


Introduction to Lean Construction
Professor – N Raghavan
Department of Civil Engineering
Indian Institute of Technology – Madras
Big Room Approach through Case Studies

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BIG ROOM



S13.02: Big Room Approach through Case Studies

- Learning objective(s)
 - To Understand the Big Room Approach through Case Studies
 - **Case Study#1** – TRIL IMCC, Ghansoli, Navi Mumbai
 - **Case Study#2** – TRIL IT City, Gurgaon, New Delhi

[Topics to be Covered Slide](#)




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Now, we look at a couple of case studies with the company Tata Realty Infrastructure Limited. One was in New Bombay; the other was in New Delhi.



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Case Study#1 - TRIL IMCC, Ghansoli, Navi Mumbai

- Project was in the *process of design finalization and getting approvals*
- *Special Lean tools* were adopted: Adopting Percent Plan Complete (*PPC*) concept for decisions to be taken during Big Room Meetings (*BRMs*) for design finalization:
 - Using Design *Dependency Matrices*
 - Doing *Risk Analysis* for the approval process for the drawings.
- BRMs attended by *all stakeholders & objectives and decision issues* were pre-decided →
 - All decisions to be finalized during the meetings
 - After meeting closure no subjects were to be pending



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The first one at Ghansoli, Navi Mumbai, the project was just starting actually. It was the process of finalizing the designs and they wanted to have a big room kind of approach, so that they could finalize the design basis report as quickly as possible. And also evaluate the

problems which they may encounter while getting the designs approved by the competent authorities.

So, borrowing from the collaborative planning system, they thought the PPC, The Percent Plan Complete Index could be a useful concept for evaluating the efficacy of decision making in the big room and they were actually using the standard concept of design dependency matrices for finalizing the designs and they were doing a risk analysis to check up on what can go wrong in the design approval stage.

So, here BRM stands for Big Room Meetings and it was attended by all the relevant stakeholders and the basic check was, whether all the decisions for the points listed on the agenda were finalized and so that no issue left unattended after the meeting was over.

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DBR Finalisation

- *Design dependencies* were tracked by communicating the requirements of *all Stakeholders*: Client, Architectural Consultant, Structural Consultant, MEP consultants, etc.
- Decisions were finalized and set forth in the *Design Basis Report (DBR)*

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DESIGN BASIS REPORT

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So, they had the, for doing the design dependencies discussions, they had the client, the architectural consultant, structural consultant, MEP consultant and so on.

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**Risk Analysis for Design Approvals
by Client/ his Consultant**

- **All stakeholders**, including design agencies, contracts teams, finance teams, etc. were involved
- Discussions **to identify the risks** in the approval process
- A **Severity versus Probability Matrix** was plotted with all possible risks and severities marked on a scale of 1 to 10
- All Teams became aware of the **Risk Management Process** during the Design Approvals stage

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And they could take all the decisions and finalize the design basis report quickly. The process was quite efficient and for doing the risk analysis, again, they had the people from the design departments, contracts department, finance departments and so on. They discussed all the various risks involved and they had a matrix severity of risks versus the probability of the risks.

So, that is a matrix which was made and all the identified risks were plotted on this matrix. So, people could understand which were the ones which were more serious to be focused on and which are the ones which are not that serious. So, people also became well aware of the risk management process itself.

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Efficacy Metrics for BRM Approach

- **Metric 1**
 - **PPC (Percent Plan Completed)** = $\frac{\text{No. of Issues closed}}{\text{No. of Issues discussed}}$
 - To be computed immediately on completion of Meeting
 - Progression checked meeting after meeting → **Measures Outcome**
 - Also **Root Cause Analysis (RCA)** [Ask "Why" 5 times!] for PPC < 100 to see what has gone wrong and how to remedy the same → Action Note → towards 100% PPC → **Continuous Improvement!**

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So, they had two metrics for checking on the efficacy of the meetings. The first one of course is the Standard PPC or Percent Plan Completed. That was defined in this case as the number of issues closed fully divided by the total number of issues discussed multiplied by 100. That is the percentage and they checked on the PPC score, meeting after meeting, whether they were remaining at a high level of 80 percent plus.

