

Ci3 India: Action Item – 3b – Technology Adoption in Construction

Kick off Concept Paper

1. Background:

The construction industry has generally been a late adopter of technologies that can improve project productivity. With reference to Figure-1, construction tends to be in the lower 50% of the adopters. While there are several inherent industry related attributes such as unstructured work environment etc that contribute to the delayed adoption, it has generally been felt that the industry should take a more proactive stance on adopting and getting the benefits of technology.

Further, the role of clients on influencing technology adoption can be debatable, as they generally want a facility built to specifications without mandating the specific method or technology to be utilized. However, based on past cases it is apparent that client demands overcomes the initial barriers to technology adoption. In this forum both engineering technologies and information technologies will be discussed.

Getting the benefits of adopting technology does not depend on technology factors only. It has been found that most technology adoption efforts fail, as people, processes & policies are not in place to support the technology platform. This is particularly true for information technologies. Further, emerging nations such as India face several additional issues in the adoption of technology which need to be recognized and addressed.

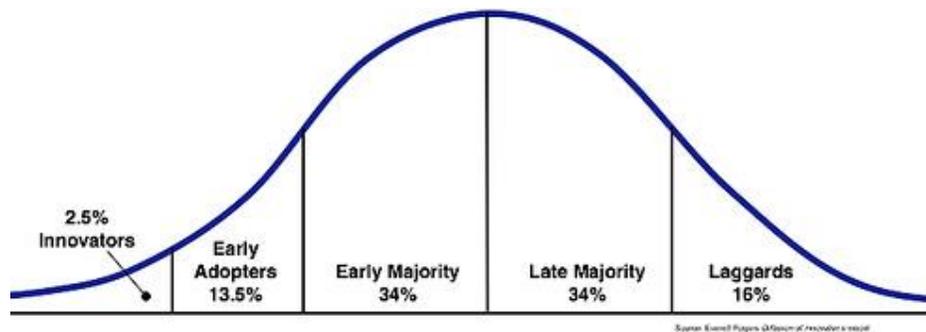


Fig. 1. Technology Adoption Curve

2. Objective:

The objectives of the forum with respect to this action item are:

- (i) Discuss and understand the drivers of technology adoption process in the Indian construction industry.
- (ii) Identify issues in the current technology adoption process and the root causes for the issues
- (iii) Develop strategies for improving the technology adoption process in order to meet project delivery requirements of today.

3. Methodology:

The proposed methodology to address the above objectives:

- (i) *Workshop 1 – Discussion on Technology Drivers- Finalizing Way Forward*
- (ii) *Focused interviews and field-studies*
- (iii) *Analysis for identification of issues and improvement strategies*
- (iv) *Review of findings at final workshop*
- (v) *Summary Report*

4. Preliminary Step:

As a preliminary step few technology adoption factors are identified below. These factors are provided as a step towards generating discussion within the forum:

Engineering Technology	Information Technology
<ol style="list-style-type: none"> 1. Cost of Technology 2. Lack of awareness 3. Return on Investment 4. Cost –Productivity (vs conventional) 5. Training Facilities 6. Local Maintenance Requirements 7. Local Repair Service availability 8. Limited Scope of repeated usage 9. Suitability for local conditions 10. Flexibility for varied requirements 11. Import regulations 12. Local Transport 13. Low Tech Culture 14. Limited Rental options 15. Contractual Requirements 	<ol style="list-style-type: none"> 1. Cost of Technology 2. Lack of Awareness 3. Lack of ROI Models / Low ROI 4. Who pays Owner or Contractor 5. Data Security Cloud/On-location 6. Interoperability 7. Data Availability 8. Training 9. Local Support for customization 10. Lack of Specialists (IT+Construction) 11. Organization structure (BIM Coordinator ?) 12. Low Process maturity for IT adoption 13. Weak links in process partners 14. Rapid change in Technology 15. Policy requirements