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LEAN REFLECTION PRACTICES AND ORGANIZATIONAL KNOWLEDGE MANAGEMENT: A GENERAL CONTRACTOR CASE STUDY

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ABSTRACT

This paper is the sixth in a series discussing the transition of a self-performing general contractor (GC) towards early systems of measurable collaboration to achieve more reliable outcomes. This approach, known as a Systems Approach to Quality (SAQ), enhanced project performance and team culture. This paper investigates the impact of the Monday Quality Calls (MQC) initiated by the Quality Leadership Team (QLT) in 2015 as a forum for reflection, learning, and collaborative tacit knowledge sharing to build SAQ competencies and support organizational change efforts. The research aims to understand the characteristics of the MQC portfolio, evaluate the influence of the QLT, and assess trends in content development over seven years. Findings reveal the MQC's representation of the GC's work and highlight opportunities to enhance geographic and role diversity in participation to support further organizational efforts. Moreover, the paper underscores the value of the MQC as a multi-modal knowledge-sharing platform, facilitating team coaching, onboarding, and refining organizational strategies and processes. The study proposes future research and advocates for similar metrics tracking and knowledge-sharing initiatives in the industry. Ultimately, this paper contributes to refining organizational approaches to quality management and fostering collaborative learning in the Architecture Engineering Construction industry.

KEYWORDS

Systems Approach to Quality (SAQ), Knowledge Management, Capability-building, Organizational Change, Action Learning Research

INTRODUCTION

KNOWLEDGE MANAGEMENT TO INFORM THE REWORK PROBLEM IN THE CONSTRUCTION INDUSTRY

This paper marks the sixth installment in a series of works authored by the current authors and others, aiming to document, analyze, and learn from the journey of organizational change undertaken by a prominent "self-performing General Contractor (GC) focused on highly

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complex and technical projects" (DPR homepage 2024). Central to this contractor's ethos is the commitment to "Exist to Build Great Things" (DPR homepage 2024), not solely in project deliverables but also in fostering excellence in individuals, teams, and relationships. Nonetheless, as Spencley et al. 2018 outlined, this GC faced recurring rework issues common within the construction industry. These issues manifested as unpredictable variations in project outcomes, with instances where work was completed per plans and specifications but did not meet client expectations, thus necessitating rework. Furthermore, warranty issues occasionally demanded post-completion rework, and there were other cases where substantial resources were expended to address punch list items before project closeout (Spencley et al., 2018).

The crux of the problem lies in the entrenched operational practices within the industry, characterized by significant silos among key stakeholders—owners, architects, designers, general contractors, and subcontractors—and challenges with knowledge sharing resulting in knowledge fragmentation and loss during transmission (Spencley et al., 2018; Gil, 2002). As Gil (2002) describes, knowledge and information are distinct; while information has been collected, documented, and referenced, knowledge expresses understanding from experience or education and can be explicit or tacit. Explicit knowledge is documented where tacit knowledge exists in the minds of individuals (Gil, 2002). Gil describes tacit knowledge as having "operational and logistic dimensions" and how knowledge transference amongst stakeholder firms is problematic, leading to assumptions and uninformed decisions (Gil, 2002). These challenges contribute to deliverables not meeting stakeholder expectations (Spencley et al., 2018). Therefore, the challenge is establishing a way to "signal know-how between architects and builders" (Gil, 2002) and the seamless flow of knowledge and information from those with technical, logistical, and operational expertise to designers and owners while minimizing the loss of translation of expectations to those executing the work (Spencley et al., 2018).

To address these challenges, the GC's approach centered on promoting measurable collaboration early in project lifecycles (Spencley et al., 2018) to "signal know-how" (Gil, 2002). Subsequently, Gordon et al., 2021a recognized this approach as a systematic application of principles encompassing leveraging existing knowledge and information, understanding expectations through identifying Distinguishing Features of Work (DFOW) from each stakeholder's perspective and aligning them to measurable acceptance criteria at key Points of Release (PoR) across project phases. This approach to sharing tacit knowledge aimed "to develop means and methods for enhancing high-competence contractors and supplies to signal- and designers to retrieve-know how along AEC product development" (Gil, 2002) with the customer. Collaboration facilitates bridging information and knowledge sharing, mitigates risks, supports adaptability to late design changes, improves supply chain efficiency, and fosters product design innovations (Gil, 2002).

