

Webinar "Housekeeping" Tips

- Please disable pop up blockers.
- Please keep your self on mute.

Asking Questions

- Use the "Raise Hand" icon or "Question / Chat" box in the lower right corner.
- Submit questions as they occur to you by typing in the box, then click submit
- Questions will be answered during Q&A session at the end of the presentation.



Webinar "Housekeeping" Tips

Questions & Answers

- We will do our best to answer as many questions as possible in the allotted time.
- Answer to unanswered questions will be answered on our website/forum soon.
- We shall notify you when they are available

http://www.bmgi.groupsite.com

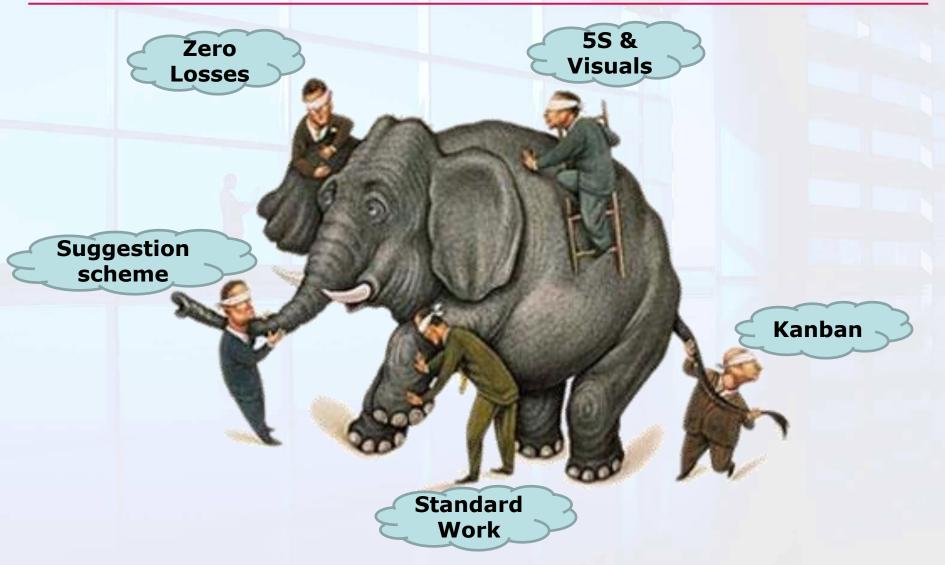
http://www.bmgindia.com







What is Lean?

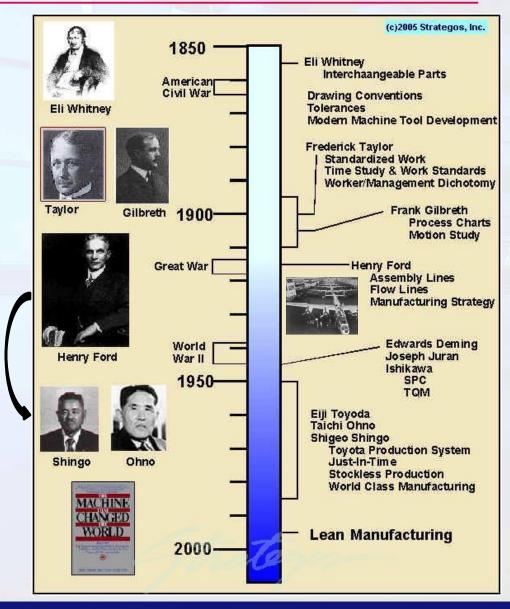


Maximizing flow of customer "value" by eliminating waste, variability and fatigue



History of Lean

"Today & Tomorrow"- Henry Ford, 1926 Automobiles / Airplanes Chemicals **Textiles** 600,000 employees Railroads **Schools** Hospitals Shipping



Poll Question

In 1926, the time when Henry Ford was making Model T, how long did it take to go from *Iron Ore at the mines to finished product delivered to a customer*??

81 hours or 3 days & 9 hours

What could have Ford possibly done?



How much Information Technology did Henry Ford have?

