

How Your Peers are Driving Excellence and Total Project Performance

A Discussion of Owner Trends – NWCCC | April 18, 2017

About Continuum Advisory Group



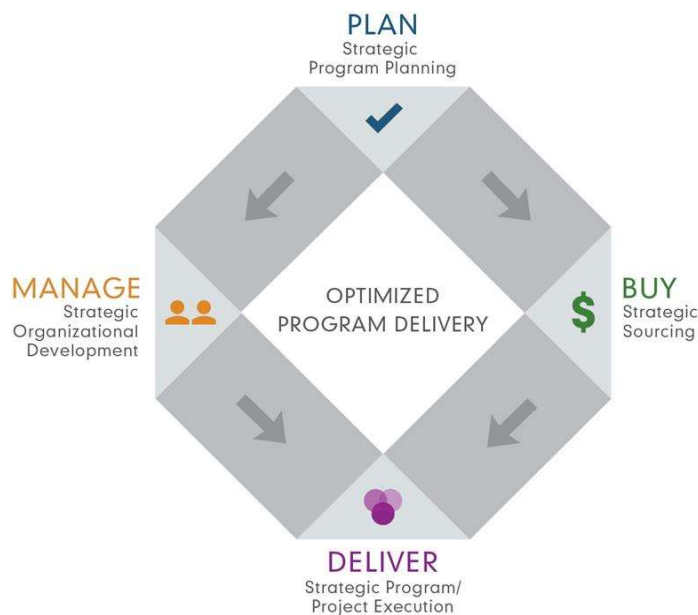
- ▶ We are a management consulting firm working exclusively with the stakeholders of the construction industry to ensure that organizational and relational strategies are in place to achieve success.
- ▶ We help owners plan, manage, buy and deliver capital construction programs to optimize program delivery and the value received for capital spending.
- ▶ We help architects, engineers and contractors understand how to position their services as high-value to owners.

Vision

- ▶ Transforming the worldwide building and construction industry through revolutionary innovation.

Optimizing Capital Program Delivery

We believe that in the delivery of capital programs, four areas of program execution are critical to success:



- ▶ The development of a **Plan** that is linked to the overall corporate strategy and creates an organization optimized to execute the plan is critical.
- ▶ The **Buying** of outside services must be strategic and focus on generating the most value from contractors.
- ▶ **Management** of internal resources must be done to support the overall strategic objective and provide the tools, training and systems needed for internal staff to be successful.
- ▶ **Delivering** the program requires the integration of external and internal resources to deliver on the program objectives while having the measurements in place to monitor and drive performance.

Recent Owner Studies

2014	The Past, Present and Future of Capital Construction A two-part qualitative study exploring economic cycles and key owner trends in capital asset construction with a focus on identifying the key issues of the next decade	
2016	Insights to Leading an Agile Capital Program Focused upon the trends of increasing volatility, doing more with less, the challenges of managing change and organizational agility as a solution	 
2016	Order Takers or Value Creators: Engineering, Construction and Facilities Groups as Critical Drivers of Organizational Performance Focused upon the changing role of engineering, construction and facilities maintenance departments in meeting strategic corporate objectives and serving the business units	 
2017	Excellence in Total Project Performance: Differentiating High Performing Owners A quantitative and qualitative study of the characteristics of excellence in capital asset construction projects, teams and owner organizations	 

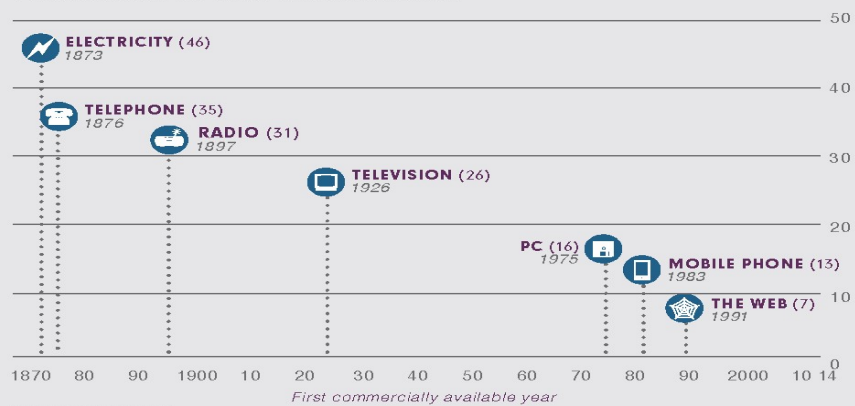
The Ever-Accelerating Speed of Change

New technology is accepted and adopted at ever-increasing rates

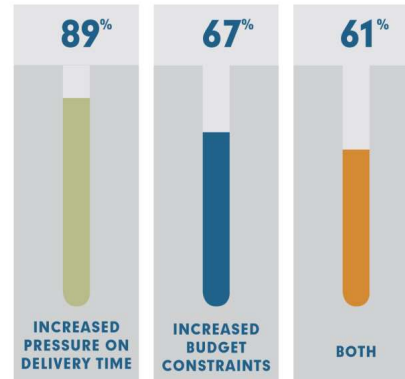
- ▶ **THE TELEPHONE** took 35 years to achieve 25% adoption
- ▶ **MOBILE PHONES** achieved 25% adoption in 13 years
- ▶ **THE INTERNET** achieved 25% adoption in a mere 7 years

TECHNOLOGY ADOPTION

Years until used by one-quarter of American population



2016 CURT Owner Study Insights to Leading an Agile Capital Program



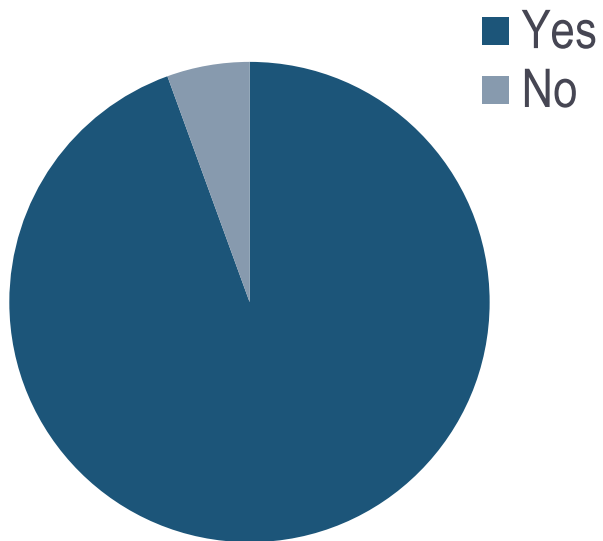
"This study brings a valuable focus to how organizational agility is helping industry firms succeed as the pace of change accelerates. To learn more about how leaders are coping and thriving – read on!"