Termed a Systems Approach to Quality (SAQ), this methodology yielded promising results, as evidenced by a 2021 case study comparing SAQ-implemented projects with a control group that implemented a prescriptive compliance-based quality approach. The SAQ intervention group demonstrated superior performance across critical success factors for cost, schedule, change management, and quality and fostered more collaborative work cultures (Gordon et al., 2021a). Further studies by Gordon et al., 2022 and 2023 unearthed additional insights. The GMP sign date as a percentage of the overall project timeline, staffing and resourcing patterns, and communication variances in RFIs and PCIs are performance predictors desired by this GC.

Gordon et al. (2021b) describes the organizational change implementation efforts to integrate SAQ into the GC's approach to work between 2013 and 2020. This paper focuses on how building from tacit knowledge was foundational to their organizational change strategy. Gil 2002 highlights how knowledge transference within companies is also complex. Thus, to address this struggle, the QLT initiated the Monday Quality Calls (MQC) in 2015. The MQC forum aimed to understand, articulate, and disseminate project strategy and SAQ execution

principles from different types of projects, including scale, geographies, customers, and core markets, from perspectives of diverse roles at standard phases in the project lifecycle to further support, and develop organizational change endeavors. Through the MQC, the QLT organizational change strategy sought to make tacit knowledge of project team implementation strategies explicit. Within the standard project lifecycle timeline, project teams reflected and shared successes, challenges, and opportunities for improvement on their overall project approach and specific deliverables.

After seven years of MCQ production, the main research question the authors wanted to explore is: What can be learned from the MCQ information and knowledge gathered to inform our organizational change journey moving forward, and what insights can be provided to others embarking on this journey? Specifically, this work sought to answer the following questions: 1) What are the characteristics of the portfolio of work captured in the MQC, and does it represent the GC's body of work? 2) What insights do the characteristics of calls offer regarding the influence of Quality Leadership? 3) Are there observable trends in the development and maturity of the content of the calls?

The remainder of this practice-oriented paper will describe the theoretical framework for the MQC, the IGLC literature review related to this topic, the methodology for investigating the research question, the data collection process, analytical findings, data limitations, discussion of findings, and formative conclusions.

THEORETICAL FRAMEWORK

SYSTEMS APPROACH TO QUALITY (SAQ)

The MQC described the project and organizational strategy and the creation and execution of SAQ. SAQ focuses on understanding and identifying key Points of Release when work will be released to the subsequent phases, as well as building from knowledge and information to inform stakeholder expectation discussions. After identifying project stakeholders and accountable decision-makers, SAQ involves conversations to understand DFOW, which are areas of the work that require increased attention to ensure the work is built right the first time from each stakeholder's perspective. Through conversations, the stakeholders document DFOW alignment to Measurable Acceptance Criteria (MAC) before releasing work for production. When production work is completed, it is evaluated to ensure it meets the agreed MAC before release to the next phase. If deliverable outcomes do not meet documented MAC, causal analysis is performed to understand the breakdown in the process and develop solutions to prevent the issue's reoccurrence (Spencley et al., 2018; Gordon et al., 2021a).

THEORY INFLUENCING MONDAY QUALITY CALLS (MQC) STRATEGY

A few key concepts influenced the MQC strategy. In mid-2019, the Lean and Integrated Delivery Leader, the fourth author of the paper, challenged the first author to consider the QLT and Quality Leadership Network's (QLN) strategy to build the organization's competencies to implement SAQ. The Lean and Integrated Delivery Leader provided the first author with the Competency Development Model (Ortiz & Reed, 2015). Ortiz and Reed delineated competence levels ranging from unawareness to awareness, from awareness to understanding, from understanding to capable, and from capable to mastery. They proposed a developmental approach aimed at elevating competency across these levels, commencing with informing, followed by educating, training, coaching, and ultimately, mentoring, to achieve mastery. Additionally, their model described the message content and focus for fostering competency through each developmental pathway (Ortiz & Reed, 2015).