Otherwise, it means that we are not able to converge and then they started looking at the reasons, the reasons for not being able to converge. Again the root cause analysis approach from CPS was borrowed here and one needs to ask why it was not done 5 times to go to the real root cause, why convergence could not be achieved on any particular points. So, doing this over time they improved their meeting process and they were able to get the PPC to very high level.

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Efficacy Metrics for BRM Approach (Cont.,)

- **Metric 2: Meeting Effectiveness Parameter:** Score each of the following Meeting Effectiveness Parameter (MEP) on a scale of 1 to 5 and get overall Average-Overall Meeting Effectiveness Parameter → **Measures Process**
- At the end of the meeting *poll all the participants* for each of the Parameters and take the average of all for each Parameter and note it down
 1. *Preparedness* of all participants for the Meeting
 2. Whether the Participants *were empowered to take decisions*
 3. Whether all Participants *expressed themselves freely* and to-the-point
 4. Whether a *spirit of mutual support / give & take/ collaborativeness* was felt in the Meeting
 5. Whether Participants could take *decisions proactively*
- By using such Metrics by and by the Participants themselves will feel like improving their effectiveness

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And the second metric actually was concerning the, the way the actual process in which the meeting was conducted. That they called it, the Meeting Effectiveness Parameter or MEP. So, MEP actually they had a number of point, number of items for scoring. Here there were typically 5 items and each item they had a score of 1 to 5.

So, out of total 25, one needs to see what are the score achieved, either again track it over the various meetings and make sure that you are on the right track. One can choose ones own points, but in this particular case what they decided was how well people were prepared for the meeting. Whether they were empowered and they expressed themselves fully and they had a spirit of mutual support, given take in the meeting and then the decisions were taken positively or not, proactively that again was another point.

So, in all these 5 points, at the end of the meeting you take a poll, ask each person to express as against one what is your score, two, three, four, five and then aggregate the whole thing and see exactly where you stand. One can have any different mechanism by which you can check the efficacy but it is very good to take score, to take stock of how well you conducted the meeting and how well you were able to converge on the issues at hand. Both are important, the meeting process as well as the efficacy of the meeting to finalise the various points.

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 Case Study#2 – TRIL IT City, Gurgaon, New Delhi 







- Implement BIM, LPS, VSM, 5S
- Stakeholders – TRIL, TPL, TCE, Consultants
- Timeline – 2018 to 2019
- Results
 - Contractual BIG Room, LPS
 - 25% decrease in toilet completion time