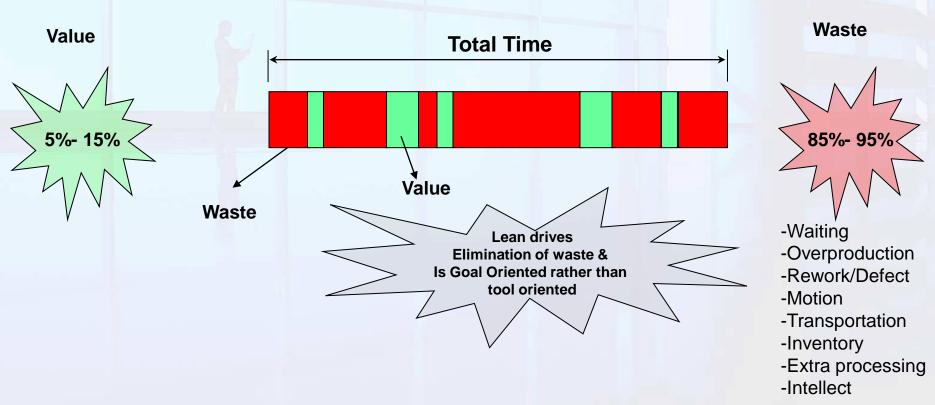
IT is not the solution to the problems, there has to be a sound basis for applying it.

- -How much time does your PO generation process take?
- -How long does it take to get a reimbursement?



The concept...

Work or Time = Value + Waste



Construction Industry Institute publication 2004 "Application of Lean Principles in Construction" reports 75% to 90% of field work is Non-Value added



New Thinking

"If you always DO what you've always DONE, you'll always GET what you've always GOT

Yogi Berra, Baseball Philosopher

"If you always THINK what you've always THOUGHT, then you'll always DO what you've always DONE, and you'll always GET what you've always GOT.

Greg Howell, Co-founder LEAN Construction Institute



Lean is Industry Neutral

Application of Lean Principles creates a significant competitive advantage





- -Custom built product in few days
- -Lean supply chain







http://www.leanconstruction.dk/7957

- Improved productivity & profitability by 40%
- Reduced pre-construction phase time by 48%





- One of the fastest product development time
- Winner of Shingo excellence award (two units)
- -Transporting customers in relatively small planes
- -Breaking the Hub & Spoke paradigms of competitors
- -Fast changeover times

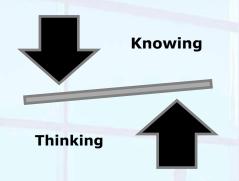


-Its stated goal is to have users leave its website asap

Speed is the absence of Waste



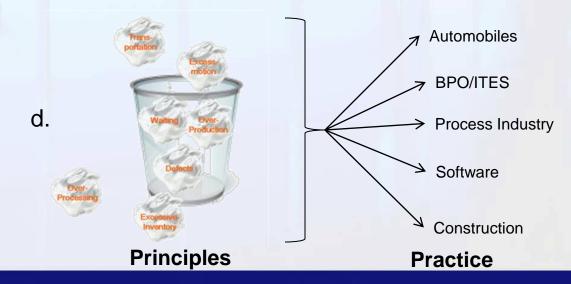
New Thinking



a. We will know by the number of times we've got it wrong

b. "Know-How" / "Know-Why"

c. Lean is about building *deep knowledge of processes* and *sharing problems* with people so that solutions are easily accepted & Implemented.





Why is Construction Business different?

