Changing the Industry Using the Project Summit Approach

Research Report of the First Project Summit Test

PROJECT SUMMIT

July 2021

Project Summit was born out of a group of ABC User Summit participants, who wanted to take the innovations and concepts they were discovering at Users Summit events and build a model to put them into action on real jobs.

This report summarizes the major research findings from the first test project application of the Project Summit approach.

Contents

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Executive Summary

The objective of this research was to observe, document, and support the implementation of the Project Summit vision on a real project and identify the benefits of this approach in comparison to the traditionally used project performance solutions and delivery methods.

Project Summit

Project Summit is a new vision and approach to delivering projects built upon the principles of trust, collaboration, innovation, and expertise for both the contractual and cultural aspects of delivering construction projects. Project Summit was born out of a group of ABC User Summit participants, who wanted to take the innovations and concepts they were discovering at Users Summit events and build a model to put them into action on real jobs.

First Test of the Project Summit Vision and Approach

The first test project was an industrial job, approximately $40–$50M in total value, with a construction budget of around $20–$25M. It was begun in April 2020 and concluded in May 2021. For this project, Air Products & Chemical Industry (APCI) was the project owner, UGS was the mechanical contractor, Metro Power (MP) was the electrical contractor, and Kwest Group (Kwest) was the civil and earthwork contractor. This report focuses on the research findings of the impact of the Project Summit approach on this first test project.

Summary Research Results

The use of the Project Summit vision and approach as the delivery method over traditional methods had incredible results acknowledged by all the teams. Additionally, the project was immediately impacted by the COVID-19 pandemic, which further showed the benefits of using the Project Summit approach in dealing with unforeseen events. (Notably, if the Project Summit test project had not been impacted by COVID-19, the research team anticipates the savings and benefits would have been even greater than those measured and reported below.) The research team has recorded both the quantitative and qualitative benefits of using the Project Summit approach. Significant findings include:

Quantitative benefits in terms of project performance metrics when compared to similarly sized completed projects. The Project Summit approach:

- Improved productivity by over 20%.
- Reduced and avoided costs by over 10%.
- Reduced total project duration by over 10% (even with the ongoing COVID-19 pandemic).
- Improved safety with a decrease of "First-Aid" events by 80% to a single event (as comparted to similarly sized projects with an average of 7–8 events).

Qualitative benefits in terms of project members' satisfaction of the new work culture and environment caused by the Project Summit approach, when compared to all past projects they have worked. The Project Summit approach showed that:

- 96% of site crew personnel had Significantly Higher Job Satisfaction on this project due to the Project Summit approach.
- 92% of site crew personnel experienced Significantly Greater Levels of Coordination and Collaboration on this project.
- 100% of site crew personnel experienced Significantly Greater Levels of Communication.
- 75% of site crew personnel reported this as the Most Innovative Project they had ever worked on due to the culture of constantly looking for better, safer, and faster ways to do the work.
- 88% of site crew personnel experienced Significantly Higher Levels of Productivity and virtually No Rework.
- 98% of site leadership (PM, SS, etc.) identified this project as Significantly Better in every category measured. This included extremely high job satisfaction and significant improvements in communication, collaboration, trust, safety, quality, and productivity.
- 100% of all personnel said they would prefer to work on another Project Summit job.
- 0% (Zero) turnover at the site level due to high levels of job satisfaction.

The research included in this report also lists recommended lessons learned for future projects to refine the implementation process and capture additional benefits of the Project Summit approach. The Lessons Learned section provides recommendations for each phase of a future Project Summit, including presenting the idea to potential stakeholders, contracting, proposal/estimating, designing, construction, and commissioning phase. This research report also provides methods, interview questions, and surveys used to measure qualitative and quantitative benefits.

Simplar

Simplar and the Simplar Foundation was the research and support team for the first test of the Project Summit. Simplar's team used different methods to collect data to achieve research objectives such as the use of 1:1 and group interviews, assessments, surveys, satisfaction ratings, work performance metrics, historical data, change agents, Human Dimensions of key personnel, and observation.

Project Summit Vision

Project Summit is a new vision and approach to delivering projects built upon the foundations of trust, collaboration, innovation, and expertise. What makes Project Summit unique is its focus on both the contractual and cultural aspects of delivering construction. It considers all facets of the project approach, contract terms, payment, risks, profits, estimates, schedules, etc. But it also recognizes that until the teams and the "boots-on-the-ground" start working and thinking differently, not much of what is written into a contract will be realized on the job site. In this regard, Project Summit includes the project culture, team members, individual behaviors and attitudes, how ideas and innovations manifest, how the teams communicate, and how to drive real impacts on productivity, safety, quality, and satisfaction.

