Integrating Organization Development into Value Engineering: A Case Study

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Abstract

A process definition and implementation study, sponsored by King County Wastewater Treatment Division (WTD) and facilitated by Value Management Strategies, Inc. (VMS), was conducted to improve the overall Lessons Learned process, particularly to capture information and feedback on business processes and construction-related information. This case study explores how elements from Value Engineering (VE) and Organization Development (OD) can be integrated to enhance business outcomes.

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Collectively, Giuseppe and Ashley bring over 15 years of experience as dynamic organization development practitioners.

Background

King County Water Treatment Division (WTD) Management identified the need for WTD to reinvigorate its efforts to solicit, capture, and reference lessons learned from past projects. This effort was desired to be programmatic and comprehensive across all phases of project delivery.

At the time of this study, program managers were capturing lessons learned to report at specific phase gates throughout the project life cycle, but there was inconsistency in methods and documenting content. Although a process existed for reviewing, documenting, and reporting lessons learned, few employees were familiar with it. There was also a lessons learned log that had not been updated or maintained with relevant information.

The Lessons Learned Process Definition and Implementation Study was initiated to develop an efficient and user-friendly process by which WTD personnel could capture and document lessons learned from key project delivery documents. These key project delivery documents included, Risk Registers, Trend Logs, Decision Logs, and Basis of Estimate documents. The lessons learned need to be readily accessible to others for review by project teams and easily searchable by topic, project, project location, etc.

A multi-functional team comprised of representatives from Project Controls, Project Management, Engineering Services, and Construction Management was convened in August and October 2018 to meet the study objectives identified above.

What is OD?

Organization Development (OD) is "a system-wide application and transfer of behavioral science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organization effectiveness" (Cummings & Worley, 2015, 2). To expand upon that definition, Worley & Feyerherm recommend that for a process to fall within the realm of OD, it must meet the following requirements:

1. The process must produce results that change the organizational system,

2. The process must facilitate a transfer of knowledge to the organization, and

3. The process must produce results that improve, or intend to improve, organizational effectiveness (97-115).

OD is a unique discipline in that it is focused on improving the total system – the organization and the larger, external environment within which it exists. OD covers a broad array of organizational activities that include: process improvement, strategic planning, team building, job enrichment, and change management. Essentially, OD helps organizations build capacity for continuous change and improvement all while working to involve both the heads and the hearts of those in the organization.

OD Integration

Value Management Strategies, Inc. (VMS) facilitated a process improvement study for King County WTD to improve their lessons learned process utilizing key elements of VE with techniques from OD. Though this process improvement study integrated unique concepts and methodologies from OD, the eight steps of the extended VE job plan – Preparation Phase, Information Phase, Function Analysis Phase, Creative Phase, Evaluation Phase, Development Phase, Presentation Phase, Implementation Phase – guided design decisions for the project.

For example, timing and length of the workshop were of utmost importance when designing a study that would optimize the experience for workshop participants. The decision was intentionally made to facilitate three, two-day workshops over a six-month time period opposed to scheduling a three to five-day study as is custom within the field of VE. Facilitators wanted to ensure ample time was devoted to addressing each phase of the VE process but also intentionally broke up the work with "saturation periods," or time for participants to reflect on their experience after each workshop and the work they had completed as well as communicate with their peers and solicit feedback.

The workshops were also designed to attend to the needs of all stakeholders from top management to front-line employees at WTD. Again, drawing from the work of Cummings & Worley (2015), "an organization's current performance is the result of tactic and explicit coordination among a variety of stakeholders" (532). As such, project sponsors were invited to speak at the beginning of each workshop, aligning team members through re-iteration of the project goals and expectations. At any time during the six-month project timeline, members of the management team, particularly project sponsors, were invited to sit in and observe the project team at work. Check-in meetings were also scheduled with the leadership and management teams as the project progressed, confirming not only the direction of the project, but assisting in obtaining buy-in from the top down.