To build the organization's competencies, from unaware to aware, the first and fourth authors decided to build a "You are Here Map" for project teams based on a standard project

workflow. In each phase of the project lifecycle, pursuit, preconstruction and design development, design development and coordination, fabrication, installation, and construction, the strategy was to provide teams with basic information. This included project strategy to implement SAQ, considering if they had started this approach from the beginning of the project or were starting at that phase in the project lifecycle. Examples of process workflows, tools, and scripts for how to have the conversation and examples of DFOW and MAC that other teams had produced for that phase and work would also be provided. The MQC would be a pivotal tool to provide examples of what operationalizing SAQ at different stages in the project life cycle looked like. While no two projects are identical, and each has unique challenges, the MQC aimed to provide enough examples of emerging operational and strategic trends.

The MQC relied on understanding and capturing the knowledge of those who understood and mastered SAQ principles in their work and were leading others. The purpose was to learn from these leaders and teams and assist others in competency states of unawareness, awareness, or understanding but not yet capable of integrating SAQ in their approach to work. In McKinsey's 2015 article on the "Four Building Blocks of Change," the importance of seeing leaders behave differently encouraged the authors to include storytelling and modelling as critical components of the MQC. The vision and strategy for moving the organization through competencies included focusing on knowledge capture, project team competency building, integration of SAQ principles into organizational processes, and communication of successes and learning. The QLT worked toward supporting business unit quality strategies and developing more quality coaches who could assess and work with project teams through coaching, modelling, flipped classroom activities, and other tools (Gordon, 2019).

IGLC LITERATURE REVIEW

Our review of the IGLC database identified 21 papers pertinent to the query "knowledge management." While numerous papers outlined theoretical frameworks for capturing project knowledge, and some offered case studies, none specifically addressed the longitudinal process of documenting and disseminating project team knowledge within an organization. Consequently, our paper fills this gap in the literature, offering valuable insights for scholars and practitioners initiating similar endeavours.

METHODOLOGY

The research methodology can be described through Saunders, Lewis, and Thornhill's Onion Model; the research philosophy's outer layer is realism, a scientific inquiry approach (Saunders & Tosey, 2013). The authors examined the MQC series by drawing from the design and systems thinking innovation lab hosted by the Center of Innovation in Design & Construction Industry (CIDCI 2022). The web of abstraction tool was utilized to frame and re-frame the question: How might we learn from what we did to understand, capture, and share project team successes, challenges, and opportunities for improvement to support the quality organizational change initiative? Questions from the web abstraction exercise and discussions with industry colleagues were categorized to understand the problem better. Three distinct categories of investigation emerged.

The first category of questions sought to ascertain whether the calls represented the GC's body of work by geography, core market, and contract value and whether the series adequately represented the diverse roles within project teams.

The second category of questions aimed to assess how the MQC documented the Quality Leadership Team's (QLT) corporate change journey, how the calls reflected their influence, and what could be learned to inform future strategy. Questions grouped into this category included: Did the geography of the teams delivering on the calls align with QLT's presence and

their coaching with project teams, or were other organizational mechanisms influencing SAQ implementation? Would there be an observable increase in the number of team members participating in sharing their project team implementation story as SAQ became more ingrained in the operational framework? Also, of interest was exploring the patterns of project DFOW production, an output of SAQ project implementation (Gordon et al., 2021b), compared with previous organizational data findings. Furthermore, what could be derived from understanding the demographics of attendees in these calls?

