty that will inevitably be associated with a project. To manage a project, a system to control cost, quality of time and safety are normally employed in order to meet the objectives and expectations of a company. Risk management is the systematic process of identifying, analyzing, mitigating or responding to potential project risk. It includes maximizing the probability and impact of positive events and minimizing the probability and consequences of events adverse to project objectives. Because of the complex nature of construction business activity processes, environment, and organization, the participants are actively exposed to a high degree of risk. Construction involves unforeseen and predictable risks (Smith, 1992). Predictable risks are events or conditions that the contractor can foresee before construction begins.

Construction joint venture projects in Malaysia

Joint ventures are established to take advantage of the economic, political and social conditions prevailing in a particular economy. In Malaysia's case, international firms came to its shores mainly because of its political stability, economic growth and a relatively low cost of labour and other resources. Construction joint ventures in Malaysian are becoming increasingly popular both

in multinational construction firms and local government in order to achieve their individual objectives. There are already established joint ventures between two or more local indigenous contractors and also between indigenous local and foreign contractors.

Malaysia's booming economy over the last ten years has spawned massive developments thus creating an investment environment. Over the years, Malaysia has managed to attract a good many well-known multinational companies from Japan, Taiwan, Korea, United States, United Kingdom, France, Australia, Germany and others. These projects have included work for public and private clients comprising infrastructure, civil engineering works, residential and non-residential building work. Foreign firms are often required to bid with local partners on large infrastructure projects and a JV bid must normally have at least 30% bumiputera (indigenous Malay) participation. The total value of the projects awarded to foreign contractors from 2000-2003 was Ringgit Malaysia 17.5 billion with a total of 121 projects. The total value of contract works as in year 2003 of Ringgit Malaysia RM 39.4 billion with 4,162 projects.

Research Methodology

The research methodology was divided into three major sections consisting of a literature review, questionnaire survey and in-depth interviews. The questionnaire survey was distributed to 550 Grade G7 and G6 registered contractors under the Construction Industry Development Board Malaysia (CIDB). The purposed of the questionnaire was to discover which companies had experience of JV projects, the extent of that experience and their views of risk factors associated with joint ventures.

The 2nd part of the research involved a case study whereby an in-depth interview conducted with the General Manager of one of the Grade G7 contractors to provide detailed information on his company structure, management and experience of one of his major projects undertaken in Malaysia. It was found from the search for appropriate cases of JVs that those in this category were restricted. The search for cases such as JVs was made in the various company directories particularly in construction organisations such as the CIDB Malaysia, Master Builders Association Malaysia, Malaysia 2000 Construction Equipment and Builders' Directory and Pusat Khidmat Kontraktor Malaysia.

Results and Analyses

General Characteristics

There were fifty (50) local contractors and five (5) foreign contractors which responded to the questionnaire. This was about 10% of the total number of the 550 companies. Only 5 foreign companies returned the questionnaire out of 250 and only one was willing to be interviewed. This was disappointing but it was thought that it could be the lack of JV experience which could be the reason. It could be that there were many that had not been received, or it could be that those not responding had bad experiences in JVs, or they were reluctant to share their experience.

The questionnaire was divided into three parts.

- Part One: General information about the JVs - company status, nature of business, involvement's in JVs project numbers and operation structure.
- Part Two: Risk factors that might be involved in JV projects. These factors were divided into three groups, namely internal, project -specific and external risks (Groups 1,2 and 3).
- Part Three: For companies with no experience of joint venturing but which were willing to participate in the future.

A Likert Scale of 1-5 was used in the questionnaire. The respondents were required to indicate the relative criticality/ effectiveness of each of the risk factors and management measures.

Most of the respondents were involved in the civil engineering works, which consisted of highways, roads and bridges, tunneling, road pavements and resurfacing. This could be seen by the jobs completed by them from 1995 until 2001. About 50% of them were involved in commercial, industrial and residential building. Many projects had been completed but some were still in progress. There were others involved in specialist works, piping, petrochemical and oil refinery and airport facilities.

From the questionnaire on the priority to be achieved from the JV projects was the new market opportunities where 19 respondents out of 40 agreed on the statement, which makes 51% from the overall population. Meanwhile, increasing project scale then profit were at 2nd and 3rd ranked which are 23% and a slight decrease in percentage to 22% of the respondent's priorities. This was followed by time of completion, cooperation and quality of works, which took the 4th and 5th places.