Project Summit Objectives

The objectives of Project Summit are to implement a collaborative delivery and contracting model that: minimizes financial, schedule, safety, quality, and other risks; drives impactful innovations to design and construction; and ideally creates a shared-risk/shared-reward structure for all primary stakeholders. Project Summit seeks to be a tool in a client's project delivery "toolbox" that is a viable enhancement over low-bid and other delivery methods for specific projects in your capital and facilities portfolio. Through proper training and adoption of Project Summit principles, client organizations and the vendor community can make a step-change improvement in capital efficiency (return on investment) for industrial owners.

Project Summit Key Principles

Some of the key principles of the Project Summit approach are:

1. One Hard Hat, One Team — Built on Trust
2. Safety for All
3. Transparency, Collaboration, Integration
4. Faster & Higher Quality
5. Fewer Conflicts & Eliminate Claims
6. Less Stress & Better Relationships
7. Strategic and Intentional Implementation of Innovation
8. Attract, Select, and Leverage Expert Individuals and Teams

How Project Summit Works

The principles of trust, collaboration, innovation, and expertise are applied in each phase of the construction project, starting from the early stages of procurement and contract negotiation, risk mitigation, design, planning, and estimating to the construction, commissioning, and handing over of the complete product.

Organizations that apply the Project Summit approach may see changes in certain contractual elements, procurement methods and processes, financial/commercial terms, and expectations of collaboration, communication, and speed of transaction. For example, contractual changes may include: predefined contingencies; risk-sharing/risk-allocation; incentives (shared risk/reward); the connection of all stakeholders to a common business goal; and construction trade involvement earlier in design. Financial changes may include: the use of a GMP/EMP; earlier cost certainty; true, open-book cost tracking (full transparency); established cost thresholds; and use of waterfall/staggered contingency buckets during the delivery of the work. Collaboration may include: the early involvement of teams in project planning, estimating, scheduling, and coordination; increased accountability; the sharing of information systems; and the integration of construction teams into the design/engineering process.

These changes are applied throughout the project life cycle, for example, the foundational principle of "Collaboration" is a written requirement in the contract, but also is made manifest by using Project Summit's "One Hard Hat" philosophy where everyone on the site wears the same hardhat and safety equipment, branded with a Project Summit logo. This visual and tangible catalyst (along with other actions) result in behaviors, attitudes, culture, and actions at the job site being impacted. The results of both contractual collaboration and cultural collaboration included the project teams doing things differently than they normally would.

Table 1. Traditional Approach vs. Project Summit Approach

Table 1 shows the differences between traditional approaches and the Project Summit approach in terms of key element of construction projects.

Key Elements	Traditional "Low-Bid" Approach	Project Summit Approach
Bidding	"Three bids and a buy," lump sum, lowest cost	Advanced Procurement Processes, Value-Based Selection, GMP/ EMP.
Risk	Individually managed, transferred to greatest extent possible, mitigated by change orders and claims, parties in opposition	Collectively managed, appropriately shared, mitigated by collaboration and creative solutions, "all for one, and one for the project"
Contingency	High contingencies, multiple layers of markups	Lower shared contingency, ideally a fixed profit plus at-risk pool
Compensation/ Reward	Cost based, individually focused, limited/no schedule incentives, and pursued through change orders	Performance and value based, through reducing variable costs and enhancing delivery speed
Process	Linear, distinct, saturated; knowledge gathered "just as needed," silos of knowledge and expertise	Concurrent and multi-level semi-column early contribution of knowledge and expertise (shared knowledge), information openly shared (shared information), stakeholders trust and respect each other, collaborative, high-performing individuals assigned to teams
Agreement	Encourage unilateral effort, allocate and transfer risk, no sharing	Encourage, faster, promote and support multi-lateral open sharing and collaboration; risk sharing
Construction	Contract governance, adverse conflict management, finger-pointing	"One hard hat, one aligned team," effective conflict management, all working toward same goal
Project Team Participants	Fragmented, strongly hierarchical, controlled	Team of key project stakeholders assembled early in the process, open, collaborative
Communication	Limited and linear communication, vertical only (one direction)	Open communication to all, vertical and horizontal (all directions)
Post Construction	Adverse negotiations, litigation a possibility, claims are the default and typically expected	Profit distributed based on agreed formula, no resource to litigation

Table 2. Comparison of Project Summit to Traditional Approach for the Test Project

Table 2 shows a comparison between the characteristics of the test project client's traditional low bid delivery method and the new Project Summit approach.

