



2019 CURT Owner Study:
**INNOVATION AS A KEY TO PROJECT
PERFORMANCE**

CONTINUUM ▶
Advisory Group





The 2018 CURT Owner Trends Study explored an ongoing need for collaboration across our industry. It was an appeal to work together instead of against one another.

Of course, people are most eager to collaborate when they're working on projects that offer potential value to everyone involved. That need for common value is why CURT decided to make the barriers to and opportunities for innovation in our industry a major focus for 2019. It's the topic of this year's Owner Trends Study and was the theme chosen for the CURT National Conference in February – **Innovate: Driving Business Results for Owners.**

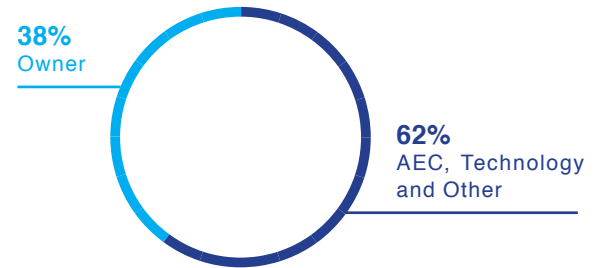


Figure 1: Spread of Survey Respondents Across Organization Type

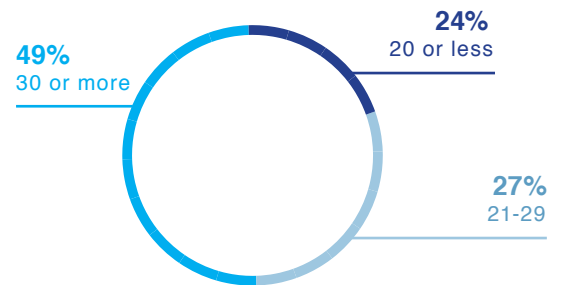


Figure 2: Demographics of Survey Respondents - Years of Experience

Innovation is a term on the brink of overuse. It is used to describe major movements, small ideas, and often old ideas wrapped in new vocabulary. Not having a specific definition of innovation is a fundamental barrier to achieving it. For the purposes of this study, we define it as developing or executing a new business process, a new technology or a new product. Areas ripe for innovation include construction technologies like offsite fabrication and modularization, and business

models like Integrated Project Delivery. Another key area for innovation is partner selection and contract structures (see Table 1 on page 12).

Participants in this year's Study included Owners and General Contractors/Construction Managers (referred to throughout as Contractors). Nearly 100 industry leaders were surveyed and/or interviewed on the topic of innovation.

The first trend we noticed when analyzing the interview and survey responses was that enthusiasm for innovation varies between Owners and Contractors. Many Owners fear innovation for its perceived, and often real, risks and costs. Contractors are somewhat more open to innovation, but many feel stuck in systems that do not allow it. For example, Contractors providing services for Federal and State agencies have very set requirements on how projects can be executed, leaving little room to propose and implement different or new approaches.

Owners and Contractors did agree on one important point: our industry's ability to innovate is essential to maintaining and growing business into the future. That makes it a topic worth exploring. But as you'll see from the survey responses, there is a gap in what our respondents believe is essential and what they see happening in reality.

HOW MUCH IS INNOVATION HAPPENING?

We began this year's survey by asking participants what they saw as the current level of innovation in our industry. Nearly 50% described innovation as "somewhat low," while 40% called it "somewhat high." Not a single person rated innovation as "very high" and 13% rated it very low.

These responses reflect a general sense that while pockets of innovation are taking place in the construction industry, it generally lags other industries. Given the importance that Owners and Contractors assign to innovation, what is preventing it from happening more regularly in the construction industry?

