

# Lean Readiness Factors for Construction Organizations

Respected sir/madam,

Greetings.

I am Prasad, a post-graduate in construction management, presently pursuing my doctoral research in "Lean construction Management" from VIT University, Chennai, India.

Lean by itself is a transformation journey that requires an intrinsic change in the organization's culture and practices and as such needs a commitment to change. This necessitates a fundamental requirement of assessing the organization's culture, existing systems, practices, and the preparedness to travel through the journey of lean transformation. Although there have been research studies to establish the lean readiness factors and framework in sectors like manufacturing, healthcare, higher education, humanitarian organizations, there isn't a holistic framework for the construction industry.

For this purpose, through an extensive literature review, lean readiness factors for organizations in sectors such as manufacturing, healthcare, etc. are initially identified. To develop factors for the construction industry, literature on lean practices in the construction industry were reviewed and expert opinion was sought. Through the present survey, the researchers intend to assess the factors and their importance to lean readiness.

As you are a professional/academician with immense experience in the subject area, we seek your valuable inputs on this survey which shall be immensely valuable. The lean readiness factors have been structured into two groups - Organizational Readiness factors and Lean Project Delivery related factors. The inputs of this survey shall be considered for the ongoing research work only and shall be kept fully confidential.

Thank you  
Prasad K V  
Doctoral Scholar  
VIT University, Chennai, India

\* Required

## Personal details

Please indicate your profile - Name, organization, experience etc.

1. Name

2. Name of the organization \*

3. Type of organization \*

*Mark only one oval.*

- ☐ Owners / Clients
- ☐ Contractors
- ☐ Architects / Designers / Consultants
- ☐ Academic / Educational / Research Institute
- ☐ Others

4. Designation/Job Title \*

5. Years of total work experience \*

Mark only one oval.

- ☐ Upto 5 years
- ☐ 5 to 10 years
- ☐ 10 to 15 years
- ☐ 15 to 20 years
- ☐ More than 20 years

Lean Readiness Factors

Please rate the factors on a scale of 1 to 5, 1 for factor with lowest importance / relevance to lean readiness and 5 for factor with highest importance / relevance lean readiness

Organizational Factors

The Group consists of organizational factors and variables representing the management support, leadership, culture, customer focus and process management characteristics of the organization

6. Top Management Commitment & Leadership \*

Mark only one oval per row.

	1. Not at all important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Support & commitment to new initiatives by providing needed infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Commitment from the organization to economic and financial objectives along with growth and long-term survival	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Humble leadership with mutual respect for subordinates and peers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dedication of time by top management to ensure the adoption of initiatives for continuous improvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 7. Organizational Culture \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Strategic efforts and business goals, connected by systemic thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cooperation between the organization and all of its stakeholders viz., customers, suppliers etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flexibility to respond to changing market conditions, client demands, and needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existence of a blame-free culture within the company	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on team collaboration in a project- or management-related environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Non-hierarchical culture, reduced barriers to creativity and innovation from all organisational levels	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culture of seeking perfection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Culture of embracing scientific thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The network of commitments is actively managed across the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 8. Employee Involvement &amp; engagement \*

Mark only one oval per row.

	1. Not at all Important	2. Not so Important	3. Somewhat important	4. Very Important	5. Extremely Important
Full participation of the workforce in all activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Periodic multifunctional training employees to ensure employees develop the skill set to deploy problem-solving tools and techniques	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowerment of the employees with full ownership to improve their work processes and implement corrective actions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Efforts of the employees are recognized and are rewarded	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employee initiative to support projects and activities for continual improvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation of lower-level or junior staff in project review meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employees are assigned clear roles and responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Periodic feedback on employee performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Customer Focus \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Project selection based on organizational competencies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existence of a mechanism for determining the needs of and adding value to customers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation of the client in the project's planning and development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customer feedback processes and mechanisms for ongoing improvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Value is monitored and measured continuously during the project lifecycle	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Communication \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Regular communication on strategy and vision of key initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communicating with all employees the purpose, vision, strategy, goals, and objectives of the business	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Information exchanges across the hierarchy - horizontal and vertical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effective communication of the short-term successes and failures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 11. Technology / Organizational Process Management \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Learn from whomever you can, including competitors, but benchmark against your own previously best performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Measuring and analysing the cost of key initiatives, categorizing the critical processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using a performance measurement system (PMS) to comprehend the process's current state and potential improvement routes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Share the implementation's lessons learned with the entire firm, standardize the adjustments, and keep a record of them	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Availability of appropriate technology for seamless implementation of the organisational processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Control mechanisms to minimize variation and sustain improvement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Lean Project Delivery Related Factors

The group consists of factors related to construction process and project lifecycle

12. Engineering & Design Process \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Involvement of specialised designers in the project's early stages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exhaustive identification of the stakeholders' requirements and definition of special requirements technical specifications, and project constraints	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seek out and incorporate regular client input during the design phase.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Collaboration with stakeholders during design meetings concerning decision-making and problem resolution	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Process of systematic and collaborative identification, and the release of the constraints in the design process by a responsible person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consideration of all lifecycle stages in the design process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## 13. Project Planning Process \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Formalization of the planning and control process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A correct definition of work packages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Standardization of meetings for short- and long-term planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of a transparent, understandable master plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Emphasis on short-term planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Inclusion of only work packages without constraints in short-term plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation of crew members and last planners in collaborative planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participation of project stakeholders in short-term planning sessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Provision & commitment of adequate financial resources in the base budget/plan/tender for "lean / improvement initiatives/processes"	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 14. Project Monitoring and Control Process \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Use of visual devices to disseminate information at the construction site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilizing metrics to assess performance and taking remedial actions based on the causes of non-completions of plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analyzing data critically and systematically removing restrictions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Systematic revision of the master plan as needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Planning and controlling physical flows	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of indicators to assess schedule accomplishment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The practice of scheduling a workable backlog of tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Continuous, transparent automated process measurement	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilizing portable devices to keep track of and update projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Focus on ensuring that the project is executed as planned instead of variance detection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 15. Inventory and Wastage Control Process \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
Inventory planning and procurement based on production plan - "Pull" based approach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rationalised planning & location of material stockyard facilities suiting to site and work requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existence of housekeeping procedures and material classification by class or category	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Procuring supplies in the required sizes, lengths, and dimensions on the job site	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The existence of practices for the reconciliation of materials, determining wastage and control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Use of IT tools to optimise the usage of resource consumption and cost reduction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Analysis, review and control of the cost of quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

16. Contract Management Process \*

Mark only one oval per row.

	1. Not at all Important	2. Not so important	3. Somewhat important	4. Very Important	5. Extremely Important
The interests of all stakeholders are aligned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structuring of agreements with key risks shared, such as delay risk or rectification work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Operational transparency through open-book accounting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Substantial and consistent communication to address new challenges	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Existence of a reward system that is based on project results or KPIs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>