– Janice L. Tuchman, Editor-in-Chief, Engineering News-Record

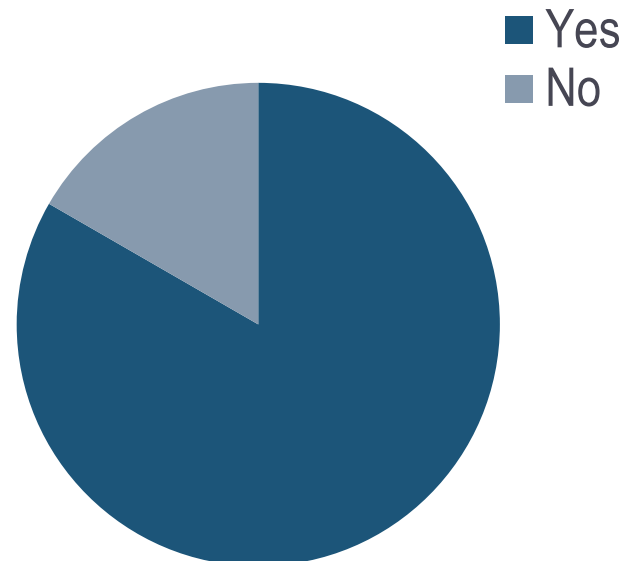


2016 CURT Owner Study Preparing for Change

“Over the past few years, has the speed and rate of change increased?”



“Do you think your company is prepared for change?”



2016 CURT Owner Study

“How well does your organization manage change?”



Only 33% rated 4-5 on managing change

“it’s a long-cycle business”

“there are so many layers above us”

“this is a complex organization”

“our culture is a barrier...”

“our size makes change difficult”

2016 CURT Owner Study Organizational Agility

- ▶ Organizational agility is commonly defined as the capability of a company to rapidly change or adapt in response to changes in the market

“How would you rate your company’s organizational agility?”



2016 CURT Owner Study

What does it mean to us?

What owners are saying about creating agility:

- Employee empowerment
- Scenario planning
- Streamlining processes
- Mental shifts: accepting change, being ready to move
- “It’s all about simplification”
- Cultural shifts: agile work environments breed collaboration
- Partnering with contractors that are advancing innovation and productivity

What contractors are saying about agile owners:

- Push responsibility down to the local business unit
- People onsite are empowered to solve problems
- People at all levels feel connected to the success of the project – they work harder
- Issue prevention... and quicker reaction when issues arise
- Focus on creating a culture of innovation

Recent Owner Studies

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2016 CII Study Hypotheses

- ▶ The relationship between E/C/F departments and the organizations they serve is changing dramatically
- ▶ A technically competent E/C/F function which delivers requested projects safely, on time and on budget is not enough for organizations to remain competitive
- ▶ E/C/F must be engaged in developing strategic business solutions if an organization is to compete in today's fast-changing and highly competitive markets
- ▶ There are specific strategies and tactics that contribute to gaining a strategic seat at the table with the senior management of an organization

