



***Ci3 India* - Consolidation Round Table** **October 19, 2016**

Action Item #2 – Study on Construction Projects Time & Cost

Background & Objectives of Action Item #2

- To identify factors that impact time and cost in projects.
- To recommend best practices, mitigation measures and appropriate policy recommendations to mitigate factors that impact time and cost.
- To identify stage wise targets to reduce time and cost in construction projects.

Studies on Time and Cost Overruns

- Infrastructure projects in India costing of the order of around 4.45 million dollars, 40% of them get delayed and the delay ranges from 1 to 252 months (www.mospi.nic.in).
- Despite the importance and the significance of the construction sector in India, it is noted that the owners, consultants, and contractors don't give its importance to evaluate the time and cost overruns at the end of project.
- Several studies and research have been done to identify factors for time and cost overruns both in India and other countries. Some of the studies listed in the working paper for reference.

Highlight of actions to date...

Action	Description	Way forward suggested
1. Regional Roundtables (Chennai & Mumbai)	<ul style="list-style-type: none"> •Time and cost reduction - priority issue • Discussed and concurred on reducing time and cost in projects by setting stage wise targets. 	<ul style="list-style-type: none"> •Action team formulated
2. Conference call -1	<ul style="list-style-type: none"> • Concept paper on time and cost overruns were summarized sent to the participants to set the context. 	<ul style="list-style-type: none"> • General discussion on issues that impact time and cost. • Factors to be studied based on project phases namely – <u>Concept phase , Planning and Design phase, Execution and monitoring</u> (general issues are elaborated in the following slides)
3. Conference call -2	<ul style="list-style-type: none"> • Issues were identified in each of the three phases from literature. •Members were asked to comment on relevance of issues and recommend additional issues. 	<ul style="list-style-type: none"> •A total of 52 issues identified as relevant •Recommended to validate the issues by sending to broader set of owners.
4. Questionnaire survey	<ul style="list-style-type: none"> • A questionnaire survey was designed to understand owners perspective on the impact of issues 	<ul style="list-style-type: none"> •Received 28 responses (sent to around 45 members)
5. Analysis of response	<ul style="list-style-type: none"> •The responses analyzed using Relative importance index 	<ul style="list-style-type: none"> • Important issues were identified in each phase.

Discussion on issues impacting time and cost (discussed at the first con-call)

Points	Description
Time frame for the study	<ul style="list-style-type: none">•The focus should be from the time when the land is bought to the time the facility is operational/sold to the end user
Approvals time	<ul style="list-style-type: none">• Getting approvals consume more time in a project•It roughly estimated that in construction projects - 60% of time takes for approvals and conceptualization of plan etc , the rest 40% in real construction (inclusive of 10-15% snagging, redoing etc).
Change in the trend - Good engineering and design	<ul style="list-style-type: none">•In the past the practice was that since approvals consume a considerable amount of time, the owners start off the work in a weak front i.e. the work is started immediately after the approvals without even a basic set of drawings.• This results in lack of quality, cost overruns etc.• In recent times more emphasis is being placed on engineering and design to get good results.

Discussion on issues impacting time and cost (discussed at the first con-call)

Points	Description
Need for Good For construction drawings and competent consultants	<ul style="list-style-type: none">•Detailed GFC drawings provided by the consultant is an issue. In this case the consultants competence should be relooked.•With GFC drawings owner's intervention is less (in terms of changes) which in turn can reduce the time overruns in projects
Sales and Market conditions	<ul style="list-style-type: none">• The sales conditions are also impact time and cost in projects.•Owner himself will not be interested to finish the project early because based on sales. For example if the flats are not selling fast the owner may want to slow down the project based on his sales.• Market conditions can slow down the project

Discussion on issues and pitfalls (discussed at the first con-call)

Points	Description
New strategy adopted by an owner	<ul style="list-style-type: none">•All drawings should be GFC, there is no general drawings.•Anything that changes after GFC is fixed is a variation.•But the problem is the contractors and architects are not used to this model. They are used to changes in drawings.•But the good thing (for the owners and contractors) is that we are able to estimate the cost and time correctly to some extent because we have fixed the design
The focus should be on saving time at the design phase.	<ul style="list-style-type: none">•Parameters (on construction method, type-modular/precast etc) should be factored in during the design stage which could potentially save time
Contracting strategy adopted by an owner	<ul style="list-style-type: none">•_The owner said that their organization is experimented different contracting strategies, including alliancing, design build etc.• Alliance contracting was found to be very successful, particularly when working with international clients.