-Every project is unique



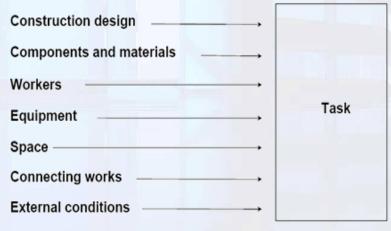


-Cannot afford rejection and Reworks can be very expensive

-Remote locations



-Geographically spread



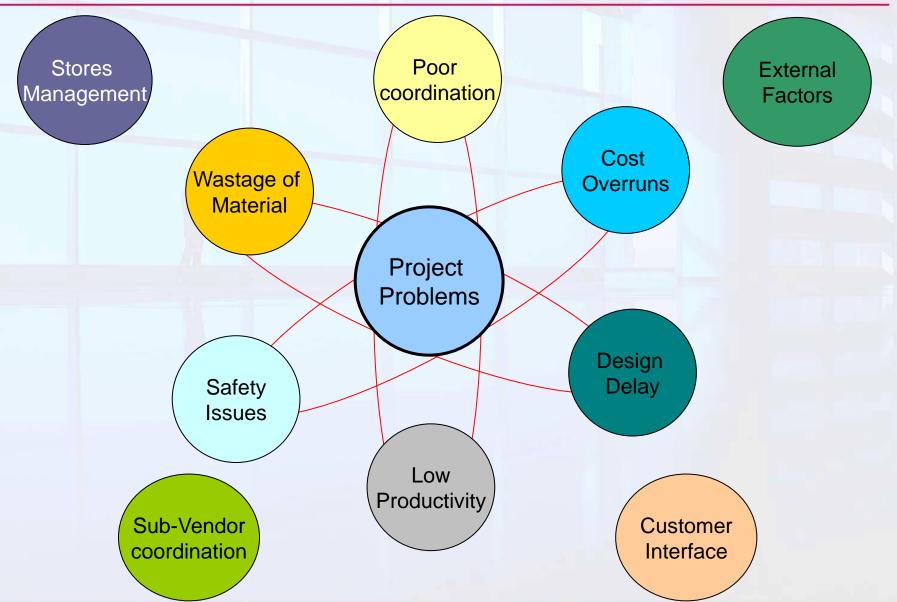
-variables impacting the project are very high hence Uncertainty

-Physically challenging



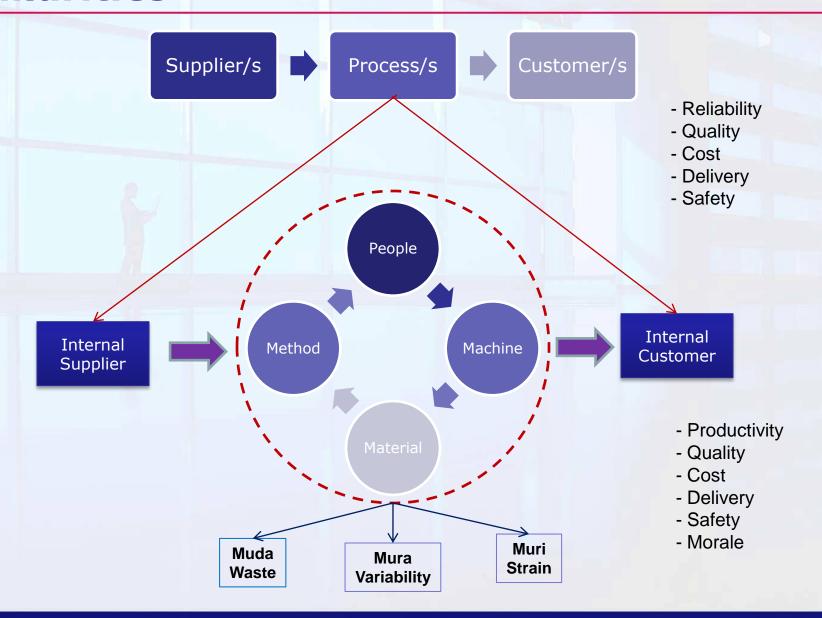


Construction Challenges





Similarities





"Follow-up" syndrome

On an average what % of your time is spent in chasing the progress on commitments made to you?_____

On an average what % of your time is spent being chased by others?_____

If we can reduce the follow up's by 15%. What do you plan to do with the extra time?

By directing your time to "Value Added work" as compared to chasing, you can concurrently achieve Cost, Schedule, Quality & Safety improvements.

