

BUILDING A CONCEPTUAL MODEL OF EFFECTIVE LEARNING IN INTERNATIONAL CONSTRUCTION JOINT VENTURES

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Abstract

Learning has become an important aspect for any organization to stay relevant and competitive in the corporate world of survival. In construction industry, the international construction joint ventures (ICJVs) provide an excellent platform with opportunity of learning among partners seeking to develop new area of competency and improve their overall competitiveness for their next project endeavor. This paper discusses the development of a conceptual model of effective learning in ICJVs using four major stages of development in a typical joint venture (JV) 's process. The study identified that there are three key constructs that contribute to effective learning comprising learning conditions in the JV's pre-inception stage, success factors of JV for learning in the forming & organizing stage, and learning actions in the implementation & adjustment stage. The effective learning outcomes are measured by the characteristics of learning organization during the JV's completion & evaluation stage. Details and issues of each stage and the methodology of research will be presented and discussed.

Keywords: International Construction Joint Venture, Effective Learning, Learning Organization

1. Background of the study

International joint venture (IJV) has been defined in slightly different ways. This study adopts the definition proposed by Geringer & Hebert [1] who considered an IJV as a joint venture (JV) where at least one partner is headquartered outside the host nation of JV operation, or if the venture has a significant level of operations in more than one country. Kumaraswamy [2] stated that with the increasing magnitudes, complexities and risks, major construction projects have brought together organizations with diverse strengths and weakness—to form JVs to collectively bid for, and execute projects. In view of the globalization of the world's economies, international construction joint ventures (ICJVs) have become an important option for many construction companies to conduct their business globally. As globalization gains its pace, competition gets intensified; companies find that they must devote more attention to ways of acquiring knowledge to build up their competitive advantage in conducting construction business. In this context, ICJVs provide an excellent platform for knowledge acquiring through the in-action learning.

The importance of learning within organizations has long been recognized as a significant determinant for technology and competitiveness enhancement. However, there has not been much attention and study devoted in the sector of learning in ICJVs, where the performance of JV is generally regarded as not very encouraging in the industry.

On the other hand, though the importance of learning in the process of JV is reckoned by some construction companies, learning in practice has not been systematically planned and organized to reap the full benefits of effective learning and the outcomes of learning are generally not encouraging. These phenomena can be largely attributed to the lacking of availability of systematic guides due to shortage of research made in this area of study. It is apparent that the research on this subject of effective learning in ICJVs is both timely and significant as there is much benefit to be derived from conducting comprehensive research in this area.

2. Theoretical Grounding

An overview of literature on learning and ICJVs is discussed in this section to form the theoretical grounding of a conceptual model. The review of literature on this topic is grouped around the following main issues in IJVs: learning and effective learning outcomes, conditions of learning, success factors in learning aspect and the learning actions observed in IJVs.

2.1 Learning and effective learning outcomes

Learning can be defined in various ways as proposed by many researchers in literature. This study adopts the definition of learning in JV as stated by Büchel et al [3] who stressed that: "Learning in the JV system means transferring knowledge from the JV back into the partner company and integrating it into the knowledge base so that the company can use it later for its own purpose" (p222). Büchel et al [3] has further proposed the concept of effective learning as where learning outcomes are to be measured based on two main parts of learning in JV consisting of (1) learning to cooperate and (2) cooperating to learn. It is noted both parts of learning are in fact interdependent and each could significantly contribute to the performance of JV as well as the partner companies. This concept of effective learning would be employed as the way of measuring the effective learning outcomes in this study.

Büchel et al [3]'s definition of learning in JV explicitly focuses on the transferring knowledge through learning to cooperate. Learning to cooperate means striving towards a growing understanding of the processes and specific problems involved in JVs, and continuing to develop one's own practices and competencies in JV management. It emphasizes on the knowledge of technology or know-how of the other partner and the result of learning to cooperate is basically focused on knowledge gained. Similarly, Beamish and Berdrow [4] found that knowledge gained is most directly recognized as learning outcome. Knowledge gained could thus be regarded as the first main part of effective learning outcomes which could improve technology, management, knowledge and working capability for individual, JV team as well as the organization.