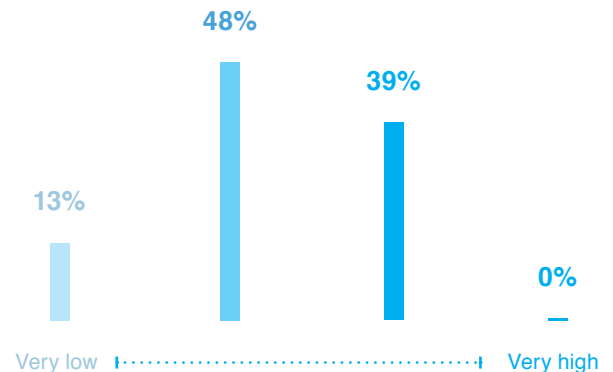


Figure 3: General Level of Innovation in the Construction Industry

WHY INNOVATION IS LACKING

After reviewing the interview and survey responses, we have identified four major themes contributing to the slow pace of innovation.



Status Quo Bias



Risk Avoidance and Fear



Focus on Other Issues



Fragmentation of Work Processes



STATUS QUO BIAS

The survey responses reflected a widespread bias toward maintaining current business systems. Many industry leaders seem reluctant to embrace innovative ideas because they don't see a need for those ideas. The general feeling seems to be "the way we've always done things is working, so why change?" Most people and organizations rely on "muscle memory" to get things done efficiently. This is useful, particularly when performing routine tasks like brushing your teeth. Who wants to put deep thought into this every day? But it inhibits critical thinking about how to improve these processes. After all it's always easier to just keep doing things the same way. But if the industry is serious about innovation, it's time to try the harder path.

One factor in this bias is a lack of agreement on what's meant by innovation.

This inconsistency became clear during a breakout session at the 2019 CURT National Conference. When asked how they would define innovation and what it means for our industry, many of the leaders present didn't have answers. However, we did hear that a general call to innovate is too broad to be meaningful.

Innovation is rarely successful unless it is focused on solving a specific problem. It's not enough to say "we need more technology in the construction industry." That's been on the minds and lips of industry leaders for several decades now. But saying "we need to collect more detailed project level data so that we can discover how to deliver projects 30% faster" is a much better starting point for an innovation initiative. While Contractors may have more insight into the details of what is happening on the project, the Owner is ultimately responsible for the asset that is created and will operate that asset over its productive life cycle. Therefore, innovation must at least align with the Owner's business objectives if not be driven by them.

Regardless, without a focus, innovation won't come to fruition. In other words, we cannot walk forward if we don't know which way forward is.



RISK AVOIDANCE AND FEAR

The industry-wide culture of risk-avoidance is another key inhibitor of innovation. Fear and trust were subjects of much informal discussion at the 2019 National Conference. Many in the industry are afraid to take the risks needed to innovate, believing that it's safer to stick with processes, relationships, and systems that have worked in the past.

The main risks people worried about concerned reputation and finances. We heard a clear sentiment across all industry roles that reputations are damaged by failed innovation efforts. That, along with fear of financial loss, creates a strong barrier to innovation.

Respondents were generally more willing to embrace innovation via piloting or testing. In other words, it may work better to not only “fail fast,” but “fail small.” Adam Grant, a renowned organizational psychologist, says that when it comes to innovation most people generally fall into one of two groups: “first movers” and “settlers.” Our industry seems to have a lot of settlers but few first movers. That's not surprising.



“Project managers risk everything if they ‘blow it’ on their job. There's no incentive to try break-through innovation.”

Michael Brewer

Director, Global Project Materials Management, Freeport-McMoRan Inc.



“The key to innovation in our industry is the trades. The subcontractors that do the work have to be incented to try new things, allowed to try the crazy new idea that may or may not work. That's the route to break-through innovation.”

Ron Heere

Senior Global Category Manager, Construction Procurement, BD

Grant notes that while it's difficult to be a first mover because of the risks involved, settlers have the advantage of learning from the first movers. They are able to time the market, then only implement those innovations that have been shown to work. They actually benefit from being late.

In addition to preferring innovations that have proven themselves, settlers also want proof that an innovation will offer clear benefits. Those benefits could include financial gain, supply chain efficiency, or a direct effect on the crafts. The problem with an entire industry of settlers is a “chicken-egg” dilemma. **Leaders who are serious about innovation need to work to create first mover opportunities to get the process started. Then the settlers can jump in and make improvements to the innovation, validate performance and implement it widely.**



FOCUS ON OTHER ISSUES

The construction industry has been understandably focused on issues of safety and sustainability over the last decade. Workers deserve protection from physical injury and, as an industry, we have a responsibility to our environment and to future generations.

