

# Mitigations on Joint Venture Risks in Real Estate Projects

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**Abstract** – Construction industry in India is developing towards joint venture projects, and such development has attracted many foreign firms to join in Indian market through joint venture. This paper focused on identifying risk factors those are responsible for JV breakdown. Mitigate risk factors by applying effective management and strategies.

**Key Words:** Joint venture, Risk management, Critical risk factors, Construction industry.

## 1. INTRODUCTION

(British Standard Institution 1996) defines risk as 'It is the uncertainty inherent in plans and possibility of something happening that can affect the prospects of achieving, business or project goals'. Joint ventures, special types of strategic alliance, offer a unique opportunity to combine the distinctive competencies and the complementary resources of participating firms. Joint ventures provide opportunity to share costs, and risks, to acquire knowledge, to enter new markets, and to gain economics of scale or to rationalize operations. A JV involves at list two partner organizations that contributes equity and resources to semiautonomous legally separate entity (Geringer 1991[4]). International joint venture (IJV) is also defined as a joint venture with at least one partner headquartered outside the joint venture's country of operation.

The feasibility and the desirability of 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.

### 1.1 AIM

To identify the most critical risk factors in joint ventures projects and to investigate most effective management and strategies measures in mitigation.

### 1.2 OBJECTIVE

- To identifies the critical risk factors in construction Joint Ventures.

- Make a mitigations and strategies among the critical risk factors to successful implementation of JVs into construction projects.

## 2. LITERATURE REVIEW

- 1) Mills (2006). Mills, A. "A Systematic Approach to Risk Management for Construction". Retrieved 15 October 2006.

According to Mills, risk management has become a main part in the decision making process. It can affect productivity, performance, quality and the budget of a construction project. The goal behind the risk management process is to obtain understanding by all parties and agreement around what the risks really are and how they will be managed. Apart from that, it is also intended to improve project to performance through early risk identification, mitigation and project life cycle management. 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.

- 2) Flanagan (1995) Flanagan, R. & Norman, G., (1997) "Risk Management and Construction". Blackwell Science

Flanagan argued that, the individuals involved in the construction industry that undertakes various activities are heterogeneous since client, consultants and contractors have different roles and objectives. Flanagan further explained that the principals or the client could easily see the relevance of risk management when making the decision to commission a project. The decision to commence a project or invest in a project involves a lot of risks in terms of cost benefit or cash revenue, which is competitive with the best that the financial market can provide.

- 3) Swaczuk, B (1996). "Risk Avoidance for the Building team, E & FN", Spon, London

Other parties in the construction team such as consultants, contractors, subcontractors and supplier are also exposed the risks. This statement is supported by Swaczuk(1996[11]), who he stressed that no matter how small or simple the project is, it still can go wrong, as soon as the two parties; the client and the contractor have signed a contract, they have taken on board the risks. Risk awareness is of paramount

importance to all participants to ensure that the possible risk occurrence is reduced.

## 2. RESEARCH METHODOLOGY

The methodology adopted in this project is given below:

- Study of literature related to Risk Analysis and Risk Management in joint venture projects.
- Preparation of Questionnaire.
- Site visit to major construction project sites.
- Questionnaire survey and personnel interviews with in-charges and managers and collection of data from site.
- Analyzing the Questionnaire.
- Qualitative analysis of data obtained from site and to identify the root cause.
- Remedial measures to be suggested and the present data to be recorded for future reference.
- Conclusions, recommendations and suggestions for future study.

### 3.1 Method of Surveying

The general methodology of this study relies largely on the survey questionnaire which will be collected from the local building contractors of different sizes by mail or by personnel meeting. A thorough literature review was initially conducted to identify the risk factors that affect the performance of construction industry as a whole. This study has adopted the more general and broad definition of risk as presented by Shen et al (2001[6]) on China's construction joint ventures and more risk factors from other literature. Also some interviews with industrial practitioners were conducted to produce to check effectiveness of questionnaires.

### 3.2 Questionnaires Structure

The 22 questionnaires was formed in Google Form Sheet. It was send through mail or by personal meeting with the managers or M.D's of JV organization.

The questionnaires survey was conducted in following ways-

Risk factors and risk management measures in JV. These factors are divided into three groups, namely, Internal, Project-specific, and External risks (Group 1, 2, and 3, respectively). Each group consists of several risk factors

Questionnaires to be asked are in following categories-

**[1] Internal risk group-** This group represent that, the risk that are unique in JV because of different organization are involved.