Finally, the third category of questions sought to learn whether the knowledge and content reflected organizational goals and if it matured over time. The call content could be mapped to cost, schedule, safety, quality, team culture, and strategic goals, reflecting standard areas for project metrics as documented in Gordon et al. (2021a, 2022, and 2023). The authors sought to understand if there had been a noticeable change in the topics or presenter characteristics.

The following research layer used a multimethod qualitative and quantitative design (Saunders & Tosey, 2013). The qualitative data, including MQC recordings, presentations, and internally published narratives, assessed content characteristics. The quantitative data of presenter characteristics, attendance records, project characteristics, and project DFOW files were also evaluated.

The third layer of research is described by action research, as the authors worked with practitioners to gather and document their explicit and tacit knowledge to "bring about organizational change" (Saunders & Tosey, 2013). The fourth layer of this research is longitudinal, as the work studied spanned from 2018-2023. Finally, the inner layer of research, the data collection, is described in more detail in the following section. The data analysis entailed mapping the data about each call to the respective categories of questions. Visualizations were subsequently generated to analyze the data for each category of questions. Finally, the data analysis was compared with previous research based on the company's implementation of SAQ and juxtaposed against the development of the QLT and QLN.

DATA COLLECTION

The QLT started the MCQ in 2015. The content included discussions about developing a quality objective, a standard quality implementation plan reflective of SAQ, processes, and systems to support SAQ, practitioners' experiences, project implementation stories, and coaching from leaders. In September 2019, the first author led the series' relaunching, focusing mainly on project implementation stories. A standard set of questions related to how the project team implemented SAQ was developed with the QLN to help the teams reflect on their journey and prepare for sharing on the MQC. The QLT, QLN, Operations/Business Units, and Corporate Services selected projects and presenters for the MQC that had implemented SAQ principles. The first and second author interviewed teams to understand their project's story, and the project teams presented their stories in a virtual forum. Questions and discussion were encouraged. The calls were open to everyone, and the QLN distributed call invites to their networks.

Also, the MQC shifted to a platform with advanced collaboration features like call recording, transcriptions, chat messaging, file sharing, and news article publishing. Recordings and summaries were shared via email and stored in an online searchable notebook. In 2021, the authors reviewed the process with organizational leaders. They decided to improve dissemination by publishing summaries as news articles and developed a standard PowerPoint to aid call production.

DATA FINDINGS

PREVIOUS RESEARCH

In previous research, Gordon et al. 2021b assessed the implementation of SAQ by counting the projects with DFOW files in the project folder enterprise system. The results presented by year the project mobilized and DFOW project revenues as a percent of annual sales for the year:

- 2016: 3 projects, DFOW project revenues as percent of annual sales is 5%
- 2017: 17 projects, DFOW project revenues as percent of annual sales is 29%
- 2018: 37 projects, DFOW project revenues as percent of annual sales is 31%
- 2019: 66 projects, DFOW project revenues as percent of annual sales is 42%
- 2020: 67 projects, DFOW project revenues as percent of annual sales is 55%

The results presented by region:

- Central: 17 projects with DFOW files, 24% of revenue as a percent of regional sales
- Northeast: 31 projects with DFOW files, 44% of revenue as a percent of regional sales
- Northwest: 60 projects with DFOW files, 39% of revenue as a percent of regional sales
- Southeast: 49 projects with DFOW files, 36% of revenue as a percent of regional sales
- Southwest: 34 projects with DFOW files, 28% of revenue as a percent of regional sales

Additionally, the results were presented by the core market, which refers to the market of the GC's customers:

- Advanced Technology: 34 projects with DFOW files, 33% of core market sales revenue
- Commercial: 42 projects with DFOW files, 41% of core market sales revenue
- Healthcare: 37 projects with DFOW files, 23% of core market sales revenue
- Higher Education: 13 projects with DFOW files, 42% of core market sales revenue
- Life Sciences: 44 projects with DFOW files, 42% of core market sales revenue
- Other: 20 projects with DFOW files, 24% of core market sales revenue

DATA FINDINGS FOR MONDAY QUALITY CALLS (MQC)

Between 2017 and 2023, 76 MQC focused on a project implementation story. In each year, a few project teams presented more than once. Only distinct project numbers were used to assess the work portfolio by contract value. Of the distinct project numbers that were shared, 19% had contracts greater than $250 million, 17% had contracts between $100 - $250 million, 19% had contract values from $50 - $100 million, and 33% had contracts between $10 - $50 million and 12% had contracts less than $10 million. The graph on the left shows the percentage of calls from each region for each year. The graph on the right shows the percentage of calls from each core market presented each year.