On the other hand, Dodgson [5] contended that “effective learning between partners depends on the construction of a ‘climate’ of trust engrained in organizational modes of behavior, and supported by the belief in the mutual benefits of collaboration throughout the organization” (p78). In this respect, cooperating to learn means using JVs as a medium for organizational and inter-organizational learning and the aim of cooperating to learn is to enable the partner companies to learn in JVs. Both Dodgson [5]’s learning description and cooperating to learn emphasize on the collaboration in JVs. As collaboration supports effective learning and provides a medium for cooperating to learn, collaboration could be regarded as the second main part of effective learning outcomes.

As discussed above, gaining knowledge and building collaboration environment form the two main parts of effective learning outcomes. This concept of effective learning is in fact similar to the learning organization concept which has emerged as a main focus of study in the area of learning during the last two decades. Ellinger et al [6] summarized many definitions of learning organization focusing on knowledge gained such as acquiring, improving, transferring knowledge, facilitating individual and collective learning, as well as integrating and modifying behaviors and practices of the organization and its members etc. On the other hand, Senge [7] described a learning organization as a place where people continually expand their capacity to create results they truly desire, where new and expansive patterns of thinking are nurtured, and where collective aspiration is set free and people are continually learning how to learn. It is noted that Senge [7]’s description of learning organization placed focuses on collaboration throughout the organization, and it concurs well with the second part of effective learning outcomes.

Noticeably, both Ellinger et al [6] and Senge [7] defined a learning organization as an organization which provides collaborative environment where people can effectively gain knowledge continuously and successfully. As this description of a learning organization encompasses both parts of effective learning outcomes as discussed earlier, it will be used in this study to measure the effective learning outcomes in the completion stage of JV.

2.2 Conditions of learning

For learning to be a conscious activity of participants in IJVs, several conditions in the pre-inception stage of JV need to be presented. Beamish and Berdrow [4] identified three key conditions which could facilitate or inhibit learning with IJVs as: motivation, intent and choice of partner. Among these three conditions, many researchers have identified the associated variables from the characteristics of external environment and partners.

Numerous studies have examined the motivations of IJVs. Beamish and Berdrow [4] noted that among other motivations, an IJV must have been formed for the purpose of learning. Some of the motivations which are found related to the purpose of learning can be identified from external environment. These include the government support, complexity and potential of the host market.

On the aspect of government support, some government provides preferential treatment as support to the forming of joint venture. For example, Levy [8] reported that Japanese government provided subsidy to encourage JVs to bid on public projects. Similarly, Chai [9] stated that Singapore government had encouraged foreign construction companies to

team up with suitable local companies by providing preferential margins of up to \$5 million dollars over other contractors. The main reason behind a government's support is found to relate to learning focusing on technology transfer during the implementation of the projects. Apparently, the expectation and support of local government forms a significant part of the motivations for some of the contractors in their participation in a JV endeavor.

Motivations of IJVs from external environment also include the conditions of a host market. Beamish and Berdrow [4] found the strongest motivation for engaging in the IJV was to gain access into new geographic markets. The new geographic market is generally complex to the participants due to the lacking of knowledge about the new market. The complexity of a market would naturally increase the demand for the knowledge. For example, to survive in the complex market like Asia, Gale and Luo [10] found that foreign companies have to learn and obtain know-how on handling projects in the process of JV in a specific host market. On the other hand, new geographic market would also provide higher potential, which in turn enhances the willingness of both the foreign contractors and the local contractors to explore their business jointly and share the knowledge with each other. As a matter of fact, the strong economic growth in the Asia during the past few decades has unfolded the market potential in construction and encouraged large number of MNCs, largely American and European, to form joint ventures with local companies bringing advanced technology and management skill into these booming markets. The above examples illustrate that a market's complexity and its potential which are found related to the acquiring of knowledge, would form the motivations of ICJVs.