#### **[2] Project-specific Risk Factors-**

The Project-specific risk group refers to unexpected developments during the construction period that lead to time and cost overruns or in shortfalls in performance

parameters of the completed project. A high capital outlay and a relatively long construction period would make project costs particularly susceptible to delays and cost overruns.

#### **[3] External Risk Factors-**

The External risk group represents the risks that generated from the competitive macroenvironment that the JV operates in.

### 3.3 Questionnaires Design

The questionnaire was prepared for the survey was formulated by seeing the relevant literatures in the area of construction risk. The interviewer was free to ask additional questions that focused on issues arising during the course of the interview. The freedom to follow the interviewee, to ask for clarifications, and to focus on specific projects, risk practices and knowledge, made the interviews knowledgeable.

### 3.4 Risk Rating

A Likert scale of 1-5 was used in questionnaire. A Likert scale is type of psychometric response scale used in questionnaires, and is mostly used scale in survey research. Respondents specify their level of agreement to a statement while responding to Likert questionnaires items. The scale is named after Rensis Likert, who published a report describing its use (Likert, 1932[7]). The respondents were required to indicate the relative effectiveness/ criticality of each of the risk factors in to the real estate joint venture projects.

### 3.5 Analysis of Survey Result

Analysis of survey was completed through Relative Importance Index. In this RII following formula was used,

$$RII = \frac{\sum W}{A \times N} \quad (0 \leq RII \leq 1) \quad \dots\dots\dots (1)$$

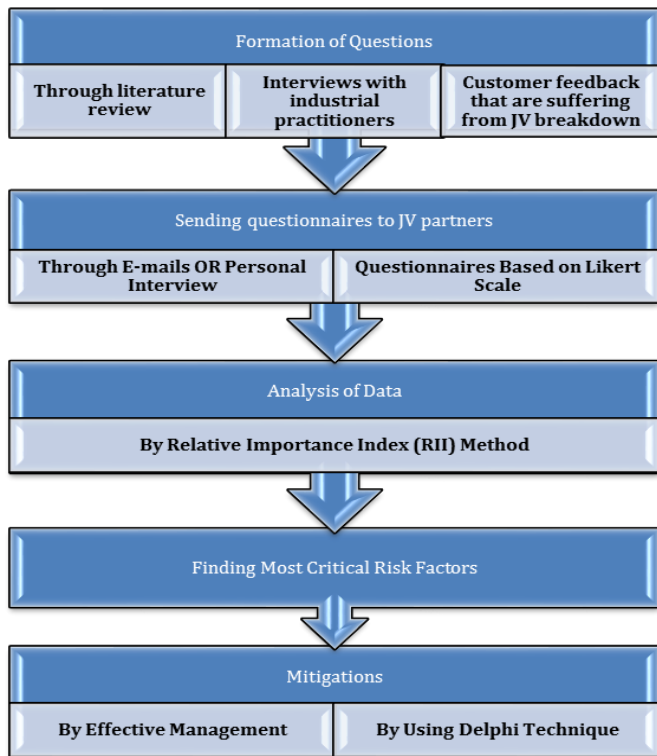
Where,

$W$ = is the weight given to each factor by the respondents and ranges from 1 to 5. (Where "1" is "no risk" and "5" is "Extremely high risk");

$A$  = is the highest weight (i.e. 5 in this case) and;

$N$  = is the total number of respondents. (Here total number of respondents are 32 Numbers)

Methodology adopt to identify the critical risk factors in construction joint venture projects are in following ways.



#### 4. ANALYSIS OF DATA

The responses from the 22 questionnaires were subjected to statistical analysis for further insight. The contribution of each of the factors to overall risk was examined and the ranking of the attributes in terms of their criticality as perceived by the respondents was done by use of Relative Importance Index (RII) which was computed using equation (1)

Analysis of collected data are as follows

##### 4.1 Internal risk group

Table-1 Internal Risk Group

RISK CODE	RISK FACTORS	RII	RANK
RI1	Partner's parent company in financial problem	0.706	1
RI2	Disagreement on accounting of profit and loss	0.631	2
RI3	Employees from each partner distrust each other	0.550	3
RI6	Disagreement on allocation of staff position in JV	0.538	4
RI4	Policy change in your partner's parent company towards JV	0.525	5
RI5	Partner's lack of management competence and resourcefulness	0.519	6
RI7	Disagreement on allocation of work	0.475	7
RI8	Technology transfer dispute	0.375	8

**Partner's parent company in financial problem.** Among the eight factors in this internal risk group this factor has

more importance relative with others. It receives 0.706 and goes to 1<sup>st</sup> rank in this group.