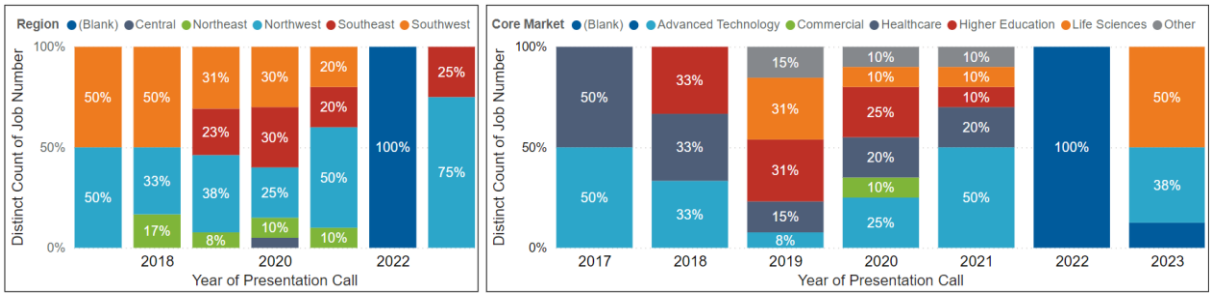

Figure 1: Percentage of MCQ from each region and core market by year.

In Figure 1, the chart to the left shows that all regions contributed a story to the calls during the seven years. Aggregate analysis reveals that Central had the lowest percentage of participation in the MCQ series, with two calls, and the Northwest had the largest percentage of participation, with 38%. Southeast contributed 22% of all calls, Southwest 24%, Northeast 12%, Central 3%, and Blank 1%. The chart to the right shows that all core markets are represented in the MQC. Advanced Technology core market comprised 33% of all calls, Higher Education 20%, Life Sciences 17%, Healthcare 16%, other 9%, Commercial 3%, and 1% blank.

Furthermore, for each year, the count of MCQ Project Implementation story and attributes of the call, including the median contract value, whether the project had DFOW files, the median value of the count of DFOW files in the project repository, and the median and count of presenters for all calls that year were tallied. The information was also compiled for seven years.

Table 1: Attributes of MQC Project Implementation Stories presented each year.

Year	Count of Project Stories	Median Value for Contract Value	% of calls with DFOW files	Median value for Count of DFOW files	Median number of presenters	Count of presenters
2017	2	$292.4M	50%	111	1.0	2
2018	7	$260.4M	43%	111	1.0	7
2019	17	$61.1M	76%	62	1.0	17
2020	25	$74.7M	64%	13	1.0	37
2021	16	$159.4M	38%	7	1.5	34
2022	1	$100.0M	0%	0	1.0	1
2023	8	$84.6M	75%	4	2.0	24
Total	*76*	*$110.0M*	*59%*	*14*	*1.0*	*122*

The median value for the project contract ranges varies over the years, and the larger contract values reflect the GC's large project portfolio being showcased more frequently. Most of the projects presented had DFOW files readily accessible in the enterprise repository. The data also shows that the median value of projects with DFOW files fell drastically over the years while the median number of presenters increased slightly.

In Figure 2, the graph on the left visualizes the percentage of MQC presenters from each workgroup each year. The resources are as follows: DM = Design Integration Management, VDC = Virtual Design and Construction, SPW = Self-Perform Work, RISQ = Risk, Insurance, Safety Quality, Precon = Preconstruction Services, PM = Project Management, MEP = Mechanical Electrical and Plumbing, Field = Superintendent and foreman. The graph on the right shows the percentage of standard work topics covered, including team culture, cost, planning and scheduling, quality, safety, and the company's strategic focus areas.

