How satisfied, really satisfied, are Owners?

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Objectives for Today

1. Understand research purpose
2. Share preliminary findings
3. Call to action – PARTICIPATE!
Why? Research Objectives

1. Create baseline of owner satisfaction/project performance

2. Explore the influence of LCI framework on project performance
Industry Effort/Partnership

- CURT
- COAA
- AGC – Private Industry Council
- DBIA
- Dodge Owner Group
- e-Builder
Fulfillment of one’s wishes, expectations, or needs, or the pleasure derived from this.

How satisfied are you with the delivery of capital projects?

– Always
– Frequently
– Sometimes
– Infrequently/ Never
Owner Satisfaction

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**Quality**

- Owners:
  - Always: 2%
  - Frequently: 12%
  - Sometimes: 20%
  - Infrequently/Never: 66%

- Architects and Contractors:
  - Always: 0%
  - Frequently: 2%
  - Sometimes: 49%
  - Infrequently/Never: 49%

**Cost**

- Owners:
  - Always: 7%
  - Frequently: 30%
  - Sometimes: 52%

- Architects and Contractors:
  - Always: 1%
  - Frequently: 11%
  - Sometimes: 31%

- Infrequently/Never: 57%

**Schedule**

- Owners:
  - Always: 10%
  - Frequently: 12%
  - Sometimes: 52%
  - Infrequently/Never: 26%

- Architects and Contractors:
  - Always: 10%
  - Frequently: 36%
  - Sometimes: 53%
Most who never heard of Lean think the industry is **Efficient**
Methodology

1. Identify metrics to measure satisfaction/project performance

2. Identify factors to understand project environment

3. Explore variance of “Best” vs “Typical”
Performance Metrics

• **Cost & Schedule (Quantitative)**
  – % Actual vs **Approval of Capital Project**
  – % Actual vs Start of Construction

• **Quality (Qualitative)**
  – Features incorporated in design
  – Craftsmanship during construction
  – Performance during occupancy

• **Safety (Qualitative)**
  – Safety during construction
  – Safety during maintenance
Framework Assessment

• **Organizational**
  – Team chemistry/ alignment
  – Relatedness
  – Decision making

• **Commercial**
  – Time of engagement
  – Procurement/ selection method
  – Delivery method & contract type

• **Operating System**
  – Traditional methods
  – Lean methods
Early Engagement

How do you define early engagement?

Key stakeholders are engaged...

– During construction documentation
– During design development
– During schematic design
– Before or during conceptualization
Performance: Owner Value

- Adherence to **Project Schedule** most highly valued
Most **Typical Projects** complete behind schedule, over budget

Cost is improved more than schedule on **Best Performing Projects**
Most **Typical Projects** complete behind schedule, over budget

Cost is improved more than schedule on **Best Performing Projects**
- 28% of best projects finish early vs. only 9% of typical

**Amount of Variance of ‘Original Schedule When Budget Allocated’ vs ‘Final Schedule’**

**Best Performing Projects:**
- 28% complete ahead of schedule (vs 9% of typical)

**Typical Projects:**
- 28% complete more than 11% behind schedule (vs 9% of best)
63% of best projects under budget vs. only 9% of typical
**Performance: Quality/Safety**

- **Typical Projects’** quality and safety performance is already better than cost and schedule.

- **Best Projects** are 13-20 percentage points better, but overall impact is not as dramatic as cost.

![Positive and Negative Ratings for Quality and Safety](chart.png)
Owners identify **Project Team** as the single most important contributing factor to performance.

**Organizational Aspects**

- **Team** contributes with 50%.
- **Strategy/Project Goals** contribute with 17%.
- **Owner Leadership** contribute with 13%.
- **IFOA Contracts** contribute with 13%.
- **Early Involvement** contribute with 13%.
- **On-boarding** contribute with 13%.
- **Integrated Project Delivery (IPD)** contribute with 10%.
- **Budget Estimate** contribute with 10%.
- **Communication** contribute with 7%.
- **Co-Locations** contribute with 7%.
- **Safety** contribute with 7%.
Early engagement is key aspect of best projects.

Best Performing Projects:
- 75% engage key stakeholders before Schematic Design

Typical Projects:
- 56% don't engage key stakeholders until after Schematic Design
Organizational Aspects

- Team dynamics gaps between best and typical

Percentage Reporting the Highest (4/4) Team Dynamics Ratings (Typical/Best)

- Perception of Team Chemistry: 72% (Typical), 9% (Best)
- Commitment of Team Members to Same Project Goals: 63% (Typical), 16% (Best)
- Integration of Project Team Members: 59% (Typical), 9% (Best)
- Timeliness of Decision Making Related to Issue Resolution: 34% (Typical), 9% (Best)
Commercial Aspects

- **Best Value** is most frequent selection process on best performing projects

![Selection of Key Stakeholder Engagement](chart)

**Top 3 Selection Processes:**
- Typical Project:
  - 16% Best value (price + proposal)
  - 19% Fee & GCs
  - 28% Pre-Qualified open bid
- Best Performing Project:
  - 16% Open bid
  - 19% Negotiated
  - 28% Best value (price + proposal)
Commercial Aspects

- **IPD** is most frequent delivery method on best performing projects. Not used on any typical projects.
Commercial Aspects