Survey - Objective & Methodology

➤ Objective:

- The objective of the survey was to gather feedback from the Owners on issues that impact cost & time

➤ Methodology:

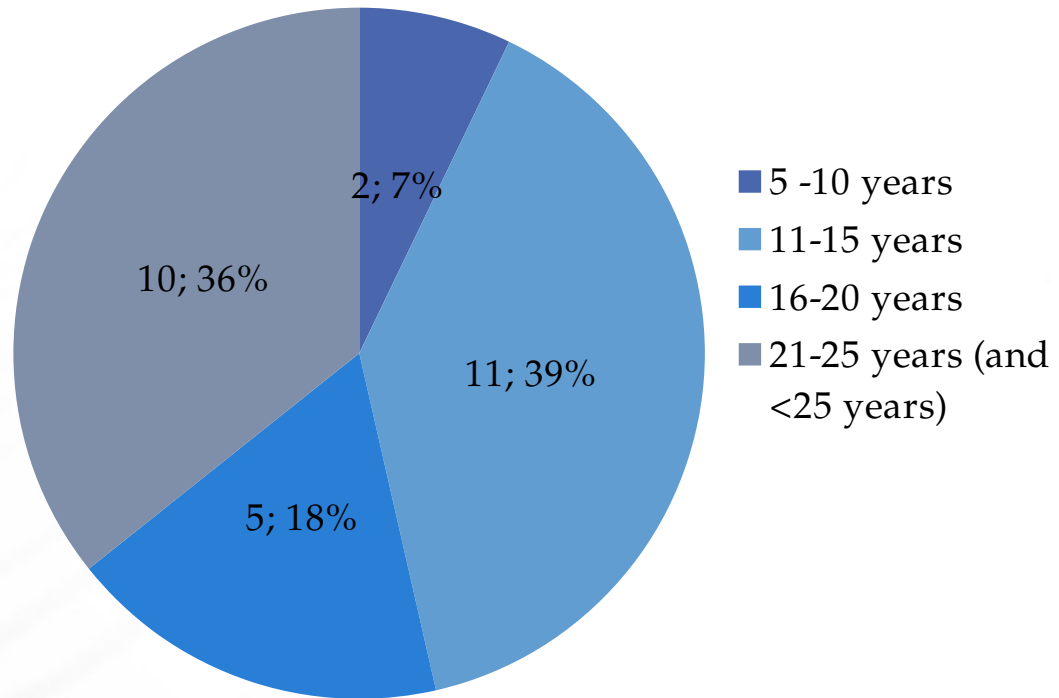
- Online survey of the identified total of 52 issues (9 in concept phase, 23 in planning & design, 20 in execution phase)
- Used a standard 5 point Likert scale (5 – High impact, 1- No impact)
- Questionnaire sent to about 50 people (only Owners)

➤ Analysis

- 28 responses received with a response rate of 62%
- Analysis done by Relative importance index (RII)

Profile of Respondents

Respondent's experience



Respondents designation categories

Managers - General, administration, MEP and other divisions

Top management – Vice presidents

Heads – Projects & portfolio MEP, Planning and coordination

Planning & coordination, Budgeting & estimation
AGM's

Concept Phase

Significant Issues Impacting Time & Cost

High	<ul style="list-style-type: none">• <i>High cost impact also impacts time</i>	<ul style="list-style-type: none">• Clearing encroachments and rehabilitation• Lack of skilled people and data for preparation of DPR and financial models
Low	<ul style="list-style-type: none">• Identifying time for project launch• Adhering to new land acquisition acts	<ul style="list-style-type: none">• Land related - getting fair market value• Obtaining change of land use• Getting fair market value
	Low	High