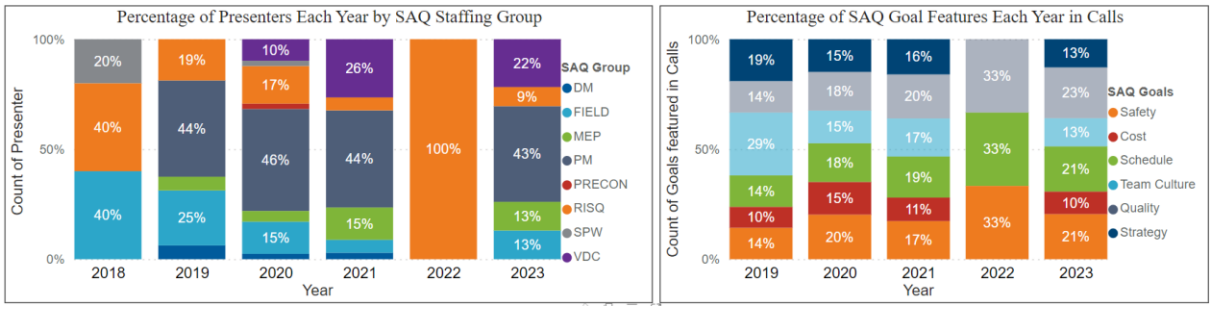

Figure 2: Presenters by SAQ Staffing Groups and SAQ Goals featured by Percentage.

Figure 2 shows that all roles had the opportunity to present their perspective over the years. The distribution of roles presented on the calls was highly uneven. The project management group had the most visibility on the calls to share their experiences with 36% representation, and the preconstruction dedicated resources had the least time with only one presenter. The calls' content was analyzed yearly, and all workgroup topics were discussed, except for 2022. In 2022, there was one call with a Quality Manager, and only three topics were discussed. Of the 117 presenters, 21% were repeat presenters, and 17% had graduated from an online 4-week quality training course, which began at the end of 2020.

Figure 3 shows the number of participants in the MQC Project Implementation Stories by region each year. The superimposed line graphs also show the number of unique attendees compared to the total attendees each year. Overall, 3137 participant hours were logged for 895 unique participants, an average of 3.5 hours per participant.

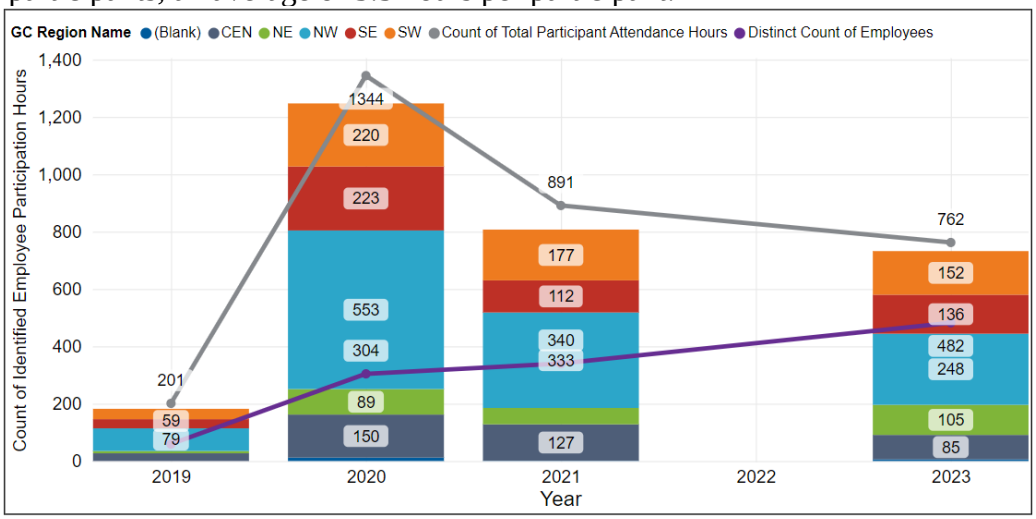

Figure 3: Shows the count of attendees by region and the difference between unique attendees and total counts.