**Disagreement on accounting of profit and loss, staff position, allocation of work.** Disagreement on accounting of profit and loss is at 2<sup>nd</sup> rank due to having RII of 0.631, and disagree on staff position and allocation of work is at 4<sup>th</sup> and 7<sup>th</sup> rank respectively. Disputes over work allocation often happens when design are changed and changes are unfavorable to one of the partner.

**Policy of parent companies towards JV.** The policy of parent companies toward the JV is very critical and this risk factor was ranked 5<sup>th</sup>. A JV agreement is composed of "the terms, resources, shares, and management policies." Once the policies of a parent company change, support for the JV could be reduced and it would be difficult to keep the JV running smoothly.

**Distrust.** Distrust among JV staff from different partners is also a critical risk factor in JV. It received a 3<sup>rd</sup> ranking. For successful running of JV trust is very important because of trust there is no any formation of JV.

**Technology Transfer Dispute.** Technology transfer dispute is the last critical factor in this group.

Below is the graphical representation of the internal risk factor group with the risk factors on x-axis and on y-axis its RII values.

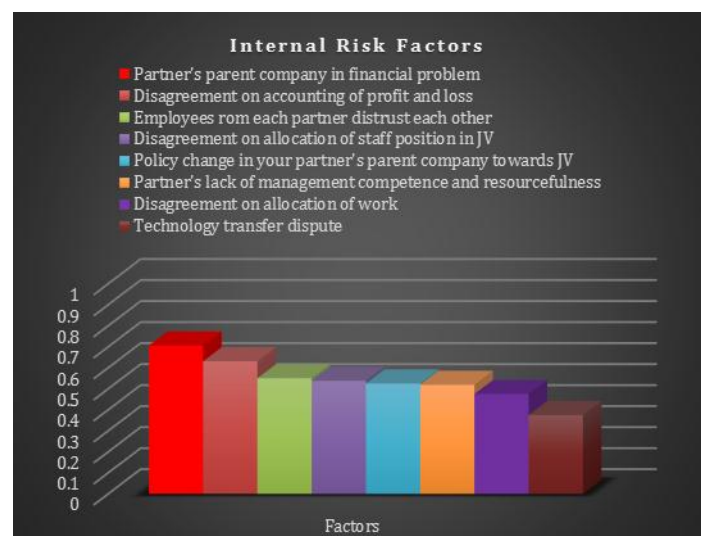


Chart-1 Internal Risk Factors

### 4.2 Project-specific-

Table-2 Project-specific Group

RISK CODE	RISK FACTORS	RII	RANK
RP2	Poor project relationship.	0.600	1
RP1	Cash flow problem of client.	0.575	2
RP3	Incompetence of sub-contractors/ suppliers.	0.525	3
RP4	Excessive demands and variations by client.	0.500	4
RP5	Disagree some conditions of contract.	0.488	5

**Poor project relationship.** It receives RII of 0.600. Ranked in 1st position in this group. A lack of communication and poor relationships could occur with other partners in project. Such as consultants, designers, contractors or suppliers.

**Client problems.** Client problem in this research is of two main elements, (1) cash flow problem and (2) excessive demands and variation by client. Cash flow problem is 2<sup>nd</sup> rank of having RII 0.575 and excessive demands and variation by client is at 4<sup>th</sup> rank of RII 0.500.

**Subcontractors and suppliers.** Big project in our construction industry many project activities are done by subcontractors out by general contractor. Risk of this factor is in 3<sup>rd</sup> rank of RII is 0.525. These risks can be results in time loss and increased cost during construction.

**Contractual risk.** Compared with other risk disagree some conditions of contract are of less critical. It secure 5<sup>th</sup> position in this group of having less RII of 0.488.

Graph-2 shows the, graphical representation of the project-specific risk factor group with the risk factors on x-axis and on y-axis its RII values.