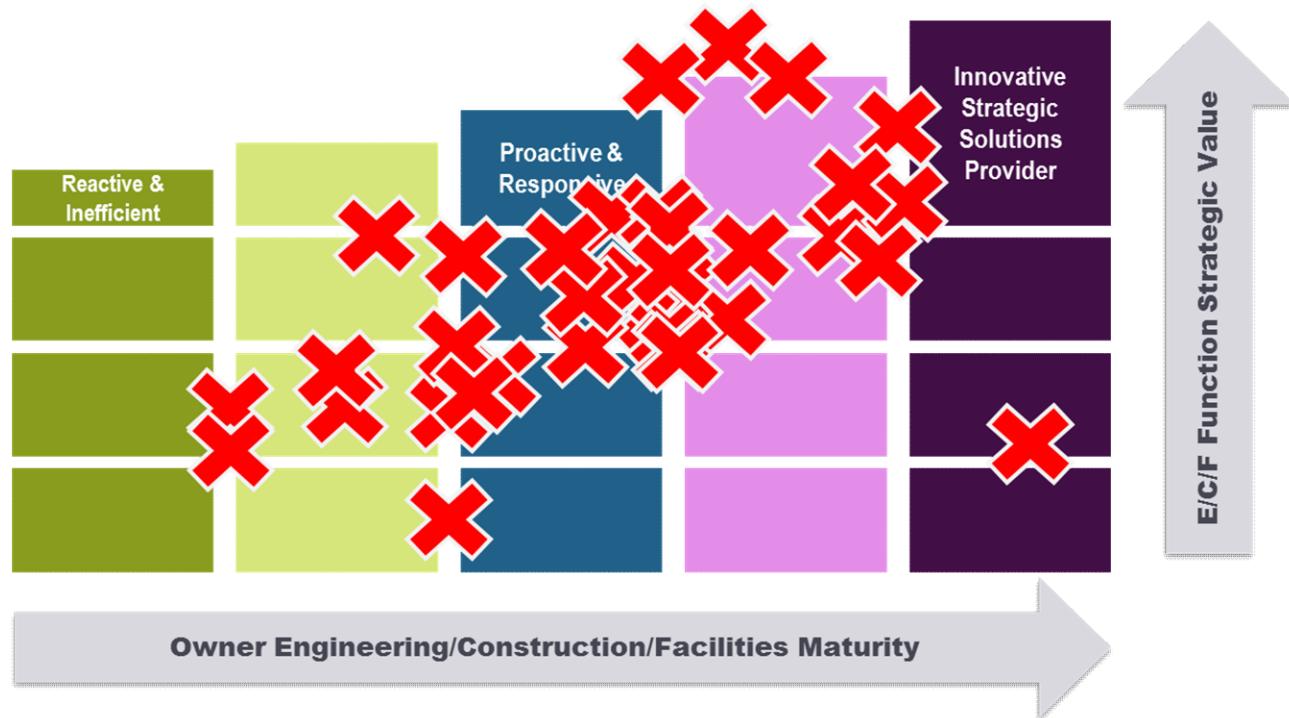
CII Study Approach

- ▶ Interviewed 35 large organizations representing diverse industries
- ▶ Spoke with both E/C/F departments and the internal clients they serve
- ▶ Documented the position of each organization on a maturity scale continuum from reactive/inefficient to innovative/solutions provider
- ▶ Developed a list of strategies and tactics to more effectively link E/C/F strategies to corporate objectives

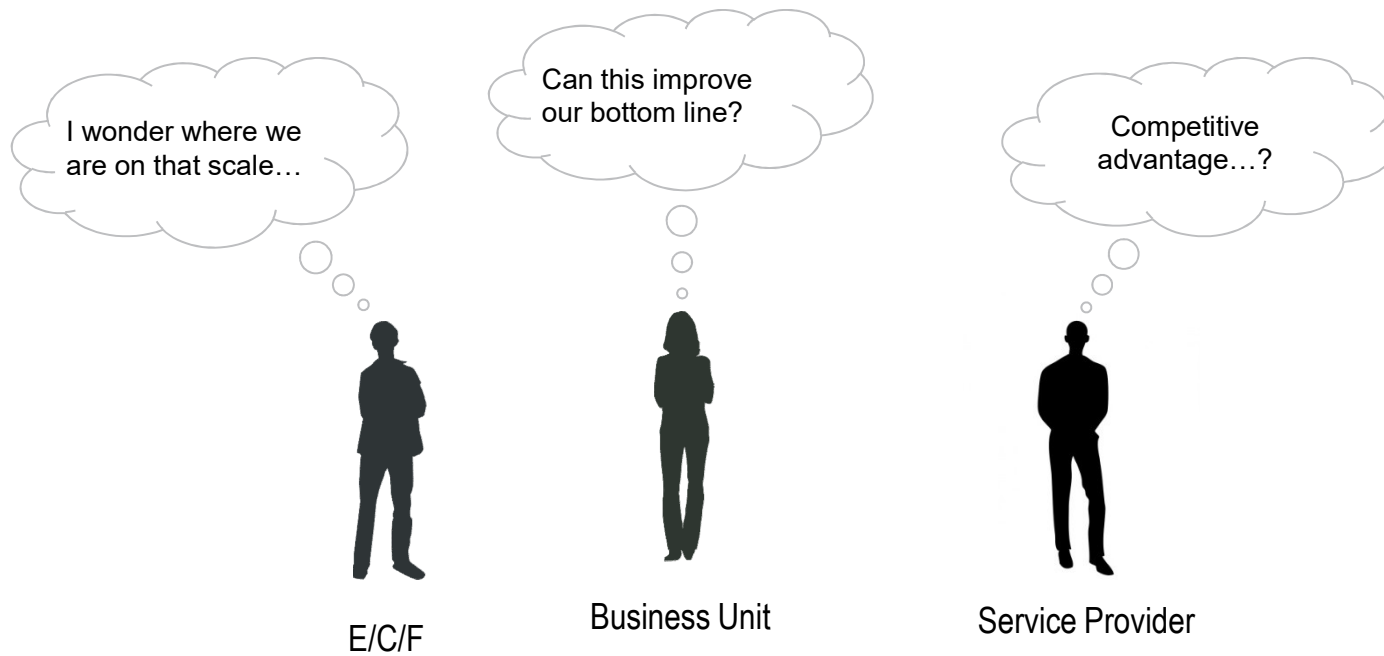
2016 CII Owner Study Participants



2016 CII Owner Study Order Takers or Value Creators?



Implications for Our Industry



Recent Owner Studies

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2017 CURT Owner Study Purpose

- ▶ Provide research related to the conference theme: ***Excellence in Total Project Performance***
- ▶ Understand the challenges facing owners related to optimizing capital program delivery
- ▶ Delve into how owner A/E/C partners can understand these issues and collaborate on solutions

2017 CURT Study Team



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Survey of Owners

Interviews with Select Owners

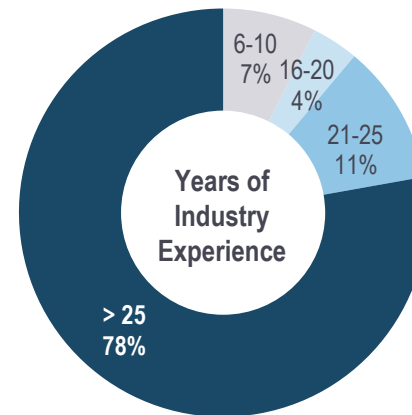
Virtual Roundtable Discussions

▶ 36 People

- Project Managers, Construction Managers and Engineers
- Directors, Leaders, Chiefs and Heads of Capital Construction

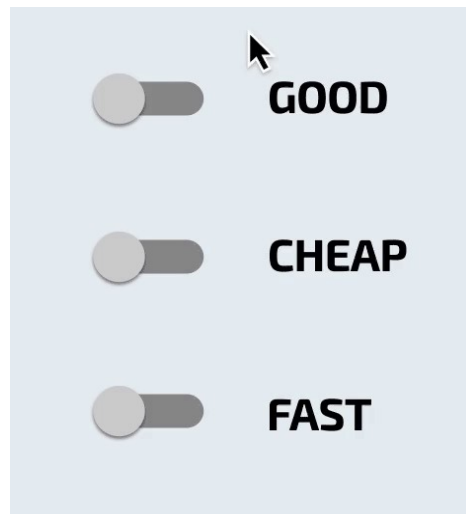
▶ 28 Owner Organizations

- Representing various industries: manufacturing, utilities, natural resources and mining, information (IT), real estate, healthcare, leisure and hospitality, government