Each year, attendees on the calls represent all regions. The data shows more attendees but fewer unique attendees each year. This gap starts to close in 2023, with a more even distribution of attendees in 2023 across all regions.

LIMITATIONS OF THE DATA

Limitations of the data include 1) The Study sample reflects 131 Monday Quality Calls (MQC) documented from 2017 to 2023. 2) Only MQCs focused on a single Project Implementation Story with job numbers in the Excel MQC tracker were analyzed. 3) Other MQCs demonstrating SAQ principles across multiple projects describing process implementation and other trainings and discussions were excluded from the analysis. 4) DFOW file counts were tallied if accessible in the enterprise project document control repository. Some projects had

DFOW files maintained in customer systems, and these were not counted. 5) Presenter roles were counted if they existed and were categorized based on previously defined classifications from Gordon et al., 2022. 6) Attendee tracking commenced in the fall of 2019 with the transition to a new collaboration platform. 7) Attendee roles represent current positions and include all 131 MQCs, not solely Project Implementation Stories. 8) Not all attendees of the MQCs were able to be related to employee records, which is why the participation hours exceeded the employee records in each instance. This analysis also highlights gaps created when the organization relies on manual records processes. For example, the primary recorder could not attend the 2022 call. Thus, the participation records were not recorded.

DISCUSSION

The data shows that the MQC Project Implementation stories represented the GC's work by core market and size of the project contract. The calls did not adequately represent the geography of the regions. The Central region accounted for 3% of MCQ; however, the previously collected data on DFOW file production shows that Central had 24% of all project revenue from 2016-2020 implementing SAQ. The Northwest region accounted for 38% of calls and was documented as having a similar distribution of projects with DFOW files through 2020. This finding aligns with the geographical region of most of the QLT from 2013-2020. The percentage of participation in the MCQ from each region represents how strongly the individual members of the QLT and QLN value capturing and sharing this knowledge across the company. Geographical participation in knowledge capturing and sharing is essential for evaluating strategic implementation.

Gordon et al. (2021b) show DFOW file findings distributed across all core markets. Similarly, the MCQ has project examples distributed across all markets. Also, the percentage of MQC with DFOW files reflected similar results observed during the organizational results documented by Gordon et al. (2021b). Organizationally, 2019 and 2020 had the highest percentage of projects with DFOW files. Similarly, there were more MCQ projects with DFOW files in those years. These observations suggest that the MQC reflected the GC's portfolio of work. While 2023 shows that 75% of MQC had DFOW files, 60% of calls that year were nominated by a leader the first author had worked with on several projects, highlighting the importance of tracking who nominated the calls.

When looking at presenter characteristics, the MCQ does not adequately reflect all the roles in the company. There was one preconstruction workgroup presenter during the seven years. While all roles, DIM, PM, VDC, MEP, RISQ, and Field, participated in the preconstruction phase, the data shows that the dedicated preconstruction role was absent. This highlights an opportunity to describe further how these dedicated resources can support and lead SAQ implementation through their daily work streams. Furthermore, in this study of presenter characteristics, participating in the 4-week online quality training was not a determining factor for those teams who implemented and presented.

The data also shows a wide range of attendees and that key influencers attended every call. The audience attending the calls is vital to show who is participating in these calls and to reflect on why. The first three years of data, 2019, 2020, and 2021, show a higher number count of attendees but fewer new attendees due to the frequency of the calls. In 2019 and 2020, calls were weekly; in 2021, they shifted to twice monthly; in 2023, there were calls approximately 4-6 weeks. Specifically, 2020 demonstrates a solid base of extended QLN regularly attending the calls and supporting the company in implementing the DFOW process in the early years, as documented in Gordon et al. (2021b). In 2023, 60% of the calls originated from the Northwest; however, that year shows that the attendees of the calls were evenly distributed across all regions. These changes can be attributed to the change in communication and frequency of the information. Last year, instead of relying solely on the QLN to distribute the calls, the first

author marketed the MQC in company-wide communication channels. Thus, it is also essential to track and understand how changes in communication and frequency of calls affect attendance.