Some respondents believed that safety concerns in particular have led Owners to put innovation on the back burner, even if they're not mutually exclusive. However, many respondents also said that it's time to start focusing on innovation and safety.

Another factor is the focus on results without a concurrent focus on the process that generates the results. Projects are judged based on how they perform relative to safety, cost, schedule, and quality. These and other metrics are critical to our ability to manage and improve project outcomes. However, without a similar focus on how project teams deliver these results via business processes, technology, best practices, communication, collaboration, etc., innovation is stifled.



FRAGMENTATION

Fragmented work process will impede any innovative effort that requires collaboration. Work processes fragmentation was addressed in the 2018 CURT Owner Trends Study and was a major theme in our 2019 discussions. At the National Conference this February, it was mentioned during key presentations and discussed in breakout sessions.

Fragmentation tends to manifest as work siloes, where different groups within the organization work independent of each other and don't share information. This is a big problem. In her book *The Silo Effect: The Peril of Expertise and the Promise of Breaking Down Barriers*,

Gillian Tett noted the stifling effect siloes can have on organizations. She noted that siloes by their nature inhibit communication and discourage innovation. Participants in this study came to the same conclusion.

As projects become larger and more complex, the number of organizations involved increases from dozens to hundreds to even thousands on mega projects. This adds a crushing level of complexity to project management, let alone innovation. In fact, innovation around how to connect and coordinate all the project team members is one of the most important areas that needs focus.

THE ROLE OF OWNERS

Owners and Contractors alike noted the crucial role Owners have in motivating innovation throughout the industry. They clearly defined Owners as the starting point for any innovation effort.

Owners have the power to demand innovation if they choose, and without their leadership it is nearly impossible to bring innovation to a project. Owners can lead directly – for example, by requiring more streamlined practices in bidding and Contractor hiring – or indirectly – such as providing financial support to research and development efforts.

At the 2019 National Conference some participants suggested that instead of undertaking sweeping and costly changes, Owners should start with small innovations. The lessons learned can then be applied to the large efforts. Of course, these efforts will be most likely to succeed if Owners **build internal cultures that treat failure as a learning opportunity rather than an opportunity to place blame.**

Ultimately, Owners must create the value structure for innovation, and this includes a willingness to rethink and revise current business processes. For instance, rather than a bid process that forces Contractors to focus primarily on cost, Owners might include those Contractors in discussions at the project planning stage. How many Owners include innovation in their qualification or selection criteria for Contractors and other suppliers? And how often are key suppliers involved in the project definition and conceptual design phases? If innovative partners only join the conversation after decisions have been made, their ideas are often wasted. Owners can begin to experiment with how to require more innovation from their project supply chain. This allows the rest of the industry to bring its best ideas to solve a project's unique challenges.

Unfortunately, just 35% of respondents said that they see Owners promoting innovation, while 48% said that a lot of Owners actually stifle it. If, as respondents suggested, innovation is truly essential, Owners must value it and play a leadership role in bringing innovation to fruition. As a result, investments in new processes like Lean construction and Integrated Project Delivery rarely rise to the top of the priority list.

**35% SAID OWNERS
PROMOTE INNOVATION**



**48% SAID OWNERS
STIFLE INNOVATION**

In short, most participants felt that Owners could be doing more to promote innovation and to take responsibility for the industry's future. Owners are the engine that powers the bus, but they're not engaging.

Anyone who doubts this power need only consider the last two decades when Owners took action to enhance worker safety across the construction industry. Attendees at this year's National Conference were reminded of that fact during a keynote by Jim Ellis (Global General Manger of Engineering and Project Management for SABIC), Eddie Clayton (Contracting and Workforce Strategy Manager for Southern Company), and Ed Luckenbach (Field Execution Manager for Air Products and Chemicals, Inc.). They described Owners' leadership in safety improvements as an example of their power to drive positive change in workforce readiness.