- **GMP** is most frequent contract type on best performing projects
- **Cost Reimbursable with Target and Shared Risk/Reward** is only used on best performing projects

(* with or without shared savings)
Operating System Aspects

- 5/27 Methods Focused on Schedule Performance

<table>
<thead>
<tr>
<th>Method</th>
<th>Best Performing Projects</th>
<th>Typical Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPM Scheduling</td>
<td>69%</td>
<td>56%</td>
</tr>
<tr>
<td>Last Planner System®</td>
<td>47%</td>
<td>13%</td>
</tr>
<tr>
<td>Production System Modeling</td>
<td>22%</td>
<td>3%</td>
</tr>
<tr>
<td>Value Stream Mapping</td>
<td>19%</td>
<td>0</td>
</tr>
<tr>
<td>BIM 4D &amp; site logistic planning</td>
<td>16%</td>
<td>0</td>
</tr>
</tbody>
</table>

(Methods are shown in decreasing order of the frequency of their use on Best Performing projects)
Operating System Aspects

- 5/27 Methods Focused on Cost/Budget Performance

![Bar chart showing methods focused on cost/budget performance](chart.png)

- Value Engineering: 66% (Best Performing Projects), 59% (Typical Projects)
- Conceptual/Continuous Estimating: 22% (Best Performing Projects), 53% (Typical Projects)
- Design to Budget: 38% (Best Performing Projects), 53% (Typical Projects)
- Target Value Design: 3% (Best Performing Projects), 47% (Typical Projects)
- BIM model based estimating: 13% (Best Performing Projects), 22% (Typical Projects)

(Methods are shown in decreasing order of the frequency of their use on Best Performing projects)
Operating System Aspects

- Top 5/27 Methods Focused on Team Dynamics

![Bar chart showing the top 5/27 methods focused on team dynamics. The methods include Co-location Big Room, Visual Management, Full-team On-boarding, Root cause analysis, and A3 Thinking. The chart compares the frequency of these methods in Best Performing Projects and Typical Projects. Co-location Big Room is the most frequently used method in Best Performing Projects at 53%, followed by Visual Management at 47%, Full-team On-boarding at 44%, Root cause analysis at 41%, and A3 Thinking at 38%.](chart_image)
Other 6 Methods Focused on Team Dynamics

- Electronic information exchange (paperless project)
  - Best Performing Projects: 38%
  - Typical Projects: 38%
- PDCA
  - Best Performing Projects: 0%
  - Typical Projects: 28%
- 5 Whys
  - Best Performing Projects: 3%
  - Typical Projects: 28%
- OAC Report-out Mtgs
  - Best Performing Projects: 25%
  - Typical Projects: 34%
- CBA Decision Making
  - Best Performing Projects: 0%
  - Typical Projects: 22%
- Kaizen
  - Best Performing Projects: 3%
  - Typical Projects: 22%
- 5 S’s
  - Best Performing Projects: 3%
  - Typical Projects: 22%
Operating System Aspects

- 10/27 biggest gaps between typical and best projects
Most Impactful on Performance

- **Timing**: Engage key stakeholders as early as possible (prior to schematic design)
- **Team selection**: Best Value
- **Form of agreement**: IPD
- **Contract type/ compensation method for key stakeholders that are contracted to the owner**: Guaranteed Maximum Price* - or - Cost Reimbursable with Target and Shared Risk/ Reward

(* with or without shared savings)
Most Impactful on Performance

- Use (at least) these six highly-rated project/team management and operational methods
  - Co-location Big Room
  - Target Value Design
  - 3D BIM Coordination
  - Conceptual/Continuous Estimating
  - Visual Management
  - Last Planner System ®
Takeaways

1. Organizational transformations enable project transformations

2. Earlier engagement requires different operating skills

3. Project operating system informs commercial (contract)
What impact do you think lean practices have on satisfaction?

– Significant
– Moderate
– Some
– None
– Unable to determine
What’s next?

WE NEED YOU
Goal: Over 150 responses!

Call for Your Participation!

The Lean Construction Institute and Dodge Data & Analytics are conducting an important research study with owners:

- Compare performance on Best Recent Project vs. a Typical Project
  - Owner Satisfaction with cost, safety, schedule, quality
- Compare commercial, organizational and operational aspects:
  - Team formation, organization and collaboration processes
  - Project contracting, delivery, operating and management practices

Value of the Research Findings:
Determine which factors have the most impact on project performance.
Provide useful guidance to owners to improve project performance.
Distribute findings for free to the global construction industry.

OWNERS: Please complete the survey
A/E/C FIRMS: Please recruit your owners to complete
*All respondents will receive a report of the total responses*

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Minimum Requirements

Respondent Profile
• Must be an Owner
• Knowledgeable about construction projects at their organization
• In last 3 years completed more than 5 capital projects
• Total capital expenditures more than $10M

Best & Typical Projects
• Construction cost of $10M or more
• New Construction or Major Renovation
• Completed at least one year, but no more than five years ago
• In North America
Recruiting Owners:

• Survey Link:
  – tinyurl.com/LeanConstruction2
• Call for Participation
  – Quick overview to be shared with owners
• Talking Points
  – For your use in advance of client interactions to prepare you to address key issues and potential questions (e.g., benefits, confidentiality of data)
• Offline version of Survey
  – To share with owners to collect project information in advance of taking the survey

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