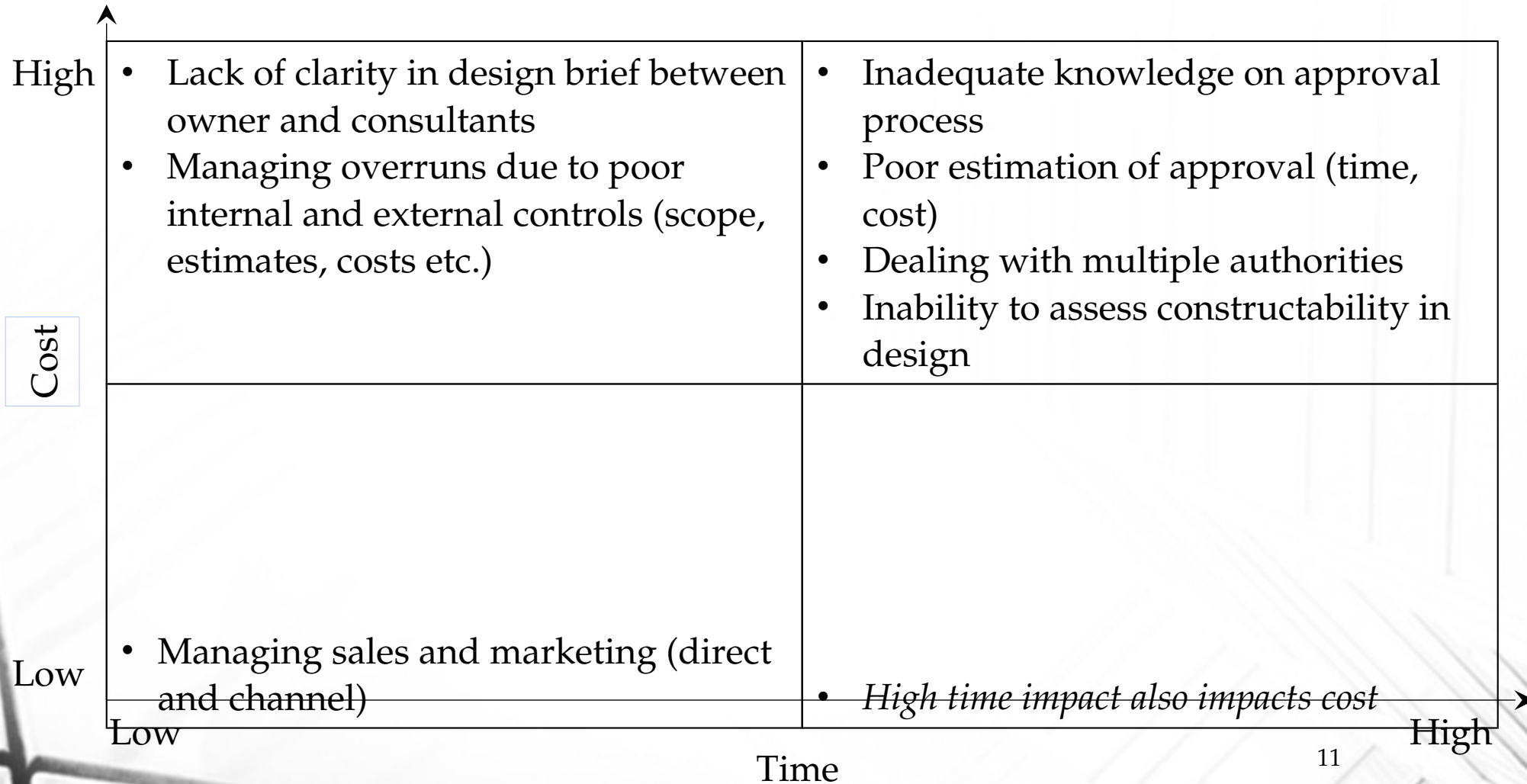
Cost

Time

10

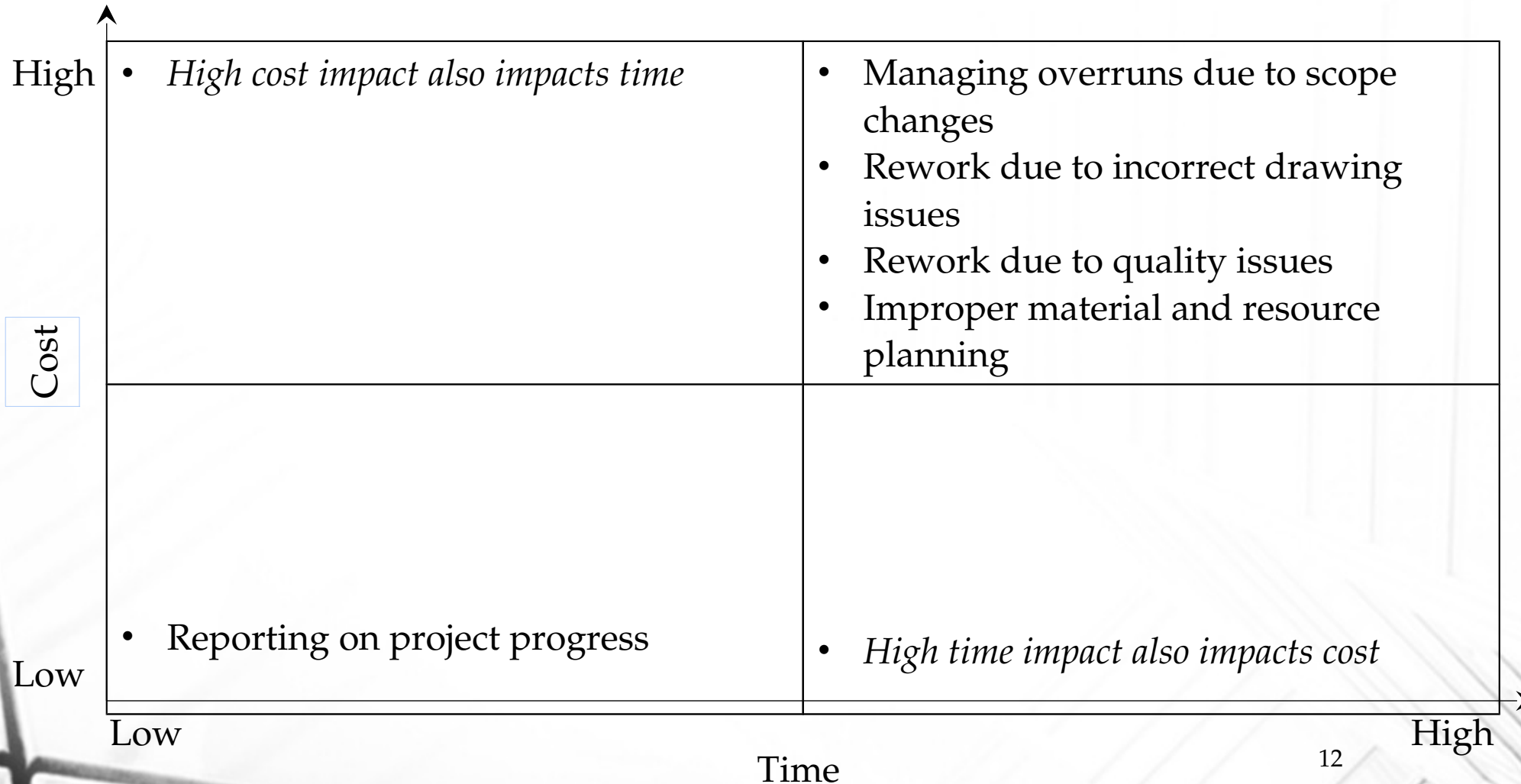
Planning Phase

Significant Issues Impacting Time & Cost



Execution Phase

Significant Issues Impacting Time & Cost



Discussion

- Feedback on survey results from participants

Next Steps

- Benchmark with real data
 - Collect actual information (time & cost) on original baseline vs actual on time and cost for each of the three phases
 - Compare the quantitative data with qualitative analysis
 - Recommend targets for reduction
 - Recommend potential intervention strategies

Structure & Expected Contents of Action Team 2 White Paper- due 10 Dec. 2016



Thank You