Yates, 1993 identified that JVs, with other project-specific limitations of partnering and termination schedules, were concerned to be the most viable means of entering foreign markets. Since the construction markets in the developing countries are unfamiliar to most of the companies in developed countries. It is always difficult for them to get into the markets at the beginning. Joint venturing is one of the most common ways to overcome the barriers to these markets. By forming the JVs, foreign companies improved access to local human resources including managers and labour, and specific resources possessed by local partners. This capability is, therefore, improved in terms of size and scope of work undertaken.

From the research, the respondents ranked first business expansion and new economies of scale. The financial status for a company was at the 2nd rank. It could be seen that the skill and experience, competitive advantages and market share were at the 3rd rank. 13 respondents also shared their opinion of having technology, knowledge and information and sharing of risk. The new market opportunity and coordination of work were in the 5th place and sharing of resources was in the 6th place.

From the research survey, the writers concentrated on the risk factors that were involved in JV projects based upon the respective contractors' experience. The analysis assessed the 29 respondents that responded to the question on risk factors.

Risk Group 1: Internal Risk Factors

Among the nine factors, the highest mean of 3.89 was the problem from both the partner's parent companies. Another risk factor related to a partner is its lack of management competence and resourcefulness, which is ranked 2nd. Thus the credit worthiness of a prospective JV party's parent company should be scrutinized and its current management competence and resources must be ascertained. (Li Bing, Tiong, 1999).

Policy changes received the 3rd highest rank, which was at 3.29 and 3.25, which is very critical among the internal risk factors for a JV project. The parent companies play an important role in the JV process as they can influence a JV's performance. Most of the researchers on JVs have concluded that a good JV agreement is an essential success factor and can avoid a great deal of trouble and conflict in future JV operations.

Employment from the parent company and work allocation received 5th and 6th rankings; as trust among JV staff from different partners is also a critical risk factor in JV projects. Another critical risk factor is the disagreement on accounting of profit and loss. It received the 7th ranking; followed by the technology transfer and disagreement on allocation of staff positions in JV which received less critical scores, ranking 8th and 9th, respectively. Disputes over works allocation often happen when designs are changed and the changes are unfavourable to one of the partners. Technology transfer received the least critical ranking in this group.

Table 1 : Internal Risk Factors

No	Risk Factors	Mean
1.	Financial Problems	3.89
2.	Management	3.44
3.	Policy	3.29
4.	Over interference	3.25
5.	Employment	2.97
6.	Allocation of work	2.96
7.	Accounting	2.88
8.	Technology Transfer	2.77
9.	Allocation of staff positions	2.61

Risk Group 2: Project- Specific Factors

The risk caused by the project characteristics must be considered when dealing with JVs risk. Many JVs are formed for a specific project, and the project's characteristics could strongly influence the JV's performance. A Client's cash problem is regarded as the most critical risk factors to a JV. It received 4.19 and is ranked first in this group among all risk factors considered in this research. Thus, it could be seen that the financial risk to the JV contractor includes whether the owner has sufficient funds to complete the project or has the availability of funds for progress payments. The most critical factor is a poor project relationship. It received a critical value at 3.54 and 2nd in the project-specific risk group. Strained relationships will occur when someone goes directly to the Client without informing his counterpart, particularly when the matter concerns contractor-client reimbursement.

Currently, in the construction industries, the general contractors are subcontracting many project activities. It is rated as the 3rd critical risk factor in the group. Compared with other risks, disagreement over some conditions in the contract is considered to be less critical value at 2.89. Contractual risks usually are caused by disagreement arising from flawed contract documents, inappropriate types of contract, improper tendering procedures, contractual clauses and/or incomplete contract documentation.

Table 2 : Project Specific Factors

No	Risk Factors	Mean
1	Cash Flow Problems	4.19
2	Poor Project	3.54
3	Incompetence of suppliers	3.08
4.	Conditions of Contract	2.89
5.	Demands & Variation By Client	2.88

Risk Group 3: External Risk Factors

The major risk factors for overseas construction projects at the national or regional level are those related to economic, political, social and environmental risks. Economic fluctuation and inflation score the highest means at 3.80 and 3.49. These were followed by policies, fund repatriations and exchange rate, which stand at the 3rd, 4th and 5th ranking, respectively. Economic slowdown causes the construction market to shrink. Foreign exchange risks exist when the JV formally enters a contractual agreement as a contractor with the owner. Inconsistency in policies, regulation restrictions on fund repatriation and import restrictions were ranked at 6th, 7th and 8th respectively.

The environment has a certain critical influence on JV projects. It received a critical value at 2.26 and is ranked 9th in this group. The participants considered the pollution effect on a JV least critical. The surveys showed that the social environment problems are not critical and they are ranked at 10th and 11th, respectively. The lack of complementarity is caused by a failure to understand how cultural assumptions influence the development of the JV.