While the motivation describes the reasons for engaging in IJV, the intent, on the other hand, guides the behaviors concerned by establishing desired outcomes. Hamel [11] and Inkpen [12] have identified intent as an important determinant of efforts a firm would put into learning in a JV. Howes and Tah [13] further indicated that the intent to transfer existing knowledge, acquire knowledge, develop new knowledge through JVs and apply new knowledge later, have strong relationships with the actual engaging in learning. In this context, the intent is deemed to determine on the learning efforts and relate to the actual engaging in learning; and thus would affect a partner's effective learning outcomes in JV.

Beamish [14] found that partner choice is important to IJV success. Among many factors on partner choice, only partner's development feasibility and absorptive capability are considered and discussed here as two important factors in term of learning. Partner's development feasibility could be reflected by a company's management structure and its development strategy. To a large extent, decentralization and organic degree of a company reflect the flexibility in a company's organizational structure. In general, a more decentralized and organic a company would exercise more flexibility in its operation, which will provide more opportunities for learning in JVs. Similarly, Anderson [15] found that the development strategy of a company provides a company with development feasibility in diversification and engaging future business which in turn, require more knowledge and spurs a company to learn more actively.

Absorptive capability which signifies a partner's learning ability to recognize value of new knowledge and subsequently assimilate them, forms part of learning conditions. In this respect, Hamel [4] identified receptivity and adaptability as partner's ability to adopt skills; Inkpen [12] identified that a company's experience increases the probability of recognizing a useful incoming knowledge.

From the above discussion, three key learning conditions could be summarized. Firstly, motivation such as government support, market potential and market complexity could be identified from the environment specific area. Secondly, learning intent could be identified from the partner specific area including intent to transfer, acquire, develop and apply knowledge. Thirdly, partner choice could be identified from the partner specific area including partner's development feasibility and absorptive capability. The above literature review also suggests that these three conditions of learning in IJVs are embedded in the characteristics about the environment and the partner companies which are identifiable during the pre-inception stage of a JV.

2.3 Success factors of IJVs in learning aspect

From organizational point of view, Lei and Slocum [16] found in essence, the success of any joint ventures is derived from the ability to learn from another partner's strength while preserving one's own sources of competitive advantage. Although few studies placed their focus on the success factors of learning in IJVs, Lei and Slocum [16] and Inkpen [12] have many studies on the success factors of IJVs. This paper discusses the most relevant success factors in learning aspect from JV's operational characteristics such as the JV's structure and management competency, to the relationships and interactions among JV.

Egbu [17] indicated proper organizational structure as a success factor for promoting knowledge sharing. Gido and Clements [18] believed that the structure of JV's integration affects the success of learning. These findings explain that the integration of JV provides collaboration as well as learning chances for partners.

Inkpen [12] discussed the importance of management competency to the success of IJV in the study of organizational learning in JVs. This study considers management competency from the authority of running JV independently to the power of making major decisions.

The relationship among JV is identified by the mutual trust, cultural understanding and business relatedness. Lei and Slocum [16] and Inkpen [12] found that trust is one of the primary variables for partnership success. Anderson [15] considered trust as an important feature of relationship quality, in addition to power, communications, and compatibility. Thus, trust forms an essential element for cooperation, which in turn will influence its organizational learning effectiveness. This study assumes that partners need to build mutual trust to better learn and cooperate in the joint venture.

Good relationship must also build on the cultural understanding between partners. Lorange and Roos [19] suggested that an IJV's success was linked to firm's ability to understand and adapt to cultural differences. Cultural compatibility is also found significant to accept the foreign partner's knowledge. Hence, cultural understanding is important to the IJV's success and significant to access other's knowledge. Thus, it is proposed that cultural understanding would affect effective learning in this study.

The other relationship is the business relatedness among partners and JV. Inkpen [12] suggested that if the IJV is involved in an unrelated business, it is unlikely for collaboration on knowledge creation. Conversely, this study suggested that the business relatedness of IJV and partner would affect collaboration for learning and knowledge creation.