Traditional "low-bid" method of Test Project Organization	Project Summit Approach as Applied in the Test Project
"3 bids and a buy," lump sum, "zero-sum game"	Negotiated, cost reimbursable, transparent, turnkey, "1+1=11"
Multiple layers of mark-ups upon mark-ups	Fixed contractor profit, plus at-risk pool
High contingencies based on protectionist behavior	One common, lower contingency shared by team
Individual approach to risk mitigation	Team approach to risk mitigation
Success believed to be based on quality of engineering documents and "tight" contracts that shift risk	Success driven by a collaborative and agile team (contract promotes cooperation and is not used as a weapon)
Contractor risk mitigated by initiating change orders and claims (i.e., "sticking it to the owner")	Contractor risk mitigated by collaboration and integration (creative solutions — "all for one, and one for the project")
Contractor profit related to amount of work performed (change orders)	Contractor profit related to reducing variable costs (labor, materials, equipment)
Search for the guilty "Armor On"	Search for solutions

Research Effort

The Simplar research team's role was to observe, document, and support the implementation of the Project Summit vision in a real project and identify the benefits of this approach in comparison to the traditionally used project delivery methods. This was done by continuously supporting the implementation process and using multiple data collection methods to gather qualitative and quantitative data.

Supporting the Implementation

The research team continuously also supported the implementation of the Project Summit vision by sharing best practices and providing recommendations, guidance, and trainings based on the team's expertise. Also, the research team played a linking role to communicate identified issues and concerns from the site personnel to the leadership team for expedited resolution. For example, based on the research team's expertise in organizational change adoption, the use of effective change agents was one of the recommended practices to better implement the Project Summit vision on site during the construction and commissioning phase. The research team provided support to the leadership on how to select the right change agent to effectively serve their purpose. Then the selected change agents were trained by the research team about their role of leading and championing the Project Summit change on site.

Data Collection

The data collection process was strategically planned to occur throughout the project life cycle to have a project-wide (from start to finish) understanding and measurement of effects of the Project Summit approach. Data collection was spread over the project timeline and was effectively divided into three phases: the contracting phase, the construction phase, and the commissioning/closing phase. (The design phase was not part of the first test application of Project Summit but is strongly encouraged for future test implementations.) During each phase, data was collected to capture and document:

- The "Story"
- Timeline & key events for each phase
- The process of initiating the change and gaining buy-in from stakeholders
- Satisfaction and performance measurement
- Key challenges
- Internal barriers to change and how they were overcome
- Benefits/Costs
- CRISPs – anticipated concerns, risks, issues, problems, and suspicions
- Lessons learned and "room for improvements"

The collected data were captured from all involved levels including:

- Top management
- Site management
- Site leadership
- Site crews
- Commissioning teams
- Financial systems records
- Project controls/PM systems records
- Safety and COVID data

Seven main methods of data collection were used throughout the project timeline:

1. One-on-one interviews with all key team members (from site leads to top management): During each phase, key team members (of each phase) were interviewed individually for 45–60 minutes to collect qualitative and quantitative data of that phase.
2. Bi-weekly group interviews with change-agents: Four change agents were identified and trained by the research team. During the interviews, change agents were asked to address examples of how they fostered the vision of Project Summit and what challenges they were facing.
3. "Thursday Thoughts" weekly lunch meeting with rotating members of site crew: Weekly meetings were conducted with the site crews over lunch to collect qualitative data such as satisfaction ratings of the Project Summit approach, how the approach was different compared to previous projects, what were the challenges, were there any opportunities for improvement, and were there any problems that need to be addressed by leadership.
4. Documentation of Project Summit performance metrics: Project performance metrics of work hours, productivity, schedule, cost, change orders, and safety were documented throughout the project.
5. Performance metrics of comparable historical projects: All teams were asked to identify comparable historical projects they've worked on and provide performance metrics of those historical projects.
6. Monthly leadership meetings: The research team participated in the monthly leadership meeting to report research progress, highlight concerns and issues, and capture insights and feedback from leadership.
7. Leadership site visits notes: One of the practices of continuous leadership support to the implementation process was to conduct site visits and meet with site members (management, leads, and crews) to capture site members' feedback and resolve any issues to support the Project Summit vision.

Research Findings

The use of the Project Summit vision as the delivery method over traditional methods had incredible results acknowledged by all the participants. The research team has recorded both quantitative and qualitative benefits of using the Project Summit approach. In summary, the Project Summit approach showed demonstrable potential for exceeding the measured positive impacts of currently available project approaches, delivery methods, tools, and/or processes.