Table 3 : External Risk Factors

No	Risk Factors	Mean
1.	Economies Fluctuation	3.80
2.	Inflation	3.48
3.	Policies, laws and regulations	3.39
4.	Exchange rate	3.21
5.	Fund Repatriation	3.14
6.	Import restrictions	2.55
7.	Force Majeure & Social	2.50
8.	Security Problems	2.45
9.	Pollution	2.26
10.	Language Barrier	2.21
11.	Different social, culture & religion	2.10

Conclusions

The questionnaire survey on the JV projects between Malaysia local and foreign contractors working in Malaysia showed that both perceived risk in construction as the likelihood of the potential completion of the project i.e. terms of cost, time and quality of performance. In order to manage them effectively, a comprehensive method for managing risk techniques must be introduced into the construction industry. Also in order to manage them effectively, a comprehensive method for managing risk during the construction process, particularly in the pre-contracting and contracting stages, should be applied. Risk management needs to be continuous from the moment the projects starts to the moment it ends and must always have a contingency plan to cope for the worst eventuality but should also have provision for improving performance when beneficial circumstances are found. The systems should not be complicated or burdensome, as they need to be integrated into a firm's daily operation. From the research, the major risks factors were found to be the agreement of the contract, partner selection, control/equity, sub-contractors, renegotiations and training.

Recommendations for Further Research

These findings may have implications for the curriculum in Construction management education, particularly at the Degree and Masters Courses in various disciplines at Faculties of Architecture, Planning and Surveying or Built Environment where the implementation of project risk analysis management, in view of the implications for construction business profitability, may demand education and training of the construction project managers and professionals in risk management techniques to bridge the gap between theory and practice. There is already a risk management module in the existing M.Sc taught programme at UiTM.

Informal education and training could be in form of Continuous Professional Development programmes organized by academic establishments or interest groups within professional bodies such as Construction Industry Development Board Institution Surveyors Malaysia, Institute of Engineers Malaysia, MBAM and others. It may not be expected that this will be an immediate panacea, but would be a move in the right direction to improve JV performance in the industry.

The nature of construction JVs and international JVs compared with other types of procurement may be different due to the fundamental intent of co-operation in the participants where large differences in cultural, political and social backgrounds exist. The findings of the research will hopefully support the more successful implementation of joint venture projects in other similar economies.

References

- Li Bing, L.K.Tiong (1999) Risk Management in International Construction Joint Ventures. *Journal of Construction Engineering and Management*, 121(4)
- Smith, R.G Member, ASCE, Bohn, M.C (1992) Small to medium Contractor Contingency and Assumption of Risk. *Journal of Construction Engineering and Management*, March/April 101-108
- Atkinson, D. (2001). Risk Management In Construction Project. Retrieved 7 February 2006, from http://www.atkinson-law.com/cases/CasesArticles/Articles/Risk_Management.htm
- Bing, L. (1999), "Risk Management in international construction joint ventures", *Journal of Construction Engineering and Management*, July, pp.277
- Burchett, B. (1999), "A world-wide survey of current practices in the management of risk within electrical supply projects", *Construction Management and Economics*, Vol. 17, pp. 77-90
- Cervone, H. F. (2006). Project Risk Management. Retrieved 12 April 2006 from <http://www.emeraldinsight.com/1065-075X.htm>.
- Flanagan, R. & Norman, G., (1997) *Risk Management and Construction*. Blackwell Science
- Frosdick, S. (1997). The Techniques of Risk Analysis are Insufficient in Themselves. *Disaster Prevention and Management*, 6(3), 165-177.
- Godfrey, P. (1996), *Control of Risk: A Guide to the Systematic Management of Risk from Construction*, Construction Industry Research and Information Association, London.
- Harris, A. Risk Management In Practice: How Are We Managing? Retrieved 12 April 2006 from <http://www.emerald-library.com>
- Hayes, R., Perry, J. and Thompson, J. (1996), *Risk Management in Engineering Construction: A Guide to Project Risk Analysis and Risk Management*, Thomas Telford, London.
- Jaafari, A.C. and Anderson, J.J (1995), "Risk Assessment on development projects, the case of lost opportunities", *Australian Institute of Building Papers*.
- Mills, A. A Systematic Approach to Risk Management for Construction. Retrieved 15 October 2006 from <http://www.emerald-library.com/ft>.

Mulcahy, R. (2003). *Risk Management; Tricks of the Trade for Project Manager*: RMC Publications.

Naoum, G. (1998). *Dissertation Research and Writing for Construction Students*. Butterworth Heinemann

Nielsen, K. R. (2006). Risk Management: Lesson from Six Continents. *Journal of Management in Engineering*.