QUANTITATIVE FRAMEWORK FOR MEASURING EFFECTIVENESS OF BIG ROOM

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Introduction

- Construction project is a complex socio-technical system
- Big Room
  - Infuse an environment of collaboration with respect for people
  - Co-location space for collaboration
  - Discussed widely in the lean community
- Need for a collective measure to assess effectiveness of Big Room meetings
- Development of Big Room Effectiveness Index (BREI)
Literature Review

- Two measures relating to collaboration and look-ahead planning
  - Elements, mindset and conduct of Big Room meetings and techniques used to maximize the effectiveness
    - LPS® a lean tool when practiced using Big Room
    - Collaboration in the Big Room to enable pull planning

- Two measures – knowledge building and continuous improvement
  - Knowledge enhancement and continuous improvement
    - Competency building: knowledge and training facilitation
    - Respect for people: sustaining implementation of lean tools, especially LPS®
Research Methodology

**Action research approach**
- Plan, Act, Develop and Reflect (Costello 2003)

**Real estate developer in India**
- Big Room in construction phase
- Need to measure Big Room effectiveness

**Plan**
- **Brain-storming**: to clarify the objective
- **Validate** the criteria for measurement
- **Categorize** the criteria
- Add **weightages** to measures
- Prepare excel matrix to calculate BREI

**Act and Observe**
- BREI calculated monthly to gauge health of initiative
- BREI was launched in this project on September 2018

**Reflect**
- Trend analysis of BREI was discussed
**BREI** [Big Room Effectiveness Index]

...is a ‘criteria’ based assessment to measure effectiveness of Big Room implementation.

**Purpose**

- **BREI intends** to provide feedback to management as well as participants on “what is missing” in an effective BIG Room implementation.
- **BREI intends to enhance** reliable promising using LPS® and sustain trust amongst Big Room participants and enables them collaborate better.
Application of BREI
[case study in India]

What impacts Big Room outputs?

• In a transitional journey from non-lean to lean culture, there are challenges related to people, processes, legalities, knowledge of lean tools, improvement et’al.

• Last Planners often arrive at cross roads where for e.g. managers do not validate new dates even when the dates emerge out of a pull planning session.

Why does this happen?

• Participants confine to contract boundaries when they sense a stale-mate like situation.

Why BREI?

• BREI assessment helps mentors facilitate in a more logical and guided way.

• BREI is not meant to “Control” and hence fosters trust culture.
BREI - case study
[what was working and what was not at a project in India?]

What was working (+):
There was sufficient anecdotal evidence indicating the benefits of the BIG ROOM:

✓ Regular Big-Room meetings
✓ LPS®: Visual “CAN”
✓ Promising by last-planners “WILL”
✓ Constraints captured
✓ PPC was measured weekly

What was not (±):
± PPC as high as 85% yet milestones missed
± New milestone dates based on output of Big Room were not accepted by managers.
± Last planners started to lose faith in this system and showed withdrawal symptoms.
± Managers engaged but constraints not resolved and reliable promising was not achieved.
± Blame game started.
± Stress in contract teams of various stakeholders.
ASSESSMENT CRITERIA:

1. Collaboration:
   - Enhancing “Trust”

2. Look-ahead planning:
   - Reliability (enhance certainty)

3. Knowledge building:
   - Learning organization

4. Continuous improvement:
   - Kaizen Culture
BREI – Big Room Effectiveness Index
[Trend Study – weekly scores from January till May 2019]
Discussion

[Big Room enhancements with BREI feedback]

Enhancements after BREI feedback:

• Work structure was created with specific Big Room Roles
• Constraint and Kaizen suggestion system implemented
• Last Planners identified and planning approach defined
• BREI and PPC monitoring continues with evidences of reliable feedback
BIG ROOM
[Implementation, Issues and Enhancements after BREI trend study]

PLANNING APPROACH:
An approach was proposed to create traceability and interoperability between CPM based milestones and LPS®

Only to facilitate transition phase from CPM to LPS®.

Look-ahead planning was carried out as per LPS®:
[Should – Can – Will – Did]

ACHIEVING “SHOULD-CAN-WILL-DID”

• WBS 3 of CPM schedule released by Owner as “SHOULD”
• WBS Level 4 released by PROJECT MANAGERS (as if they as Last Planners at that instance said “WE CAN”)
• PROJECT MANAGERS extracted 6 week look-ahead activities from “WE CAN” schedule.
• Last Planners (Area Managers and Foremen) mentioned constraints to resolve to go from “CAN” to “WILL”.
• Last Planners committed to a weekly “WILL” these were a constraint-free activities filtered from the “CAN” schedule.
• PPC and BREI facilitated the “DID” feedback
BIG ROOM
[Work Structuring based on BREI Trend Study]
CONCLUSION

[What is achieved?]

1. **A framework to assess the effectiveness of collaborative planning in the Big Room is developed:**
   - a set of 10 parameters were proposed
   - consolidated into four categories.
   - weightages for each of the parameters arrived at
   - team was happy with its induction.

2. **The trend analysis of this index over a period of time helps in following areas:**
   - in fine tuning working of Big Room
   - built confidence to the decision makers about potential improvements.
   - useful particularly in case of organizations/teams in an early stage of Big Room adoption.

3. **BREI can be a very useful tool for Lean Coaches worldwide to measure Big Room Effectiveness especially in initial adoption cases.**
THANK YOU – NAMASTE!