Finally, "check-ins" and "check-outs" were scheduled with each group member to begin and end the workshop sessions each day. Intentionally scheduling a "check-in" at the beginning of every work session provided space to ensure every group member's voice was brought into the room and heard by their team members. These "check-ins" and "check-outs" also provided a platform for group members to set individual intentions, discuss their goals and level-set expectations for the group's work as they better understood how the team was collectively showing up to do work together.

Pre-Workshop: Information

The study included focus groups, benchmarking interviews as additional ways to collect data and supplement the Information Phase. Understanding of the current lessons learned process began with focus groups for each of the various units currently impacted by lessons learned: Project Controls, Project Management, Engineering Services, Construction Management, and Legal. The focus groups met to provide their knowledge of the current formal process, explain the current process they use, and voice their suggestions and concerns for a new lessons learned process. Focus groups were intentionally selected to gather foundational data for the lessons learned process improvement effort as they created opportunity to "get all voices in the room," a guiding tenant in OD work. Consistent with VE protocol, the population participating in the focus groups was multidisciplinary. Utilizing multidisciplinary focus groups not only ensured the various units currently impacted by lessons learned had the opportunity to contribute their expertise, but also allowed for individuals to self-select themselves into the lessons learned project team.

To understand industry best practices, benchmarking interviews were completed. Public agencies and private construction firms were interviewed to understand the strengths, weaknesses, and successes of their lessons learned process, including if they had changed their process recently.

A meeting was then held with WTD Management to present the findings from the focus groups and benchmarking interviews, and gain approval to proceed with the study. WTD Management elected to continue.

Workshop 1: Function Analysis, Creative, Evaluation

The first of three workshops was held to analyze the current state of the lessons learned process. The team reviewed the results from the focus groups and benchmarking interviews and used the data to complete a SWOT analysis. The team then performed a Random Function Analysis to determine the functions of the lessons learned process. The Table 1.0 indicates the functions identified to inform the brainstorming.

Table 1.0 Lessons Learned Random Function Analysis Results

Function
Report Timeliness
Increase Accessibility
Garner Support
Increase Desire for Change

Function
Maintain Standards
Facilitate Communications
Ensure Follow-Through
Engage Teams
Foster Buy-In
Maintain Institutional Knowledge
Define Roles
Improve Consistency
Ensure Ease of Use
Create Safe Space
Cultivate Robust Data Quality
Transform Scalability Platforms

Using the identified functions, the team brainstormed 125 ideas. In order to evaluate the ideas, the team agreed upon performance metrics which represented the essential aspects needed for a new process to be successful. Any idea that failed to meet these metrics could not be considered as a viable criterion. The performance metrics in Table 2.0 were selected for this project.

Table 2.0 Lessons Learned Performance Metrics

Performance Metric	Definition
Buy-in	What will garner the most support?
Consistency	Does it fit with other processes or procedures (not conflicting)? Do all changes work in concert?
Efficacy	Does it improve the process?
Efficiency	Is it easy to maintain?
Span of Control	Do we have the authority to implement?

The ideas were evaluated using the above performance metrics to 15 criteria to be incorporated into the new lessons learned process.

Workshop 2: Development

The second workshop was primarily focused upon the Development phase as this workshop was designed to foster the actual development a new lessons learned process for WTD. From an OD perspective, the second workshop also incorporated concepts from two primary OD methodologies – Appreciative Inquiry and Future Search. Both Appreciative Inquiry and Future Search are frameworks commonly utilized within the field of OD when supporting an organization's efforts to implement change.

Appreciative Inquiry is a positive, strengths-based, participatory framework focusing on what an organization does well as opposed to what it needs to improve upon in order to create change (Watkins, Mohr, & Kelly, 2011, 22).To leverage the power of Appreciative Inquiry, the lessons learned project team was encouraged to leverage what WTD does well and find ways to incorporate those strengths in the creation of their new lessons learned process. By asking positive questions and amplifying WTD's strengths, the lessons learned project team was able to generate the significant momentum needed to completely overhaul the lessons learned process utilized throughout the organization.