2017 Study Focus: Project Excellence

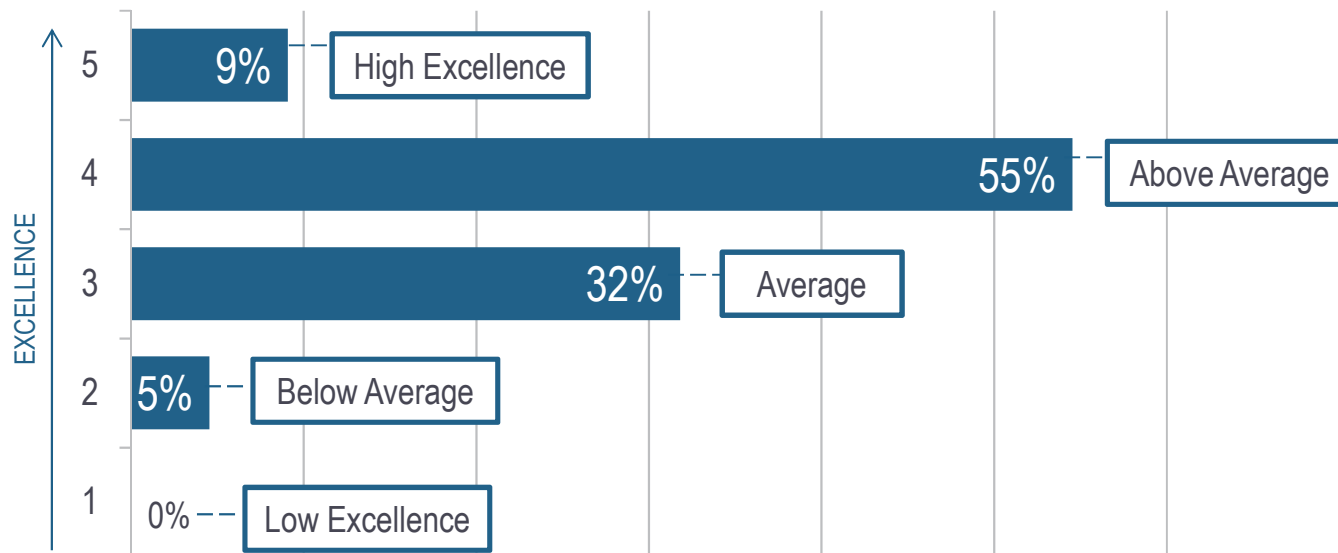
- ▶ All firms define project excellence in the same terms: cost, schedule, quality and safety

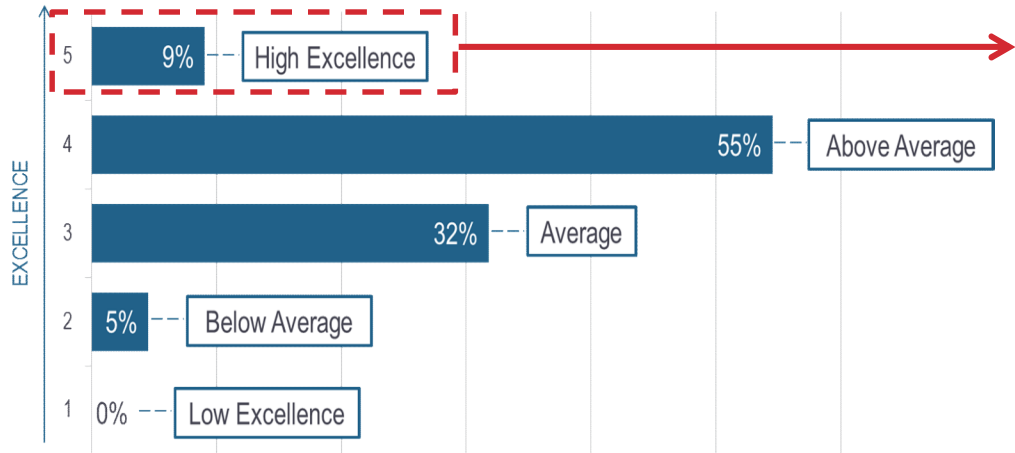


“At the end of the day, we only achieve true excellence if all stakeholders feel that it was a successful project for them. That includes our most important customers – the business units we serve.”

– *Michael Mayra,*
Construction Group Manager,
General Motors

How would you rate your organization on excellence in total project performance?





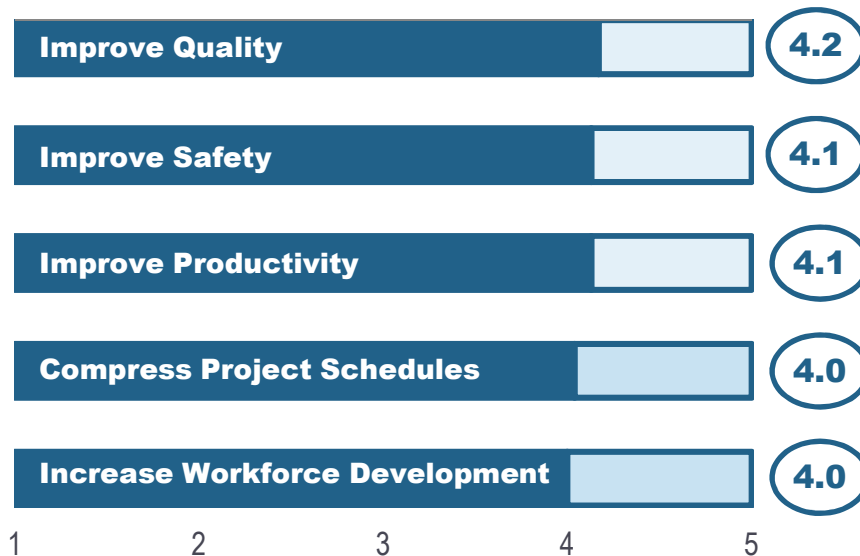
What would it take, as an industry, to get 100% of us to a “5”?