Quantitative Benefits

The research team gathered project performance metrics, including work hours, cost, material, productivity, change orders, and schedule for the ongoing Project Summit test project. Similarly, project performance metrics for historical projects (completed in the past five years) with similar size and scope were provided by each team. Additionally, metrics of parallel ongoing projects during the COVID-19 pandemic were collected for this research.

The collected data were used to compare current performance metrics of the Project Summit test project with historical projects using traditional delivery methods. The comparison results show the impacts of using the Project Summit approach over traditional method and represent the benefits gained by each team due to using the Project Summit approach. The research team selected four historical projects with the most similar scope and size as provided by the client for this comparison. Table 3 shows the results of the comparison (Historical Projects vs. Project Summit (PS).

Table 3. Project Summit Impacts – Comparison of Data (Historical Projects vs. Project Summit)

Comparable Data	4 Historical Projects	Concurrent Projects During the Pandemic
Improvement in Productivity	PS is 21% more productive	PS is 24% more productive
Improvement in Accuracy of Mhrs Estimates	PS is 20% more accurate	PS is 23% more accurate
Final Project Cost	PS is 10–16% less in final project cost	PS is 10–16% less in final project cost

The results show that using the Project Summit approach has the following quantitative benefits over using traditional delivery methods:

Improve safety with a decrease of "First-Aid" events by 80%

- The project had a single "First-Aid" event that was resolved quickly and completely on site. Similarly sized projects average approximately seven to eight "First-Aid" events.
- The "One Hard Hat" principle connected all teams together under one goal and generated a safer environment that allowed site members to feel obligated to improve safety by suggesting improvements and watching out for each other.
- The safety improvement was measured comparing the count of "First-Aid" and OSHA reportable events between the current Project Summit test and historical comparable projects. This data was not historically collected by the client, so data from the contractor teams was used.

Reduce and avoid additional costs by approximately 10% to 16%

- Savings were driven by higher levels of collaboration, the speed and convenience of communication, by trust fostered through the change agents and leadership support, and integration of innovative suggestions from all levels of the project team for driving ideas and solutions to avoid risks and additional costs.
- The cost reduction, savings, and avoidance range of 10% to 16% was calculated using cost estimates and actual costs incurred, as well as included estimates of additional costs that the owner would have incurred if a traditional approach had been implemented. The cost analysis is a result of cost avoidances by the contractors, savings in work hours, equipment savings, constructibility efficiencies, and other savings that have been shared with all team members (including the owner), and sharing cost risks such as pandemic-related costs.
- The cost reduction, savings, and avoidance total percentage is represented as a range (10% to 16%) due to a spread of estimated actual final additional costs that the contractors could or would claim and would likely be approved (if the project used traditional methods) based on historical precedence.

Improve productivity by approximately 21%

- The higher levels of collaboration, communication, and trust between different trades allowed a better sequencing and prioritization of work which resulted in higher productivity.
- The productivity improvement was measured by comparing the productivity rates of the selected historically comparable projects against the productivity rates of the Projects Summit test. To ensure a fair and consistent comparison between the data, historical projects and current productivity data were measured and documented using the same approach used by the owner's organization.

Reduce total project duration by over 10% (even with the ongoing COVID-19 pandemic)

- The innovative solutions and communication allowed for faster resolution of issues and better prioritization of the work on site between different teams which resulted in a shorter project duration. There was also an integrated resolution to design errors that minimized workflow disruptions.
- The reduction in total project duration was based on one historical project duration that was the most similar project in terms of size and scope. Also, qualitative confirmation of the schedule delay avoidance was collected from the project team members, and the approximated savings by the project team was the same as that calculated by the researchers.

Improve accuracy of estimates by over 20%

- The early involvement of trades with client cost professionals, under the trust and collaborative culture, impacted the accuracy of estimates provided by the contractors. This was driven by a better sharing of anticipated construction methods, market conditions, and quantity projections.
- The improved accuracy of estimates was measured by comparing the accuracy of work hour estimates of the selected historically comparable projects against the current Project Summit test. The accuracy was measured by comparing estimated work hours (planned) at contract signing with final work hours (actual) at project completion, excluding all change orders. To ensure a fair and consistent comparison between the data, historical projects and current data were measured and documented using the same approach used by the owner's organization.