Future Search, by definition, is "a principle-based planning meeting that helps people transform their capability for action very quickly" (http://futuresearch.net). Like VE, one principle of Future Search is to ensure the "whole system," or multi-disciplinary group of individuals representing all stakeholders, is in the room. As its name implies, Future Search is heavily focused on the future state, which made Future State an extremely applicable framework to integrate into this process improvement study. Perhaps most notably, Future Search is a task-focused and highly encourages self-management and ownership of action by all those who are involved before, during and after the Future Search has occurred. Significant commitment was required of the lessons learned project team during pre-study when gathering data as well as during the three, two-day workshops taking place over a six-month period. However, for the lessons learned process improvement to truly be successful, significant time and commitment was also required of team members post-study as activities for organization-wide implementation began.
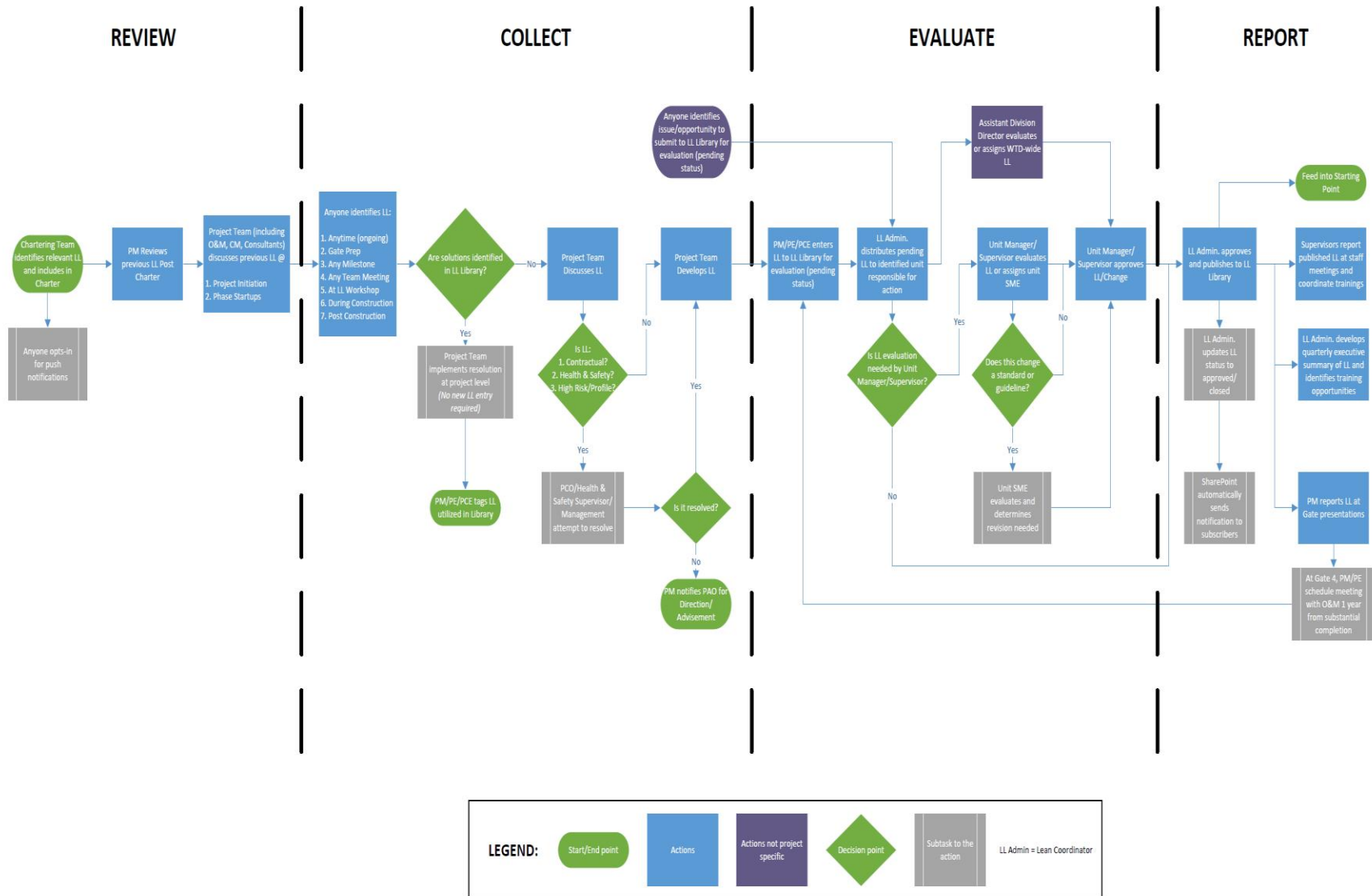
The first day of the second workshop was spent developing a new lessons learned process for all WTD. Consistent with principles discussed previously related to Appreciative Inquiry and Future Search, project team members were invited to consider the question: "What do we want the lessons learned process to look like versus what the lessons learned process looks like now?" In lieu of refining the lessons learned process that was currently in place, the team determined it needed a clean slate to build a process that incorporated the functions, performance criteria and overall themes that surfaced from activities in Workshop 1. Drawing upon the functions of the lessons learned process developed during the first workshop, the project team opted to create a completely new process that would most benefit WTD.