Inkpen [12] found that management support and training by the partner provide a vehicle and solution for learning and knowledge transfer. Hence, this study considers management support and training provided by partners as two variables of interactions among JV.

The above discussion on success factors suggests that some of the success factors of IJVs are actually embedded within the determinants of learning in IJV. These determinants can be organized into the construct which displays the general characteristics of IJVs during the joint venture's formation & organizing stage. Variables such as JV's structure, management competency, mutual trust, culture, business relatedness, management support and training would be grouped under the construct of JV's characteristics in this study.

2.4 Learning actions

Robbins [20] said, intention and capability are only parts of the equation to success, a major part of success is action and action produces results. Apparently, the most direct impacts to learning outcomes are actions, which are the daily learning activities that take place in the JV. This thinking is also in line with the concept of "learning by doing" which is popular in the construction practice. Richter and Vettel [21] thought companies must undergo a learning sequence consisting of the perception, internalization and abstraction of the partner firm's knowledge resources to expand their own corporate knowledge base. For example, Levy [8] found that Japanese have learned a great deal from the U.S. construction industry when they form cooperative joint ventures with overseas companies by not only with learning in mind but also in taking corresponding learning actions all the time.

Many researchers have identified some important factors about learning actions in cognitive and behavioral aspects. Hoff et al [22], Bryan [23] and Senge [7] argued that achieving learning success entails cognitive actions of self-examination, sharing visions, experience and providing supportive attitudes in the IJVs. On the other hand, relevant works of Hoff et al [22], Senge [7], Jashapara [24] and Watkins & Marsick [25] show that behavioral actions such as engaging problems actively, listening to others, accepting staff's best suggestions, and knowledge management actions such as developing and creating new knowledge in work, gathering and recording knowledge, and applying new knowledge are also significant to learning.

As discussed above, learning actions which includes both cognitive and behavioral aspects, can be collectively investigated during the implementation & adjustment stage of IJV, will form a construct of the conceptual model in this study.

3. Structuring a conceptual learning model in ICJVs

Tracking the four key issues as discussed above comprising learning and effective learning outcomes in IJVs, conditions of learning in IJVs, success factors of IJVs in learning aspect and learning actions together with the four main stages of JV, one can note that these issues could be identified from JV's pre-inception stage, formation & organizing stage, implementation & adjustment stage, and completion & evaluation stage respectively.

In summary, at the pre-inception stage, construction companies are encouraged to learn by a diverse range of conditions from the environment characteristics to the partner's own characteristics. At the formation & organizing stage, a separate entity of ICJV is formed and partners now begin to build the JV organizational structure, working on the management and develop working relationships. During the implementation & adjustment stage, members of joint venture devote to learning from working through a series of learning actions. And finally, when the project is coming to the completion stage, the learning outcomes are assessed based on the characteristics of a learning organization, which can be used to measure the effectiveness of achieving both parts of learning on learning to cooperate and cooperating to learn.

As shown in Figure 1, the conceptual model proposed that the conditions of learning have a direct impact on the characteristics of ICJVs and learning actions which in turn contribute to the success of JV and thus the effective learning outcomes. The model also proposed that characteristics of ICJVs has direct impact on learning actions as in turn contribute to the effective learning outcomes. It is finally proposed that learning actions have the most direct impact on the effective learning outcomes.

Based on the above discussion, this research proposed that study of effective learning in ICJVs can be carried out based on a conceptual model comprising four constructs in the four main stages of JV as shown in Figure 1.