It's time for the same to happen with innovative business practices. Owners must take the lead culturally and financially, as they did with safety, to truly push the industry forward and create a future that benefits employers and employees alike. And as the President of CMAA, Andrea Rutledge very clearly articulated, the focus must be on objectives and outcomes so that more innovative ideas may come to the table.



“One key driver of higher levels of innovation is to align construction project goals with the business goals. It's not about delivering the facility, it's about delivering the end product, in the most efficient way, that maximizes the return on capital investment.”

Dan Molnar

Associate Director, Estimating & Controls,
Merck

“The one thing that Owners can do to drive innovation and project performance is to focus on objectives and outcomes. What do you want this [building or structure] to do when it's finished?”

Andrea S. Rutledge

President & CEO, CAE

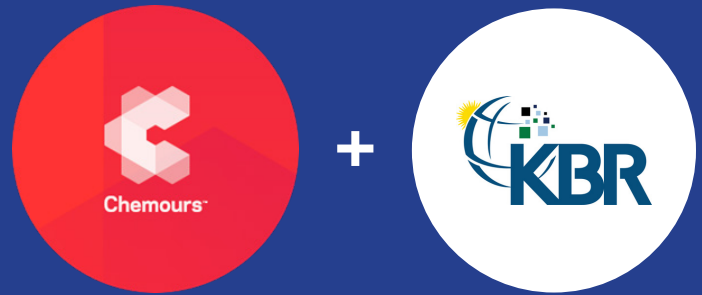
CASE STUDY

IMPLEMENTING A NEW WORKFLOW MANAGEMENT SYSTEM

Chemours Company and KBR used digital technology to realize savings when building a new plant. However, they stress that making it work required commitment from the top. Avoidance of certain pain is a better motivator than the promise of a potential benefit. That's as true in the construction business as anywhere else.

Case in point, construction on a \$350 million Chemours Company refrigerant plant in Corpus Christi, Texas, demonstrates how Owners can drive innovation. The project came with a tight timetable, so Chemours asked construction management company KBR to implement a more efficient workflow management system.

According to KBR Operations Manager Connie McLaughlin, the system included iPads for all field supervisors which allowed them to track progress and document errors, as well as desktop software that let managers see the status of materials availability, assemble accurate materials packages, and get them to the site when needed.



Barry Schrock, Chemours' site representative, said the company was very happy with the results. "For instance, mechanical completion was three weeks earlier than we had planned and costs were within range of what we expected," he says.

He admits that the company saw the new system as risky. "We're an established company with our own tools and had not used the tools KBR was approaching us with," he says. However, they did a risk assessment and decided to let KBR use their system.

The takeaway is that **the Owner demanded an innovative approach and trusted the Contractor to implement.** "It has to be top driven all the way," says Schrock. "On the Owner and Contractor side, everyone has to be on board."

ROLES PLAYED BY GENERAL CONTRACTORS AND CONSTRUCTION MANAGERS

Survey respondents saw Contractors as more supportive of innovation than Owners – 43% said that Contractors generally promote innovation while 35% said they stifle innovation, and another 22% said they had no effect. Given the tight margins and schedules that Contractors garner, it's not surprising that less than half of respondents indicated that they promote innovation.

Many have experienced Contractors as the first movers with innovative ideas and processes, but they have also seen those ideas shut down by Owners with a DNA deeply rooted in current practices. At the same time, many survey respondents also recognized that Owners shoulder most of the risk of trying new processes.

A balance between the initiatives of Contractors and Owner responsibility could be achieved by the use of cross-organizational teams. These teams need to begin communicating with one another early in the bidding process and then continue during project execution. In Continuum Advisory Group's consulting practice, we have worked with a number of very successful Owner-Contractor collaborative teams. These teams achieved significant innovations through transparency, mutual risk management, and making sure that the appropriate partner was responsible for the right aspects of their projects and process improvements.





“In my forty-year career, I haven’t really seen that much change in the way we deliver capital projects. We are ripe for disruption, and I see people starting to really challenge the status quo. It’s up to the Owner organizations to set the tone, to develop project cultures and program partners that embrace innovation.”

Paul Henry

Regional Director, Data Center
Construction & Delivery Google

It’s also important to remember that while Contractors had a higher “promoter” score than Owners, survey respondents put the percentage of high promoters in both groups at less than 50%. This highlights the strong headwinds that both industry groups face in trying to execute innovation.