The Most Important Metrics Used to Measure Project Performance

Open-ended survey question responses – categorized:	% of respondents that mentioned:
Cost (budget, cost performance index)	95%
Schedule (schedule performance index)	86%
Safety (RIR, TRIR)	36%
Customer Satisfaction	27%
Productivity	14%
Business and Technical Performance	5%
Quality	5%
Pre-project planning gates	5%
Meeting Scope	5%



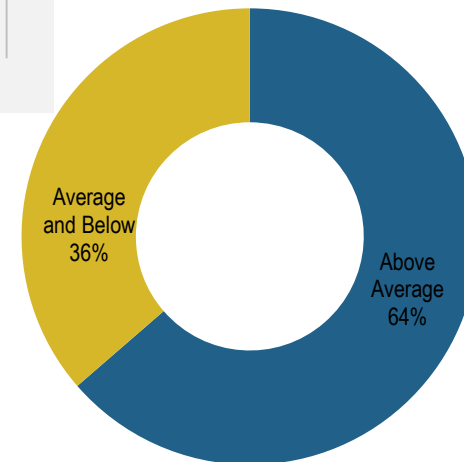
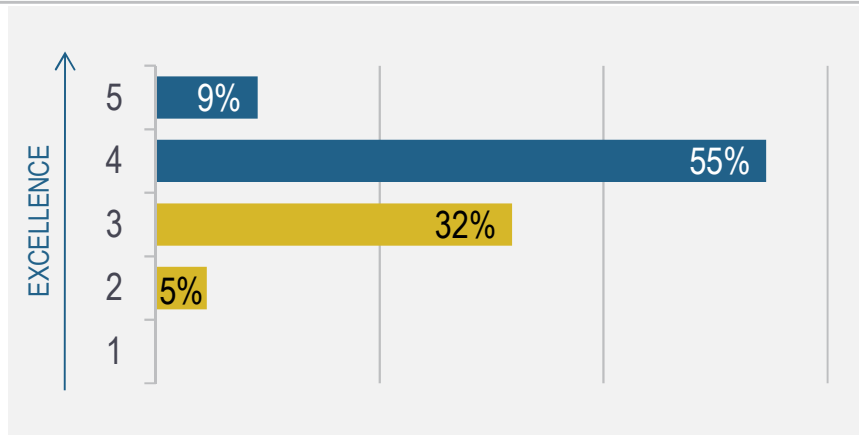
Key Issues of the Next Decade



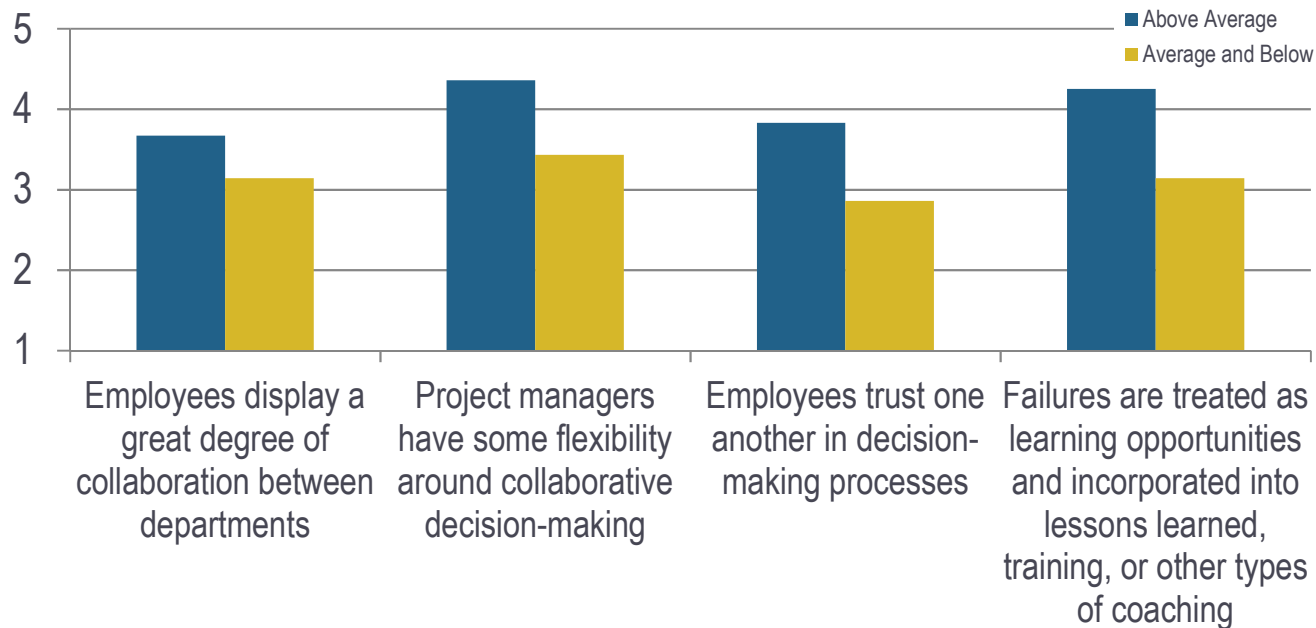
“One of our biggest challenges is increasing production capability for specific products quickly. Often, we’re already late getting more capacity to the market and we’re working to execute quickly while the design is still being clarified.”

– *Anonymous Study Participant*

Above Average Companies – What Sets Them Apart?



The Culture Component



The Culture Component: Collaboration

▶ Three keys to successful collaboration:

1. Get the right people involved early
2. Get constant feedback throughout
3. Take time to review afterward

“P&G has begun holding Collaborative Design Sessions at the beginning of each project to quickly, efficiently and effectively engage the key project stakeholders as an integrated design team working as one toward a shared vision of project success, innovation and Lean practices. This is the only way we are going to meet aggressive timelines while achieving our safety, quality and cost objectives.”