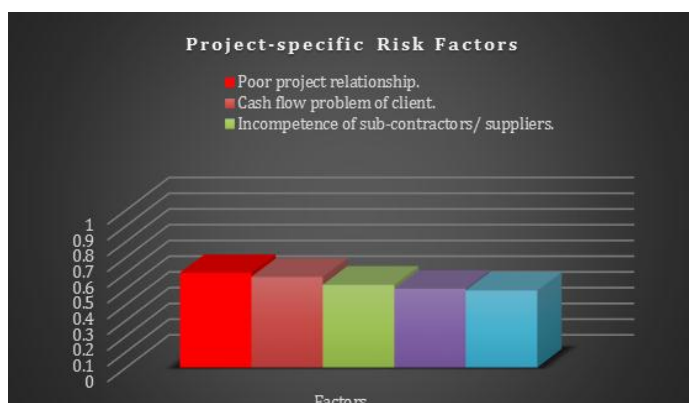


Chart-2 Graphical Representation of Project-specific Risk Factor Group

### 4.3 External Risk Group

Table-3 External Risk Group

RISK CODE	RISK FACTORS	RII	RANK
RE1	Inconsistency in policies, laws and regulation.	0.588	1
RE2	Economy fluctuation.	0.519	2
RE3	Exchange rate.	0.400	3
RE5	Import restriction.	0.394	4
RE4	Restriction on fund repatriation.	0.388	5
RE6	Security problems.	0.381	6
RE8	Different social, culture and religious.	0.369	7
RE7	Language barrier.	0.350	8
RE9	Pollution.	0.313	9

**Political risk.** Political risk includes inconsistency in policies, laws and regulation, import restriction and restriction on fund repatriation. The inconsistency in policies, laws and regulation are most critical in this group and is ranked 1st. import restriction is on 4th rank and restriction on fund repatriation is on 5th rank.

**Economic risk.** Risk of economic fluctuation is ranked at 2nd number and exchange rate is at 3rd rank. Many of project are in trouble due to main reason is economic fluctuation so rank it as in 2nd with RII of 0.400.

**Environmental risk.** The environment has a certain critical influence on JV. The relative importance index of this risk is less as compare to other risk factors in this group. Having RII of 0.313 and ranked at 9th.

**Social risk.** Social risk factors includes security problems, language barrier and different cultures, and religions. Among this security problem is ranked as 6th position, different social, cultural and religions are at 7th position and language barrier at 8th position with having RII of 0.350. Language barrier is less importance in social risk.

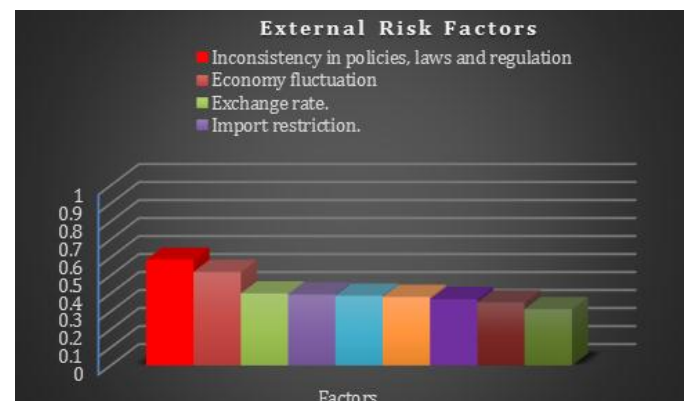


Chart-3 Graphical Representation of External Risk Factor Group

Table-4 Risk Assessment

Risk Factor	Name of the Risk	Impact	Probability	RISK
RI1	Partner's parent company in financial problem	3.531	0.706	HIGH
RI2	Disagreement on accounting of profit and loss	3.156	0.631	HIGH
RP2	Poor project relationship.	3.000	0.600	HIGH
RE1	Inconsistency in policies, laws and regulation.	2.938	0.588	HIGH
RP1	Cash flow problem of client.	2.875	0.575	HIGH
RI3	Employees from each partner distrust each other	2.750	0.550	HIGH
RI6	Disagreement on allocation of staff position in JV	2.688	0.538	MEDIUM
RI4	Policy change in your partner's parent company towards JV	2.625	0.525	MEDIUM
RP3	Incompetence of sub-contractors/ suppliers.	2.625	0.525	MEDIUM
RI5	Partner's lack of management competence and resourcefulness	2.594	0.519	MEDIUM
RE2	Economy fluctuation.	2.594	0.519	MEDIUM
RP4	Excessive demands and variations by client.	2.500	0.500	MEDIUM
RP5	Disagree some conditions of contract	2.438	0.488	MEDIUM
RI7	Disagreement on allocation of work	2.375	0.475	MEDIUM
RE3	Exchange rate.	2.000	0.400	LOW
RE5	Import restriction.	1.969	0.394	LOW
RE4	Restriction on fund repatriation.	1.938	0.388	LOW
RE6	Security problems.	1.906	0.381	LOW
RI8	Technology transfer dispute	1.875	0.375	LOW
RE8	Different social, culture and religious.	1.844	0.369	LOW
RE7	Language barrier.	1.750	0.350	LOW
RE9	Pollution.	1.563	0.313	LOW

## 5. MITIGATIONS

### Effective Management Measures-

Using Delphi technique the mitigations were find out. The six high risk that are categorized in Table-4 were discussed with Managers or M.D. of JV organizations by mitigation survey. It was attached in Appendix – B. according to this survey mitigations for critical risk factors are discussed below.