Perform work in a safer, smoother, and more efficient way (when compared to other projects of the client during the pandemic)

- The work environment that has been created by the Project Summit approach helped all teams to work together to navigate this unforeseen pandemic and its impact on the supply chain. The team worked together to provide innovative solutions to overcome significant material delays due to the pandemic.
- This improvement was measured by various efficiencies, solutions, and the number of COVID-19 positive cases on the site. Positive COVID-19 cases on the Project Summit test and other concurrent projects during the pandemic were used. The Project Summit test recorded significantly fewer cases (two positive cases) than were reported on other projects. However, the research team recognizes this benefit cannot be completely connected to the Project Summit approach as many factors are involved in COVID-19 case counts.

Improve accuracy of estimates by over

20%

Qualitative Benefits

The research team collected qualitative data that includes satisfaction and experience ratings of the Project Summit when compared to all other previous projects. The data represent results from all organizational levels, ranging from site crews to top management.

There is a connection between employee well-being and project performance. Similarly, the qualitative data results of high levels of satisfaction of team members and their preference of using the Project Summit approach justify and support the performance (quantitative) impacts of the Project Summit approach over the other methods.

Table 4 shows results of the site craft professionals' observations and personal perspectives on the Project Summit test project. The table shows the percentage of the respondents that rated the Project Summit test project as significantly better and those that rated it as the best ever/one of the best ever projects they had experienced.

Table 4. Results of Site Team Interviews

Q#	Topic	Outcome	Significantly Better	One of the Best Ever
1	**Safety**	They are safe on every job, but was still slightly better than typical	**43%**	**32%**
2	**Enjoyed coming to work**	Significantly higher job satisfaction	**96%**	**79%**
3	**"One Hard Hat"**	On average, enjoyed it more than everyone having their own hard hat	**67%**	**41%**
4	**Leadership**	Significantly higher satisfaction with leadership	**91%**	**69%**
5	**Coordination/ Prioritization**	Significantly higher levels of coordination	**92%**	**71%**
6	**Communication**	Significantly higher levels of communication	**100%**	**50%**
7	**Productivity**	Significantly higher productivity	**88%**	**65%**
8	**Quality**	Quality is always perceived as high, but was still slightly better than typical	**32%**	**18%**
9	**Innovation**	Significantly better environment for innovations	**86%**	**75%**
10	**Satisfaction with team**	Significantly higher satisfaction with their team	**89%**	**71%**
11	**Client/ Subcontractor**	Significantly higher satisfaction with the other parties	**83%**	**61%**

Highlighted and Other Results of the Qualitative Data

1. 100% of all personnel said they would prefer to work on another Project Summit job.
2. Zero turnover at the site level due to high levels of job satisfaction.
3. 98% of site leadership (PM, SS, etc.) identified this project as Significantly Better in every category measured: extremely high job satisfaction, communication, collaboration, trust, safety, quality, productivity, etc.
4. Overall satisfaction rating of the commissioning phase by the commissioning team (10/10 — one of the best they have experienced).
5. 96% of site crew personnel responded as having Significantly Higher Job Satisfaction on this project due to the Project Summit approach.
6. 92% of site crew personnel reported experiencing Significantly Greater Levels of Coordination and Collaboration on this project.
7. 100% of site crew personnel reported Significantly Greater Levels of Communication.
8. 75% of site crew personnel reported this as the Most Innovative Project they had ever worked on due to the culture of constantly looking for better, safer, and faster ways to do the work.
9. 88% of site crew personnel reported experiencing Significantly Higher Levels of Productivity and virtual no rework.
10. Consistent observation that having enhanced safety procedures, efficient project controls, and appropriate management oversight were common leading indicators of increased success in project outcomes, including cost and schedule performance.

Impacts Made by a Better and Healthier Work Environment

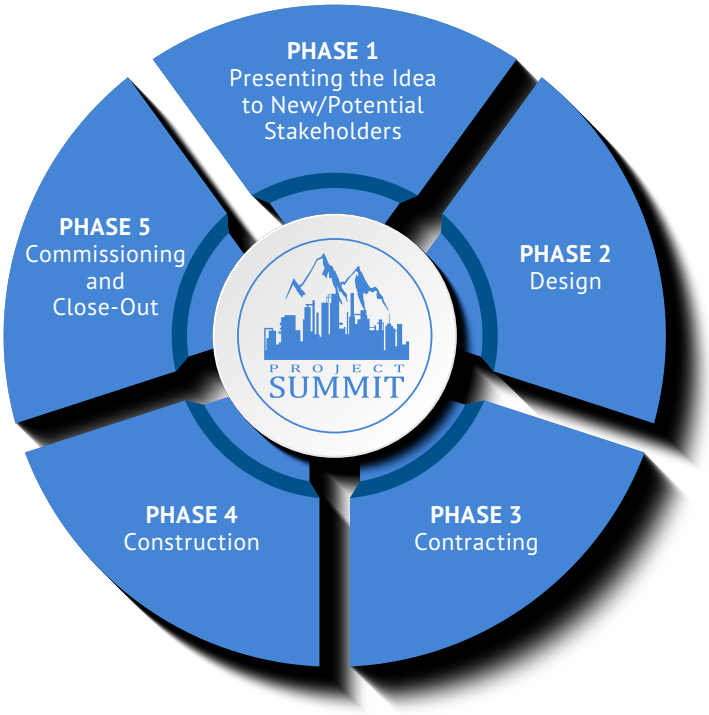
The results of both contractual collaboration and cultural collaboration generated a healthier work environment where project team members were behaving and working differently than they normally would, including being encouraged to speak freely and share feedback, concerns, suggestions, and innovative ideas with their team leads, all of which generated beneficial impacts to the project. For example:

- Proposing new ways of sequencing the work that made it faster and safer. Ideas that, even though the client had built many similar facilities, had never been considered before.
- Being able to reduce the amount of equipment (and equipment cost) on the site through sharing of equipment across the client and contractor organizations.
- Finding ways to reduce total scaffolding by coordinating and sharing more effectively.
- The inclusion of a suggestion box on site that resulted in numerous innovations (for example, wet conditions made going up the numerous metals stairs dangerous, so the workers proposed installing mud scrapers at the base of each staircase to get mud off the boots).
- Collaborative and real-time solutions to design and engineering corrections that reduced the typical time for similar issues from weeks to days, or even hours in many cases.
- Safety improvements and recommendations to minimize risk, falls, etc.

These are all ideas that came from the managers and craft professionals at the site. All made possible and reinforced by the contract and the cultural reinforcement of the Project Summit approach.

Lessons Learned and Takeaways for Future Project Summit Implementations

In addition to the data shown, research results and testimonies from all participating team members confirmed the success of the first Project Summit. While the goal of this new approach is nothing less than to revolutionize how the industry delivers projects, there is a need to learn from this pilot and enhance future implementations of the Project Summit vision. To achieve this goal, the research team has gathered lessons learned, takeaways, and potential improvements, as provided by the project participants, to be considered for future projects that will use the Project Summit approach. This information was gathered from team members from all organizational levels who were involved in the Project Summit and represent a comprehensive overview of lessons learned and potential improvements. The key lessons learned and takeaways were divided based on five project phases:



Phase 1 – Presenting the Idea to New/Potential Stakeholders

When presenting the idea to new potential stakeholders and organizations that are interested in a better project delivery method, the following should be considered:

- The presentation should not be over-detailed. Keep it simple.
- The presentation should focus on key elements of this approach:
  - Trust as the key aspect for this approach.
  - Be prepared for the future. Break the paradigm "silos" and learn from this experience to be more prepared for bigger future projects that would use such collaborative methods.
  - This approach drives and forces collaboration.
- An existing relationship with the owner will make it easier, due to previously established trust.
- There will be differing levels of individual buy-in from various stakeholders, but as Project Summit is executed and the project(s) progresses, more buy-in will happen throughout the process.
- Resistance to change will appear from individuals and teams, including procurement, since this approach is different to normal projects and approaches.
- A strong champion for this approach at the owner's side is needed. Individuals with higher positions in the company are more advantageous for filling this role, as it will be necessary to both initiate the change and achieve internal buy-ins.

Phase 2 – Design

To achieve benefits in this phase (which will reflect on the following phases), all teams (team includes the owner, designer, construction team, commissioning team, and end user) should be involved earlier in the project, from the start and at the preliminary design, estimating, and proposal stages. The Project Summit approach being involved with the design phase for the pilot test was not possible due to project timing; however, significant observations and feedback were realized during the research process. Future Project Summit approach implementation are recommended to be able to provide inputs to the design and will likely achieve the following:

- Enhance the constructibility by taking advice from the construction experts. A small sample of examples captured on the test project include:
  - Recommending a more efficient foundation size/shape to be used over others that would cost more to build (harder to build).
  - Recommending common and more available materials such as anchor bolts, fasteners, bolts, etc.
- Align drawing details and provide information to match what is required on site.
  - Alignment of drawing details and providing needed information prior to major construction activities will avoid returning to the design/engineering team to rectify and add specific/missing details to the drawings. This concept is not new or unique to Project Summit, but through the enhanced integration of site personnel, the research team anticipates expanded benefits to this approach due to Project Summit.
- Provide innovative construction solutions ahead of time to be integrated into the engineering and drawings.
- Early involvement from the commissioning team to review the design and construction sequencing for alignment with the commissioning process.

