How satisfied, really satisfied, are Owners?

June 17, 2016

Bevan Mace, Balfour Beatty
Donna Laquidara-Carr, Dodge Data & Analytics
Objectives for Today

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

analyticsstore.construction.com

- **Quality**
  - Owners:
    - Always: 2%
    - Frequently: 12%
    - Sometimes: 20%
    - Infrequently/Never: 66%
  - Architects and Contractors:
    - Always: 2%
    - Frequently: 49%
    - Sometimes: 49%
    - Infrequently/Never: 0%

- **Cost**
  - Owners:
    - Always: 30%
    - Frequently: 7%
    - Sometimes: 11%
    - Infrequently/Never: 52%
  - Architects and Contractors:
    - Always: 1%
    - Frequently: 57%
    - Sometimes: 31%
    - Infrequently/Never: 1%

- **Schedule**
  - Owners:
    - Always: 26%
    - Frequently: 52%
    - Sometimes: 12%
    - Infrequently/Never: 10%
  - Architects and Contractors:
    - Always: 1%
    - Frequently: 53%
    - Sometimes: 36%
    - Infrequently/Never: 10%
Most who never heard of Lean think the industry is Efficient.
Methodology

1. Explore variance of “Best” vs “Typical”

2. Utilize metrics to measure project performance

3. Establish factors to assess project environment
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
Environment 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

How Owners Define Value
Ranking Relative Importance of Performance Metrics

- Project Schedule: 75%
- Cost/Budget Control: 68%
- Quality: 61%
- Safety: 54%
- Project Design/Service Provided: 25%
- End User Experience: 4%
Most Typical Projects complete behind schedule, over budget.

Cost is improved more than schedule on Best Performing Projects.
Performance: Schedule

- 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)
Performance: Cost

- 63% of best projects under budget vs. only 9% of typical

![Graph showing amount of variance of 'Allocated Capital Cost' vs 'Final Cost'.]

**Best Performing Projects:**
63% complete under original allocated capital budget (vs 9% of typical)

**Typical Projects:**
Half complete over original allocated capital budget (vs 15% of best)
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
Organizational Aspects

- Owners identify **Project Team** as single most important contributing factor to performance

![Bar Chart](chart.png)

**Single Most Important Factor That Contributes to Project Performance**

- Team: 50%
- Strategy/Project Goals: 17%
- Owner Leadership: 13%
- IFOA Contracts: 13%
- Early Involvement: 13%
- On-boarding: 13%
- Integrated Project Delivery (IPD): 10%
- Budget Estimate: 10%
- Communication: 7%
- Co-locations: 7%
- Safety: 7%
Organizational Aspects

Early engagement is key aspect of best projects

Timing of Key Stakeholder Engagement (Typical/Best)

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

Typical Projects:
56% don’t engage key stakeholders until after Schematic Design

- Pre-business case: 9% Typical, 6% Best Performing
- Business case validation (pre-design): 19% Typical, 19% Best Performing
- During conceptualization (0-15% design): 16% Typical, 16% Best Performing
- During schematic design (15-30%): 47% Typical, 16% Best Performing
- During design development (30-60%): 9% Typical, 9% Best Performing
- During construction documents (60-90%): 19% Typical, 19% Best Performing
- End of construction documents or later (100% CD): 6% Typical, 0% Best Performing
Team dynamics gaps between best and typical
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

- 10/27 biggest gaps between typical and best projects

![Bar Chart showing comparison between Best Performing Projects and Typical Projects for various aspects.](image-url)
Top 5/27 Methods Focused on Team Dynamics

- Co-location Big Room: 53%
- Visual Management: 47%
- Full-team On-boarding: 44%
- Root cause analysis: 41%
- A3 Thinking: 38%

(Methods are shown in decreasing order of the frequency of their use on Best Performing 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 new training/skillsets

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*

For More Information:
Steve Jones, Dodge Data & Analytics: steve.jones@construction.com
Dan Heinemeier, Lean Construction Institute: danh@leanconstruction.org
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

Bevan – bmace@balfourbeattyus.com
Donna – donna.Laquidara@construction.com