#### 5.1 Financial Aspects-

Financial aspect is very important aspects in JV for the successful running of organization. If any problem is occurred with financial aspect it causes a failure of JV. This risk factor is ranked first in high risk factor. Mitigations on this factor is follows.

- JV partners must establish clear communication channel with parental firms about financial aspect and instant availability of funds.
- Identify the JV partners such that has past business experience and strong financial condition, and preferred first for working in JV.

- Choose the project such that it should be suitable for JV formation.
- Arranging fund for additional financial backing from banks or other financial resources.
- Improve the financial management skill of organization.

#### 5.2 Disagreement on accounting of profit and loss-

- Maintain clear documentation.
- Appoint separate account auditor for JV organization.
- Agreement on standard accounting practice; standard accounting practice in place allows all parties involved to change profit and loss in standard manner. This will reduce the chance for dispute.

#### 5.3 Poor project relationship-

- Make flexibility in distributing operational responsibility and authority, this will allow partners to efficiently utilize each other particular strength.
- Partners able to exhibit necessary trust and confidence among JV partners.
- Defining clear authority and responsibility in the JV agreement.

#### 5.4 Inconsistency in policies, laws and regulation-

- Make a careful study of policies, laws and regulation of that particular region where JV works
- Understand own and shred risk.
- Select partner with strong connections with host government.

#### 5.5 Cash flow problem of client-

- Periodically review the cash flow process.
- Insure the clear terms and conditions in JV.
- By creating scroll account in JV partners.
- Maintain proper cash flow chart.

#### 5.6 Employees from each partner distrust each other-

- Arranging program or workshop related with dispute resolution.
- Flexibility and open approach to trying to make things work are essential.
- Efficient and suitable team members appointed for JV operation.

## 6. CONCLUSION

To minimize the chances of failure or underperformance of a JV, risk management techniques must be introduced into the construction industry. The critical risk factors must be identified before making any meaningful JV agreement. The critical risk factors can be systemically studied based on Internal, Project- specific, and external risk groups.

This paper concludes that, JV environment is hampered due to following risks

- JV environment is mostly hampered by partner's parent company in financial problems, which is having most risk factor of 70.6%, less risk from technology transfer dispute factor having 37.5% risk, which is from internal risk factor group.
- Second risk factor group is project-specific risk factors, in this mostly hampered risk factor is poor project relation having 60% risk to break JV, and less critical factor is disagree some conditions of contract having 48.8% risk to break JV.
- Third group is external risk factors, in this most critical factor is inconsistency in policies, laws and regulation having 58.8% risk to hamper JV and less critical factor is pollution having 31.3% risk to break the JV.

To mitigate the risk factors in JVs, one must develop appropriate strategies. These include the following.

1. Partner selection: The factors to consider in selecting a suitable partner are on its financial capability, relationship with the government, influence in local communities, experience, reputation, and particular strengths to undertake such a project.
2. Agreement: The JV must be clear and comprehensive in critical areas, such as liabilities for the individual partners; type and value of contributions; method of assessing the values; management structure, control, and decision making process; and profit distribution policies.
3. Subcontracting: Choose experienced subcontractors and suppliers, local organizations.
4. Employment: There should be efficient site management team, and internal conflict would be reduced through trust and commitment.
5. Good relationship: The JV's foreign staff should comply with local culture and tradition and establish a good relationship with the host government and other authorities.
6. Control: It may be desirable to have one partner having a dominant share in the JV and control over the JV management.
7. Clear communication channel with parental firms about financial aspect and instant availability of funds, Agreement on standard accounting practice; standard accounting practice in place allows all parties involved to change profit and loss in standard manner. This will reduce the chance for dispute, Partners able to exhibit necessary trust and confidence among JV partners, By creating scroll account in JV partners, Efficient and suitable team members appointed for JV operation.
8. Others: Conduct a thorough feasibility study to ensure that the project is workable under the JV, and be more patient in solving the internal conflicts.

### Suggestions for Future Work

1. Currently risks faced by foreign companies working in India are much more than the Indian companies, so this can be analyzed in future.
2. India government is allowing a lot Special economic zones (SEZ) which encourages many private players. But the social risks are much more SEZ activity and a research can be made in risk assessment and mitigation for SEZ alone.
3. Third party risk assessment and management effectiveness can be analyzed

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## BIOGRAPHIES



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