– Jeffrey Woolf,
Global Construction Manager,
Procter & Gamble

The Culture Component: Focus on Results



“As a company, we are more focused on results than process. The key is successful execution and people who are empowered to get creative in achieving that. When they meet the business need, they’re rewarded by the business unit they serve.”

– Anonymous Study Participant

Top Challenges in Achieving Excellence

▶ #1: TALENT

- Finding talent in a competitive market
- The economic lull is about to drain the experience pool; this one is going to be hard to rebound
- Qualified contractor personnel
- Successfully delivering projects with limited or less internal resources
- Timing of major capital projects with workforce availability
- Retaining experience
- Contractor and labor performance
- Managing attrition (departure of "gray hairs") and construction productivity improvement

“We’re seeing that smaller firms haven’t bounced back from the recession in the same way that the larger firms have. The good small firms are cautious, if not scared, of growing. Our intention isn’t just to save money, it’s to help whoever we partner with grow their organization as well.”

– *Anonymous Study Participant*

Top Challenges in Achieving Excellence

▶ #2: IMPLEMENTING CHANGE

- Digital integration
- Implementing a new engineering system
- Keeping the changes we have implemented a priority for supervisors and employees
- Implementing IPD to the full extent
- Bringing stakeholders on "the journey"

Effective innovation happens before the project begins...

"You can't attempt to reinvent the wheel while in the middle of a project; there's a time and a place for innovation and the best time is early on before everything is in motion. Have a critical eye for opportunities to innovate in the early stages."

– *Anonymous Study Participant*

Top Challenges in Achieving Excellence

▶ **#3: BUDGET**

- Funding
- Material and labor cost uncertainty
- Timing of major capital projects with capital availability
- Consistent capital spending to optimize organization and approach

▶ **#4: SCHEDULE**

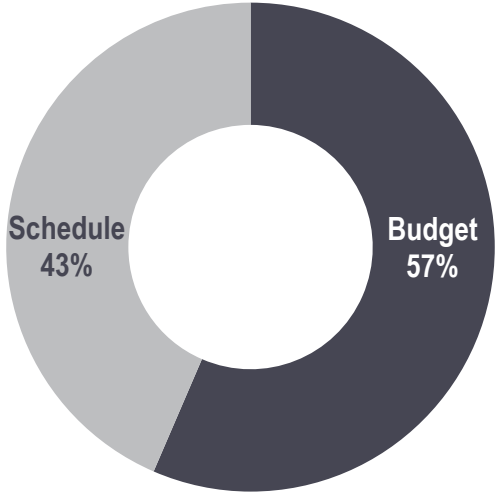
- Short schedules
- Increasing production capability quickly – already late getting more capacity to the market

▶ **#5: QUALITY**

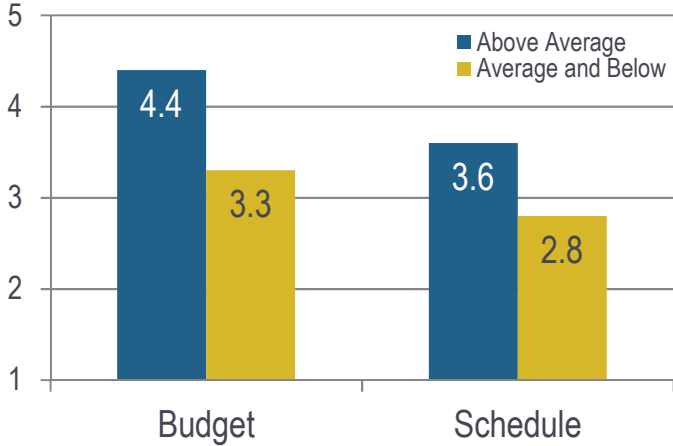
- Engineering and construction quality

Budget vs. Schedule

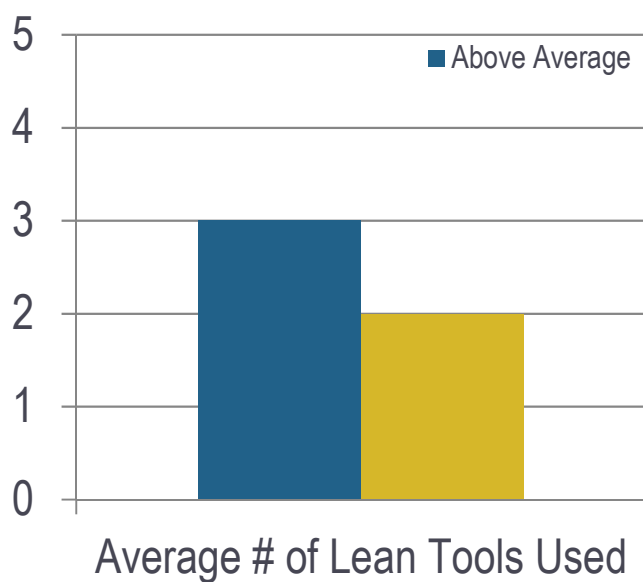
Which is your organization's highest priority on projects?



How would you rate your organization on hitting these targets?