All the company goals and strategic focus areas were addressed each year, except for 2022, when there was only one call by a quality manager. This demonstrates that describing a project's results and process to achieve those results must consider all workstreams: safety, quality, cost, schedule, and team culture. While the number of presenters increased each year, reflecting a maturity of the call content to share more project role perspectives, reviewing the information by overall implementation or deliverable implementation, assessing the type of workflow process discussed, and the phase in the project lifecycle would aid in assessing patterns in content and maturity of content.

CONCLUSION

The present study highlights the benefits of documenting organizational change management efforts and project team implementations in a multi-year and multi-modal process to refine the understanding, language, and presentation of SAQ. The MQC process and coaching platforms have helped teams describe their interdisciplinary and multi-factored approach to achieve improved and more reliable performance outcomes. Repeat presenters matured in their project team implementations and demonstrated their growth and development. Providing a coaching platform facilitated reflection on the continuous improvement and learning process. This has enabled the authors to refine and standardize their approach to helping project teams describe the complex and dynamic situations (Bertelsen 2003a, 2003b) they face from different standard project team roles. This forum was essential for the diffusion of ideas across the organization and promoted innovation, as teams could build off the work and knowledge of others. Additionally, this foundation of knowledge has proved immensely helpful in mapping the content to maturing language in the organization to articulate company goals better.

The value for other practitioners is understanding that this work formed an information network that weaves and cascades through the organization. These modes allow for storytelling and modeling through video recordings, slide deck presentations, and SharePoint summary news items that "signal know-how" (Gil, 2002) of project teams. This foundation facilitates team coaching, connects peers to peers for relatable knowledge building, onboard new team members, and prepares external marketing and communication materials. MCQ content has been shared at conferences such as Lean Construction Institute and Advancing Construction Quality to advance the knowledge and practices of the industry. The QLT saw this knowledge capture as a foundation to support learning and development frameworks while raising the competency of individuals who developed project and organizational systems reflective of SAQ. However, it has been difficult for the organization to incorporate this new knowledge into existing learning and development materials.

The authors recommend expanding the work to ensure the discussed MCQ processes are captured and reflected in organizational standards. Additionally, the authors recommend further developing learning and development experiences to build the competency of measurable collaboration alongside technical training as the organization matures in SAQ adoption. To support organizational competency growth, skill-building is essential. The authors suggest that others embarking on this journey track similar metrics, including project attributes, presenter roles, attendees, and topics, as metrics to gauge their influence and inform their strategy. Furthermore, the authors recommend tracking the motivation or driving factors of the teams that implemented and shared in this forum. Understanding what assisted them in creating the strategy and routines for implementation and who nominated them could help the QLT gain insight into the channels for spreading ideas and the influencers of organizational change, which can aid in refining strategy. Additionally, analyzing the data collected on the MCQ enabled the authors to understand the portfolio of work captured through the calls, presented gaps in the

content, revealed where geographically more focus was needed, and began to track the maturity of the content. A deeper understanding of the captured processes is needed to quantify the maturity of the content.

For further research, the authors suggest conducting a similar investigation to quantify project performance outcomes and contributing factors described by Gordon et al. (2021b, 2022, and 2023) to the MQC projects. Additionally, the authors suggest broadening the MCQ analysis to consider the processes discussed on the calls to assess content maturity. Finally, the authors believe there are opportunities to leverage emerging Artificial Intelligence capabilities to capture knowledge and provide knowledge transference to assist teams in understanding the strategy and actions necessary to achieve predictable outcomes.

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