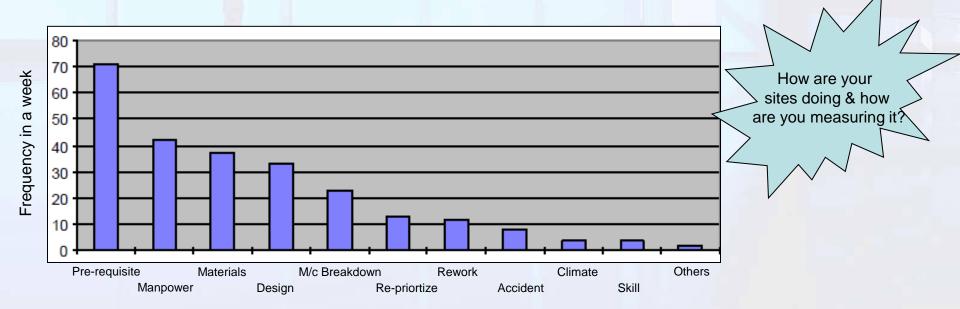
Because of the process being broken, the productivity is hit.



Why Lean in Construction?

Some indicative values**:

- Some 30% of construction work is estimated to be rework (2.5% - 3.5% of revenue)
- 50% of site time is unproductive
- At least 10% of materials are wasted.



A study done by Prof. K C Iyer of IIT Delhi mentions in his research paper that over 40% of the Indian construction projects are facing time overrun ranging from 1 to 252 months.

**Mckinsey Study



Understanding Construction Projects

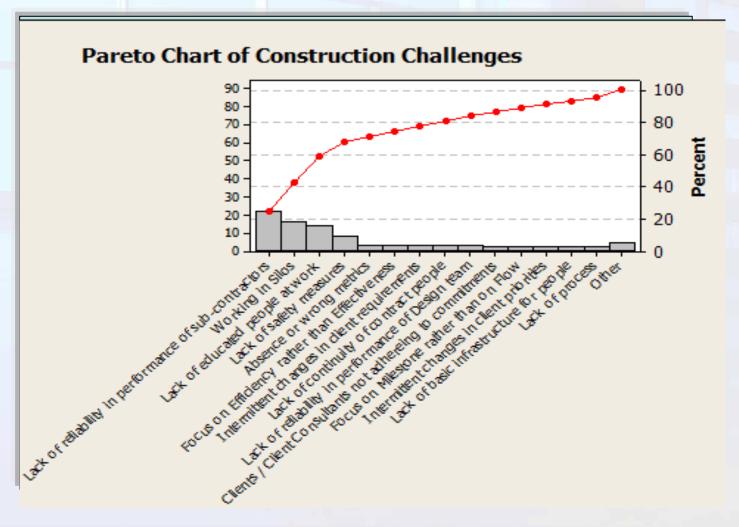






Key Challenges in Indian Construction

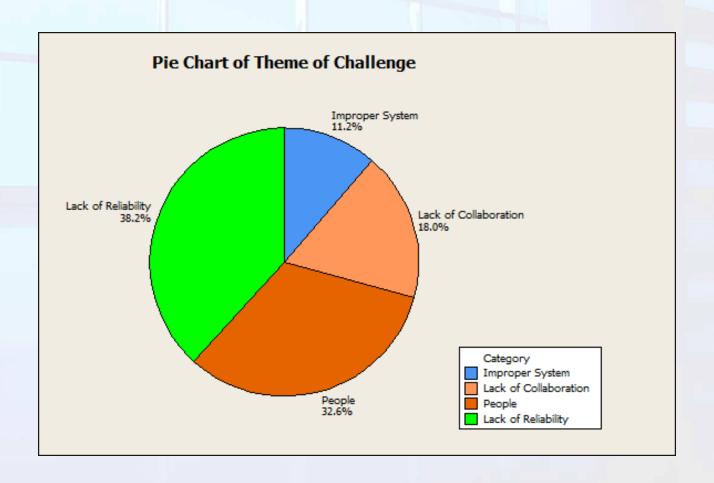
A survey was conducted with major players in Indian Construction Industry