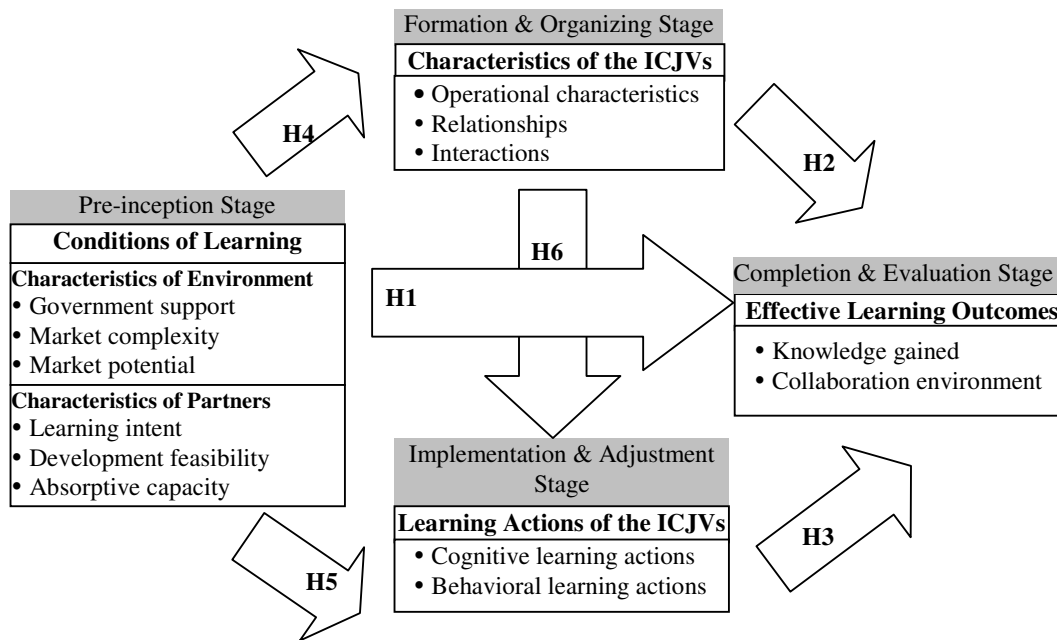


Figure 1: Proposed Process-based Conceptual Model of Effective Learning in ICJVs

4. Hypotheses

In the proposed conceptual model of effective learning in ICJVs, there are three constructs of determinants; namely the characteristics of environment and partners, JV's general characteristics and learning actions in ICJVs. The fourth construct in this model is the effective learning outcomes measured by the characteristics of a learning organization. Six main relationships are hypothesized on the model as follows:

- H1: Effective learning outcomes are directly supported by the characteristics of environment and partners.
- H2: Effective learning outcomes are directly supported by the JV's general characteristics.
- H3: Effective learning outcomes are directly supported by the observed learning actions in ICJVs.
- H4: The JV's general characteristics are directly supported by the characteristics of environment and partners.
- H5: The observed learning actions in ICJVs are directly supported by the characteristics of environment and partners.
- H6: The observed learning actions in ICJVs are directly supported by the JV's general characteristics.

5. Research methodology

Yan and Gray [26] suggested that research questions like “what” and “how” can be solved through questionnaire survey and interview survey. This research is going to answer “What factors are conducive to effective learning in ICJVs?” and “How these factors contribute towards effective learning in ICJVs?”. Therefore the survey method can be used to gather data to justify the proposed model for this research.

In the research design, the population of this survey would include all the construction companies that have international construction joint venture experience in selected Asia countries. In this study, the field data is confined to the international construction companies which have ICJVs in China or Singapore. Those ICJV samples that can represent the population will be carefully selected out as the survey target. Tests on reliability and validity will be carried out and the systemic error and other random error will be taken into consideration before any statistical analysis to the data of questionnaire.

The statistical analysis would use a multiple regression model based on the four constructs of the conceptual model. The results obtained from regression analysis will be further validated, compared and contrast with the field interview data obtained from selected ICJV cases.

6. Conclusions

This paper presents a conceptual model for effective learning in the international construction joint ventures. The model and its relevant issues are discussed together with the proposed methodology for carrying out the research study.

The discussion of issues concerning learning in the literature and the learning practices in the ICJVs reality helps to provide a framework for the development of this conceptual learning model. It is concluded from this discussion that as the period of JV is relatively short, learning in IJVs should be seriously planned and strategically incorporated throughout the pre-inception stage, the forming & organizing stage, and the implementation & adjustment stage in order to achieve effective learning outcomes in the completion & evaluation stage. This proposed conceptual model will be further developed and validated for applications in the ensuing study.

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