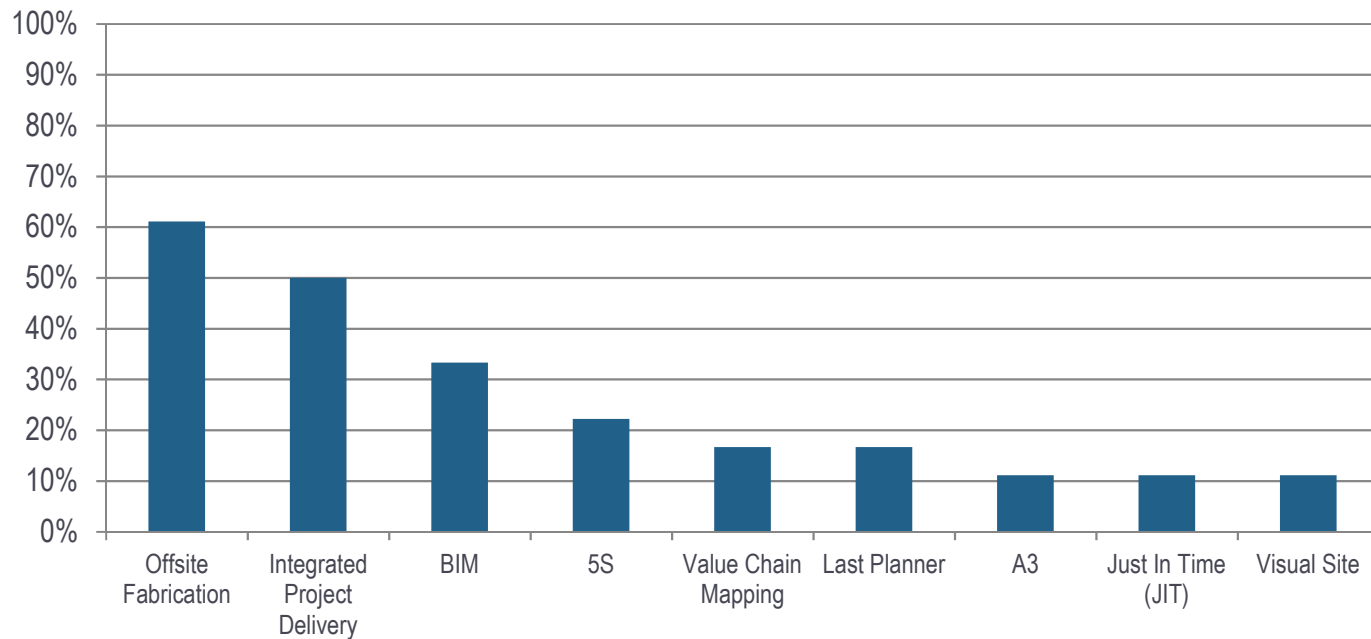


Lean Tools

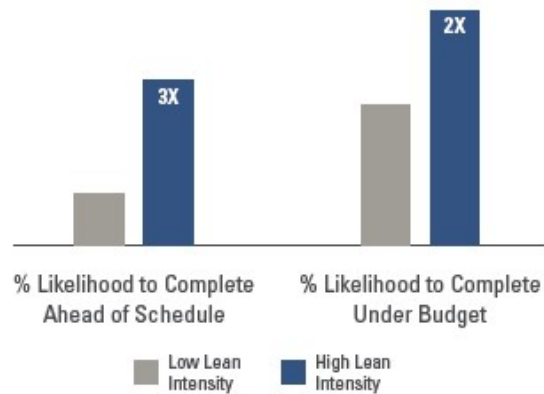


▶ Above average companies were 75% more likely to use three or more Lean tools than average and below average companies