Phase 3 – Contracting

The Project Summit approach will potentially cause unusual conflict and delays within the contracting phase due the changes being recommended. To minimize the conflict and duration of this phase the following should be considered:

- One of the potential barriers for the Project Summit approach in the contracting phase is existing organizational "silos" within the client team. This can happen due to the organizational structure, individual buy-ins from one side and not from the other, and/or involvement of "new team members" who are not familiar or aligned with the new approach as the project(s) progresses. The following are recommended to overcome this barrier:
  - Present the idea and achieve buy-ins from all related silos at early stages.
  - Champions from leadership would significantly assist in overcoming this barrier by getting all internal stakeholders together to explain reasonings for pursuing Project Summit and the benefits to the organization.
  - Move quickly and build momentum around the benefits of the approach to gain and maintain buy-in.
  - Contractual terms and language should be as detailed as possible, and related to each team to achieve buy-ins.
  - Continuous involvement of leadership.
- Another barrier is lack of initial trust. Full transparency with the client is recommended to gain trust.
- Involvement of procurement and legal departments of each team is crucial for the speed of this stage of the process.
- Achieve buy-ins from the procurement team ahead of the process implementation and maintain continuous involvement of the procurement team throughout this phase.
- Risk sharing contract terms are the most important and need to be:
  - Clearly communicated to get buy-in (visual representation would help).
  - As detailed as possible to capture each type of risk scenario. This will help teams correctly track and report costs, hence speeding up and easing the closing process.
- Contract terms should explain the new process and procedures impacted by the Project Summit approach, such as the change orders process that is more pro-active and fast moving as compared to traditional projects.
- If implemented, the principle of shared risk and shared reward should be highly detailed and be specifically explained and agreed to prior to contract signing. As the contracts become more refined over multiple iterations of the Project Summit approach, all scenarios of cost discrepancy should be documented and included. This will have additional benefits beyond project management and cost management, as it will also make the closing phase faster and smoother.

Phase 4 – Construction

Construction is one of the most important phases where the impacts of the Project Summit approach can be observed. Site leadership should work together to implement the principles and work culture of the Project Summit ("one hard hat, one team," transparency, collaboration, trust, and fewer conflicts) to foster a better work environment where site personnel are encouraged to be collaborative, innovative, and feel accountable to the success of the project. The following are lessons learned for the construction phase:

- Involve key site leaders in the previous phase(s), share detailed information with them, and ask for their feedback to better align realistic expectations.
- There is a need for an onboarding presentation/orientation of the Project Summit vision and approach for new team members joining the site. This should be done throughout the project duration, not just at the beginning.
- Periodic team building events and dinners that site crews attended to remove barriers, drive discussion, create camaraderie, and grow trust and friendship between different team members.
- Organization leadership should select the suitable change agents (who the site would trust), train them, and build a good relationship between all selected change agents by continuously checking with them regarding the execution of the Project Summit on site.
- Conduct periodic meetings with organization and site leadership to keep reinforcing the vision of Project Summit and to resolve any issues that might arise between different team members.
- Organization leadership should expect and be ready to solve possible disputes between site leaders/change agents of different teams, since they are not accustomed to this approach. One should not underestimate the difference in thinking and attitude expected of the Project Summit approach.
- Building trust and good relationships between all team members is the main key to successfully implement and benefit from the Project Summit approach.
- Due to the smoothness and high responsiveness of applying changes on site, the team should early on identify the process of documenting the required cost and schedule impacts of change orders, costs, orders at the project.
- The process of progress and cost tracking should be identified and agreed to as early on as possible. High levels of transparency and communication throughout the leadership change are needed for cost information sharing.
- There is a momentum that needs to be built at the site, and it will require effort and conflict resolution skills. ("It might get bumpy at the beginning.")
- More coordination meetings among site leadership beyond what would be done on a traditional project will be required.
- Site leadership should focus on building a culture where everyone is accountable to share their ideas and feedback.
- Project Summit expands and builds on the good aspects of the relationships required in the construction industry.
- The morale of site leaders was noted as the most important thing that affected the site team members. Application of the Project Summit approach at the site level will not exceed the buy-in, implementation, and enthusiasm of the site leadership.
- Provide each team with all available information, specifically in terms of drawing and work details, even if it is incomplete. This will enable the site teams to identify potential issues and ask for, and suggest, changes to drawings or requirements.