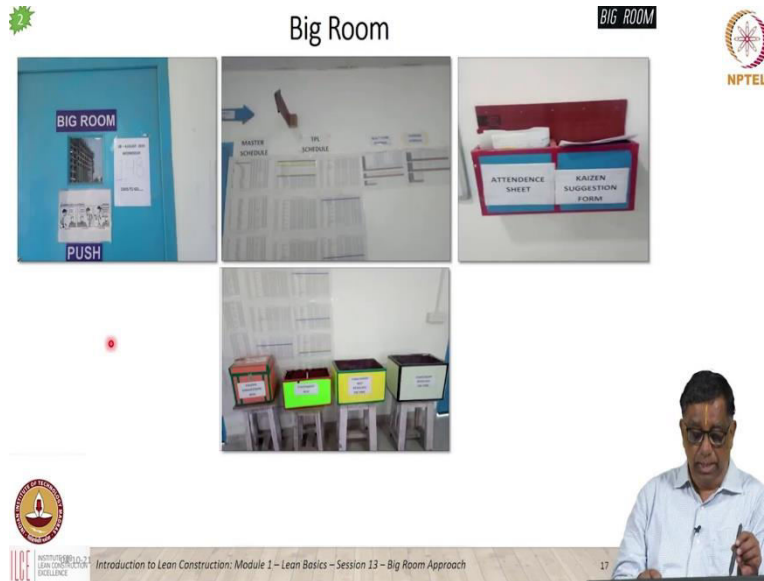



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 Big Room Meetings 

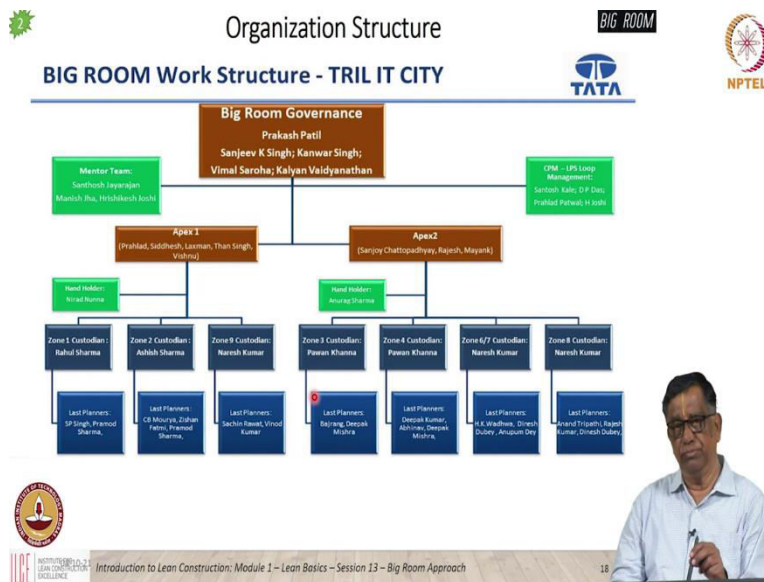




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The other project actually again was TRIL project, it was in Gurgaon, in New Delhi. A large building complex and here they had a formal kind of big room. They labelled it on the outside, as a big room and they have number of protocols. How people had to behave in the big room and they had actually big room attendance sheets and they had this kind of suggestion boxes on the various issues. So, people can even put in the suggestions before or after or later on the various issues being considered in the big room.

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And they had a good organizational structure, the overall coordinator or boss for the big room concept and then for the various buildings they had different, different coordinators like that. So, the big room actually was used not only for discussing in general but also for doing the

very project management itself. That is why they had so many different organizations, organizers and the various points.


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BREI – What is it?


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| Big Room Effectiveness Index(BREI) | | | | | | | | |
|------------------------------------|-----------------------------------|---|------------------------|-------------------|---------------|------------------------|-------------------------|--------------------|
| Sl.No | Category | Sub Category Measurable Parameter | Sub Category Weightage | Overall Weightage | Maximum Score | Maximum Weighted Score | Weighted Measured Score | Improvement Advice |
| 1 | Collaboration | Commitments kept | 50% | 50% | 1 | 0.25 | 0.050 | Needs Attention |
| | | Constraints Tackled | 50% | | 1 | 0.25 | 0.050 | Needs Attention |
| 2 | Look Ahead Planning | Variance in Number of Activities per week | 40% | 30% | 1 | 0.12 | 0.10 | OKAY |
| | | PPC Achieved | 40% | | 1 | 0.12 | 0.11 | OKAY |
| 3 | Knowledge Building and Tools Used | Variance in PPC Achieved | 20% | 10% | 1 | 0.06 | 0.02 | Needs Attention |
| | | Number of Training Modules Conducted | 50% | | 1 | 0.05 | 0.05 | OKAY |
| 4 | Continuous Improvement | Number of Tools deployed/ Used | 50% | 10% | 1 | 0.05 | 0.05 | OKAY |
| | | Number of Kaizens received in Last Month | 40% | | 1 | 0.04 | 0.02 | Needs Attention |
| | | Variance in Kaizens in Last 3 Months | 20% | | 1 | 0.02 | 0.02 | OKAY |
| | | Implemented Kaizens in Last Month | 40% | | 1 | 0.04 | 0.02 | Needs Attention |
| Total | | | | 100% | 10 | 1 | 0.48 | |