Key Challenges in Indian Construction

Survey Outcome were organized into four themes





CSF's & CFF's in Construction

Critical Success Factors

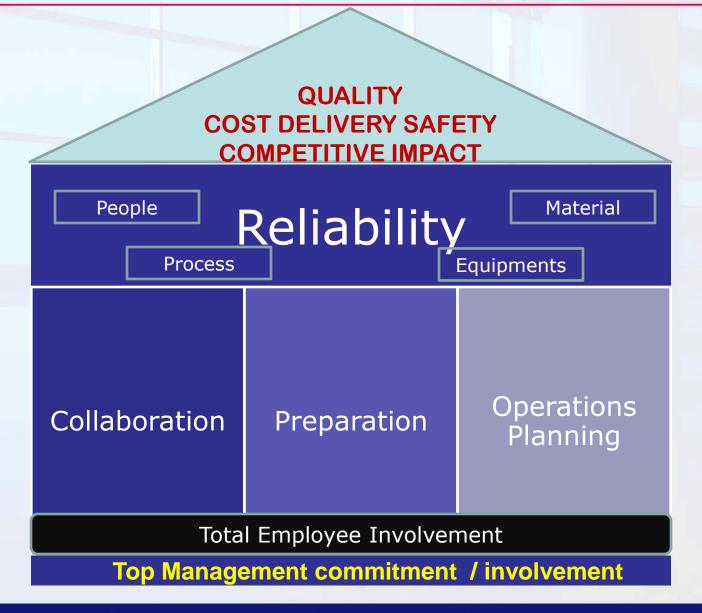
- Top Management support
- Project Manager's co-ordination & leadership skill
- A system for Monitoring and Feedback.
- Co-ordination between project locations.

Critical Failure Factors

- Conflict among participants.
- Lack of synchronization & co-ordination among departments
- Hostile socio-economic and climatic conditions.
- Focus on "productivity" rather than "reliability".
- Poor work measurement methods.

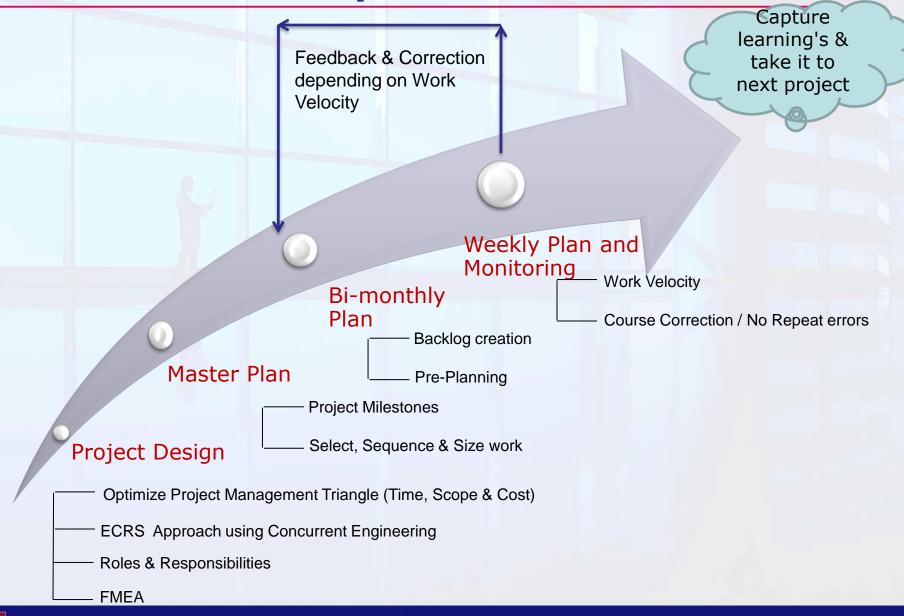


Business - Operational Linkage





The CJIT Roadmap



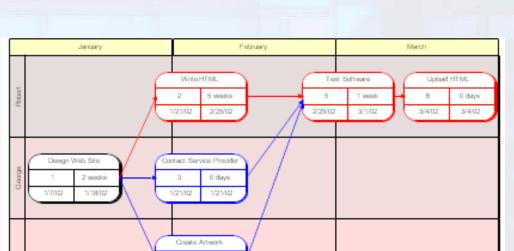


Problem Statement:

-To finish construction of new factory in 15 months

Current State:

- -Traditional "Project Management" approach
- Focus on improving productivity of each activity
- Downstream stakeholders not involved in front end planning
- Focus on variation detection rather than execution.
- Low transparency in the system
- Focus on Macro-level only.