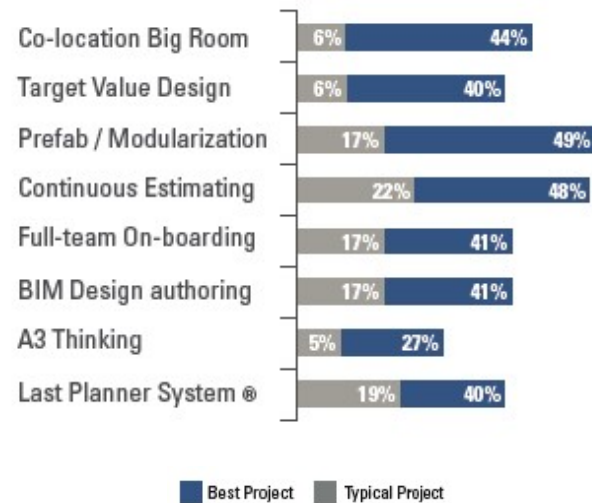
Most Commonly Used Lean Tools



Lean Construction Benchmarking

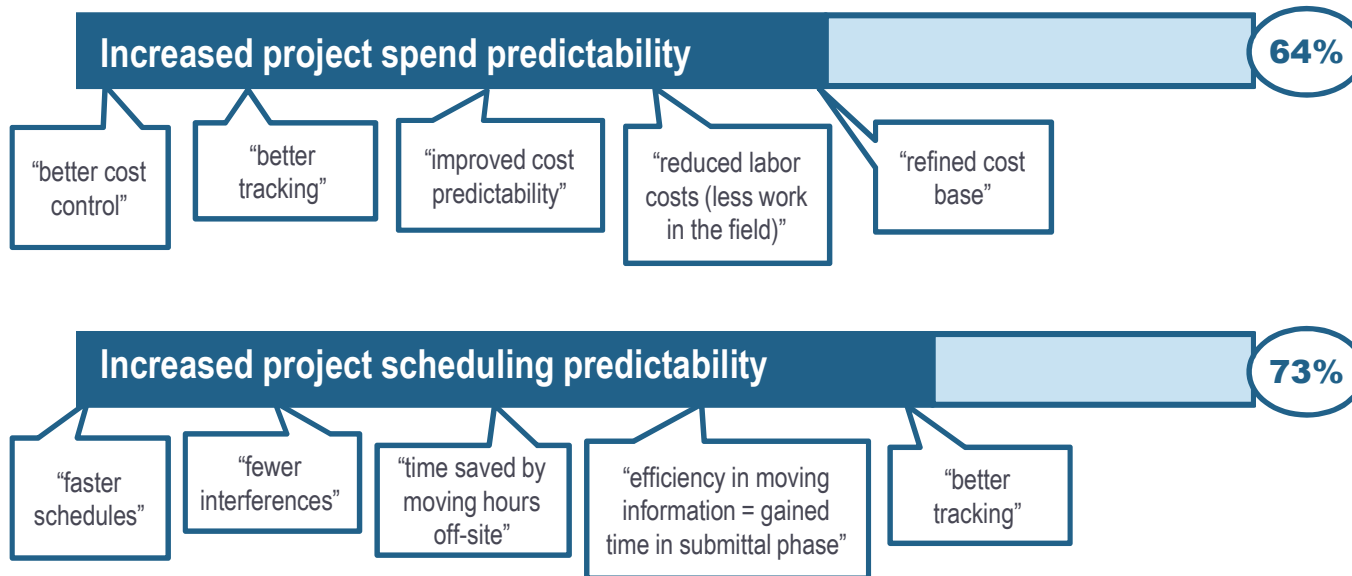


Sample Size: 162 Projects

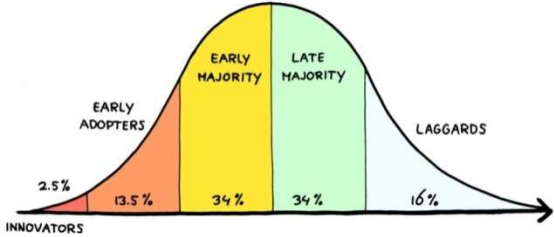
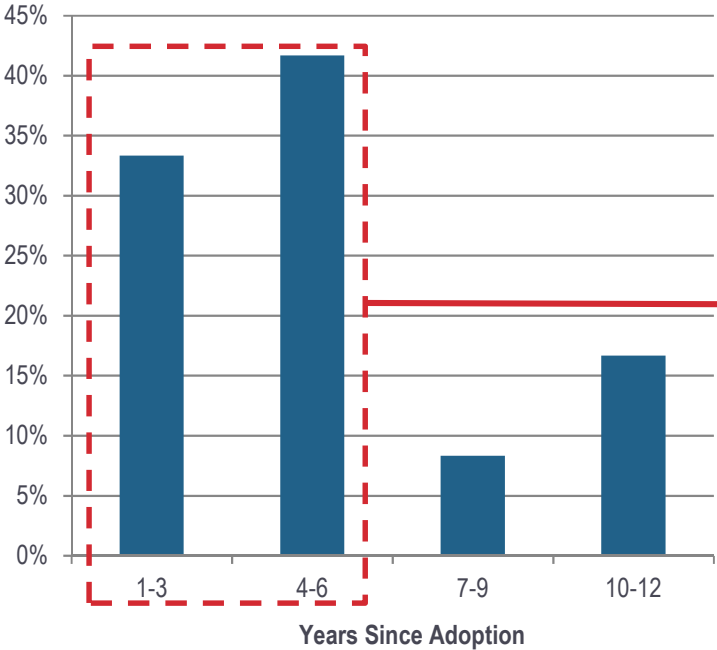


Source: LCI – Dodge Data and Analytics Benchmarking 11.17.16

2017 CURT Owner Study Respondents: Lean Benefits Realized

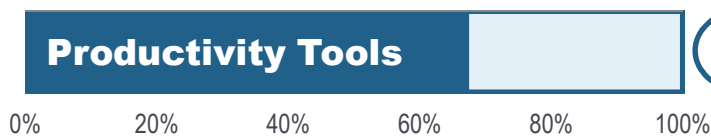


Innovators or Laggards?



- The Lean Construction Institute was founded in 1997
- The majority of those using Lean tools have only adopted them recently
- BIM is the only tool reported in place for over 10 years

Other Tools and Techniques



67%

Productivity Tools Used:

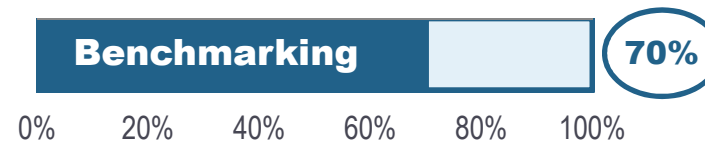
- ▶ Workforce planning
- ▶ Constructability studies
- ▶ Digital drawings (tablets in the field, rather than paper)
- ▶ App-based material tracking
- ▶ Change management boards (monthly)
- ▶ Client feedback tools
- ▶ Lessons learned programs
- ▶ Pre-project planning office
- ▶ Facilities requirements database
- ▶ Prolog converge / mobile
- ▶ Advanced work packaging

“We use a variety of productivity tools, drawing on widely available resources, as well as several unique tools of our own design. Custom tools, such as our client feedback system, our lessons learned program and our facilities requirements database drive a focus on productivity and innovative business solutions.”

– Walter Ennaco, Deputy Director,
Smithsonian Facilities, Smithsonian Institution

Benchmarking and Measurement

- ▶ The majority of owner organizations are benchmarking on cost, productivity, schedule and safety
- ▶ A few also reported benchmarking earned value and changes or rework
- ▶ Above average organizations reported utilizing resources such as:
 - IPA (Independent Project Analysis)
 - CPARS (Contractor Performance Assessment Reporting System)
- ▶ Some have developed their own unique, internal measurement tools to benchmark project to project



“We all measure safety, performance, cost and schedule as key outcomes at the end of a project. At my company, we focus on the leading behaviors that drive excellence in these project outcomes and define leading indicators to ensure we are doing those things.”

– Gary Tomczak, Director, Global Capital COE, International Paper

What one thing could your contractors do to help **CONTINUUM** 
you achieve excellence in total project performance? Advisory Group

▶ **#1: TRANSPARENCY and COMMUNICATION**

- Be more transparent in operations
- Be transparent
- Help us understand how we can help – too siloed right now
- Transparency on productivity factors
- Open communication regarding changes and project impacts
- Timely communication of change in a project
- Be more transparent
- More open book elements to pricing

What one thing could your contractors do to help you achieve excellence in total project performance?

▶ **#2: PLANNING**

- Prepare earlier; identify cost or schedule issues earlier
- Better planning resulting in improved progress and productivity
- Get engaged earlier (this is as much an owner accountability as the contractors)
- Ensure they have priced in their risk and all gray areas of project scope, even if it increases lump sum cost

▶ **#3: QUALITY**

- Improve quality and hold self accountable for meeting defined requirements
- Be more focused in meeting client expectations
- Improve skillset
- Meet commitments

▶ **#4: SAFETY**

- Improve proactive focus on safety
- Deliver projects safely – ZERO injuries or accidents

Thank You

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