- One Safety Leader recognized by all parties was implemented on the test project. In this approach, the Safety Leader should be given significant authority to be able to act decisively for all matters related to safety. On the test project, it was challenging for the Safety Leader to be the voice for all the teams and get buy-in from them, without knowing and having the relationship with all team members. It is recommended that organization and site leadership should present and support the Safety Leader to smooth the integration and recognition process from the site.
- Early implementation of the suggestion box idea, which was used for site members to share their suggestions for the site, is recommended. The suggestion box had some great ideas for site activities and safety.
- Provide more initial resources for site project management to help them focus on the extra needed effort of implementing the Project Summit vision at the onset of the job.
- The Senior Leadership group recognized a relationship issue between specific contractors' personnel groups, and they swiftly acted to get the groups together to build the correct culture. Left unattended, this would have derailed the project. This meeting was very productive, and more were scheduled with all additional contractors attending.

Phase 5 – Commissioning and Close-Out

Commissioning

Initially the construction team felt that the commissioning phase was not significantly impacted by the Project Summit approach. However, the commissioning team disagreed with this assumption. After interviewing the commissioning team, the following benefits were captured:

- The commissioning was faster than similar projects.
- The "Speed of the Communication" was significantly enhanced.
- The "service level" provided by the site management team to meet the commissioning team's needs was "remarkable."
- Less cost change orders occurred than on other parallel projects (during the pandemic).
- Very minimal number of RFIs arose, and all questions were answered quickly on the site.
- Documentation process followed the solutions, not vice versa.
- Observed markedly better quality vs. similar projects. One commissioning team member noted, "Seemed like the contractors really had a sense of ownership in the quality of their work" (this was additionally noticed by plant operators).
- Overall satisfaction rating of the commissioning phase (Satisfaction was a 10/10 as rated by four individual commissioning agents). Common remark was it is "one of the best" they have seen.

Close-Out

The commissioning team highlighted some missing pieces that could enhance the experience at the commissioning phase for future Project Summit implementations:

- Involve the commissioning team representative during the planning stages of the project.
- Provide a formal presentation and orientation to the commissioning team before they join the site.

10/10

satisfaction rating by four individual commissioning agents

Conclusion and What's Next for Project Summit

As Kevin Sell stated at the 2021 ABC Users Summit, "We can't keep doing business the same way, we need to change, and Project Summit should be how business is done in our industry. It is better, safer, faster, saves money for the owners, and creates a much more enjoyable work environment." The Project Summit approach has demonstrated the potential for significant impacts on project performance, but it is unique, and adoption of change within any industry is challenging. Future projects that apply the Project Summit approach will also have differing complexities, outcomes, and levels of success as compared to the single test project presented in this study.

The Project Summit approach also has cultural and work environment impacts that were observed during the research but were not contained in the contract, considered as part of the management plan, or captured in the work and cost tracking. The cultural and work environment impacts expand beyond the scope of a single project. The philosophical disruption caused by the implementation of the Project Summit vision resulted in leaders having expectations for changes in thinking, attitude, actions, and behaviors of nearly all individuals that interacted with the test project. This is a significant expectation and one that was not fully appreciated at the initial implementation of the Project Summit approach. Project Summit may ultimately prove to be more of a transformational event than being only a project improvement tool. It is recommended that future test applications of the Project Summit approach include more training specific to the vision and philosophy of Project Summit, more intentional and expansive team building, and more leadership involvement to support the cultural and work environment impacts caused by implementing Project Summit.

In conclusion, the Project Summit vision and approach should be implemented on additional projects. The Project Summit approach showed demonstrable potential for exceeding the measured positive impacts of currently available project approaches, delivery methods, tools, and/or processes. Detailed data collection for future Project Summit projects should be maintained, documented, and shared with the industry. Additional structure and processes, tools, and training will be needed to afford correct and consistent application of the Project Summit principles, concepts, and methods. The intentional and methodical consideration of the "human element" within Project Summit is what greatly differentiates it from other approaches, including project delivery methods, efficiency tools, and technology-based solutions. Project Summit is intended to allow all positively impactful innovations, processes, and tools to be incorporated within its umbrella. Project Summit does not need to be confined to a specific contractual structure, delivery method, process sequence, project type, or industry sector. It is a vision and a philosophy that has the ability to revolutionize the built environment.

> We can't keep doing business the same way, we need to change, and **Project Summit should be how business is done in our industry.** It is better, safer, faster, saves money for the owners, and creates a much more enjoyable work environment."
>
> *Kevin Sell, 2021 ABC Users Summit*

About the Authors

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