Respondents indicated several things that need to be done to get more leaders promoting innovation including:

- Reducing the financial and personal risk (innovators are often punished if something goes bad) of innovative practices while holding people accountable for high performance.
- Instituting more trial-learning processes.
- Generating a cultural shift to remove the old school mindset of maintaining traditional processes.
- Increasing the number of centralized and co-located project management teams because innovation is more difficult when dispersed.
- Promoting innovative development through R&D, hiring practices, and collaboration with universities.

MOVING FORWARD

“You cannot swim for new horizons until you have courage to lose sight of the shore.”

William Faulkner

The themes from the 2018 CURT Owner Trends Study – culture, fragmentation, leadership, and innovation – remain priorities for the industry. However, addressing those priorities requires innovation. Implementing innovative practices from the top-down, and collaboratively across the industry, will significantly impact these other issues.

Table 1 (next page) shows various ideas driving innovation. Fear of consequences, a culture of complacency and comfort with the status quo, bidding wars that result in fragmentation, and the innovation leadership void all hold the industry back. A cultural shift is required before even current innovations can be widely adopted.

The time for change is now.

Table 1 identifies critical actions that industry leaders recommended for driving innovation.

Table 1: Themes of innovation and the specific means to move forward

LEADERSHIP'S CHANGING ROLE

- Promote and incentivize innovative processes and strategies.
- Communicate the benefits of innovation openly to industry peers.
- Support ideas coming from younger people, Contractors, and those in the crafts.
- Help to eliminate personal and financial risk, and remove common bureaucratic and administrative barriers when possible.
- Use systemic feedback loops to initiate change across stakeholders of a project.
- Understand the various roles and concerns of each stakeholder in the process, and use this understanding to generate buy-in.
- Champion new ways of motivating employees and industry partners beyond financial.

WORKING AGAINST THE FEAR OF CHANGE (A CULTURAL SHIFT)

- Learn from the successes and setbacks of the past – seeing these as opportunities instead of eliminating future effort.
- Recognize others in the industry as part of the larger circle and share innovative processes to push the industry further.
- Grow away from “old school” views as younger professionals join the industry and the future proves to be more collaborative.

SYSTEMS AND PROCESSES

- Develop processes to support innovation on a reasonable scale first and learn from failures – don't stop trying.
- Implement Lean construction principles and practices, such as offsite fabrication, modularization, integrated teams, and continuous improvement.
- Expand the criteria for project RFIs to incent approaches that achieve objectives rather than a specific design method.
- Engage Contractors and key Suppliers earlier in the project development process and focus selection criteria on innovation.

INVESTING IN INNOVATION

- Partner with industry associations and educational institutions to provide training on how to implement innovative processes to aspiring and current industry professionals.
- Focus on reaching the crafts worker with innovative initiatives.
- Consider partnering and collaborating with startups as sources of fresh thinking and problem-solving – innovation often occurs more quickly in smaller organizations.
- Set aside funds that support continual research and pilot testing of innovative approaches, programs, and tools.



CONCLUSION

The 2019 Owner Trends Study digs more deeply into the 2018 theme of stifled innovation in our industry and asks how we can give it more momentum. We heard the following from Owners and Contractors alike:

- Owners have the power to promote or suppress innovative ideas whether through culture or contracting approach and structure.
- There is a disconnect between Owners and Contractors, both concerned about the other stifling innovation.
- The term “innovation” borders on overuse and carries different meanings to different people.
- Lean construction and Lean Integrated Project Delivery are powerful tools for creating an environment that supports innovation at both the project and organizational levels.

We know that innovation is inherently linked with risk, but also with progress. Innovation and industry disruption will require stepping out and up. As an industry, we run the danger of stagnation if we wait for others to take the lead with new innovations. We need personal action from all stakeholders and industry leaders to shift culture, leadership and investments. Because it's so hard, innovation will require courage.

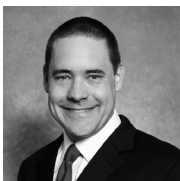
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