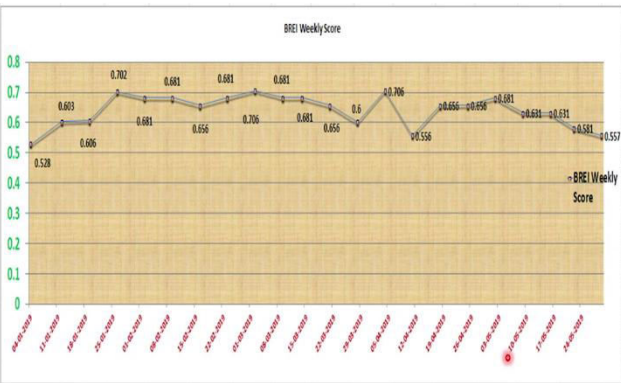
| Overall Score Key | |
|-------------------|-------------------------|
| Score | Verdict |
| 0-0.25 | Poor Effectiveness |
| 0.26-0.50 | Moderate Effectiveness |
| 0.51-0.75 | Good Effectiveness |
| 0.76-1.00 | Excellent Effectiveness |





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BREI Weekly Score


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| Week | BREI Weekly Score |
|------------|-------------------|
| 01-01-2020 | 0.528 |
| 08-01-2020 | 0.606 |
| 15-01-2020 | 0.603 |
| 22-01-2020 | 0.702 |
| 29-01-2020 | 0.681 |
| 05-02-2020 | 0.681 |
| 12-02-2020 | 0.656 |
| 19-02-2020 | 0.706 |
| 26-02-2020 | 0.681 |
| 05-03-2020 | 0.681 |
| 12-03-2020 | 0.656 |
| 19-03-2020 | 0.6 |
| 26-03-2020 | 0.706 |
| 02-04-2020 | 0.556 |
| 09-04-2020 | 0.656 |
| 16-04-2020 | 0.656 |
| 23-04-2020 | 0.681 |
| 30-04-2020 | 0.681 |
| 07-05-2020 | 0.581 |
| 14-05-2020 | 0.557 |




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So, here again they had the four major categories for deciding what they call the big room effectiveness index BREI, like collaboration, then look-ahead planning efficacy, knowledge building and tools used, continuous improvement through Kaizen. They had used Kaizen also in this project.

So, all these, they had a number of different scoring mechanisms, they used to get a weighted measured score and then got the overall score from 0 to 1 exactly where people stand, how the meetings went and they were tracking it across the various meetings from time to time and with this they could actually keep track of how well the meeting was conducted? How

well the people were participating in it and whether they were also working on the various issues in between the meetings, whether they were able to give any suggestions? What kind of Kaizens or improvement measures they adopted?

So, a number of things came in, this second case study. So, it is up to the organization and the people concerned of how to conduct the big room? Basic points we have already covered get all the people together, have convivial effective meetings, cover all the points, come to your decisions quickly and then evaluate the process of your meeting as well as the effectiveness with which you are able to conclude.

Then you are on the right track and you will be able to reap a lot of benefits by using the big room approach. So, all the best to you, in your big room meetings. Thank you.

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Quiz

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1. IMCC case study: The two main aspects discussed in Big Room Approach:
 - a) Risk Analysis
 - b) Root Cause Analysis
 - c) Value Stream Mapping
 - d) Design Dependency Matrices

a) Risk Analysis
d) Design Dependency Matrices
2. IMCC case study: Which of the following Metrics were NOT used for measuring efficacy of BRM approach?
 - a) PPC
 - b) Time taken for the meeting
 - c) Meeting Effectiveness parameter
 - d) Root cause Analysis

b) Time taken for the meeting
d) Root cause Analysis
3. BREI stands for ____.
 - a) Basic Re-Engineering Index
 - b) Big Room Engineering Index
 - c) Big Room Effectiveness Index
 - d) None of the above

c) Big Room Effectiveness Index