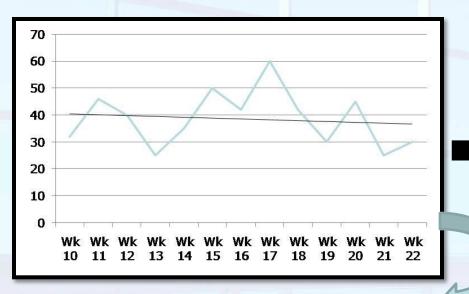


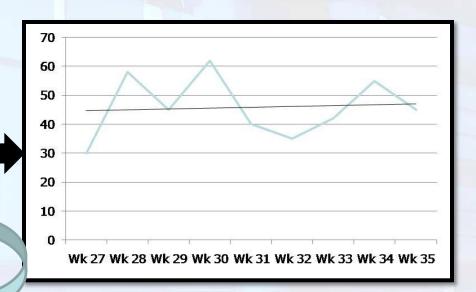
Improvements:

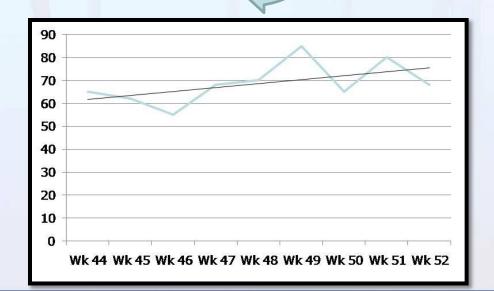
- ➤ Risk Assessment and actions planned using FMEA
 - ➤ More than 500 potential failures identified

	Process / Product Failure (-lodes and Effects Analysis (FMEA)										
	hgut	ж	Potential Failure Model[How X Fails]	Potential Effects of Fallure(Y is the C&E Matrix)	AU%	Potential Coure(z)(Mechanism(z) of Folkers	200	Current Process Controls	DET	ž	Flecommended Activity)
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- ➤ Using Construction JIT (CJIT) model
 - ➤ All work divided in blocks of two months -Location based (Forecast)
 - ➤ Weekly work plan and Make Ready plans (Long Term & Short Term)
 - > Weekly meetings to check progress and course corrections.







Work Velocity Status



Business Case

- A Fabrication vendor for major R&M work in Cement, Power and Process Plants
- Chronic delay in meeting delivery schedules
- Difficulty in managing multiple projects priorities and between on-site and off-site jobs

Current State Diagnosis

- Milestone based Project Management on reactive mode
- Focus on Productivity disregard of Project/ Activity priority
- Culture of 'Excuse'
- Lack of Reliability in Sub-vendor commitments and quality
- Chaotic Stores Management
- Gap in understanding exact requirements of client resulting into rework and re-plan
- Precision jobs dependent on few experts

Journey through CJIT



- a. Area-wise ownership
- b. Mentor-mentee relationship
- c. Rotating Trophy for best 'Work Velocity'

Weekly Plan and Monitoring

Bi-monthly Plan

Project Design

Master Schedule

> Reduced Planned duration by over 20% using ECRS

- Capturing Client requirement on-site
- Focusing on 'Transformation' rather than handling e.g. Introducing Test Certificate from Vendors
- Designing for 'Flow' e.g. scheduling parallel work at multiple Vendors

Enhanced Reliability through Pre-Planning and Risk Mitigation

- Action Plan for all possible risk mitigation implemented
- · Work Velocity enhanced from 55% to 82% through monitoring and action plan

Project Duration reduced between 15-20% with 10-15% less Resources



Closing Thought

"The Greatest Mistake we make is living in constant fear that we will make one"

Winners practice 'til they get it right. Champions practice 'til they can't get it wrong.