On day two of the second workshop, the newly built lessons learned process was refined. Four phases were established to categorize actions and make it easier to describe the process to WTD employees. Phases of the new lessons learned process include Review, Collect, Evaluate, and Report. These phases are illustrated in Figure 3.0 on the following page.

In addition to refining the new lessons learned process map, the project team utilized the remainder of the second workshop to identify roles and responsibilities that correspond to the future state lessons learned process. Time was intentionally dedicated to allowing the group to then consider and record particular action items that need to happen prior to implementing the newly designed lessons learned process across WTD. Action items included development of various templates, forms, guidelines and training materials. Significant dialogue was also dedicated to starting the conversation around how the project team could best champion this new process; a conversation which extended to Workshop 3 where implementation details were finalized.

Finally, the project team began sharing ideas and gathering materials that would be needed for the management outbriefing.

Figure 3.0 New Lessons Learned Process Map

REVIEW | **COLLECT** | **EVALUATE** | **REPORT**

- Chartering Team identifies relevant LL and includes in Charter
- PM Reviews previous LL Post Charter
- Anyone opts-in for push notifications
- Project Team (including O&M, CM, Consultants) discusses previous LL @
  1. Project Initiation
  2. Phase Startups
- Anyone identifies LL:
  1. Anytime (ongoing)
  2. Gate Prep
  3. Any Milestone
  4. Any Team Meeting
  5. At LL Workshop
  6. During Construction
  7. Post Construction
- Are solutions identified in LL Library? — No / Yes
- Project Team implements resolution at project level (No new LL entry required)
- PM/PE/PCE tags LL utilized in Library
- Project Team Discusses LL
- Is LL:
  1. Contractual?
  2. Health & Safety?
  3. High Risk/Profile? — Yes / No
- PCO/Health & Safety Supervisor/ Management attempt to resolve
- Is it resolved? — Yes / No
- PM notifies PAO for Direction/ Advisement
- Project Team Develops LL
- Anyone identifies issue/opportunity to submit to LL Library for evaluation (pending status)
- PM/PE/PCE enters LL to LL Library for evaluation (pending status)
- LL Admin. distributes pending LL to identified unit responsible for action
- Is LL evaluation needed by Unit Manager/Supervisor? — Yes / No
- Assistant Division Director evaluates or assigns WTD-wide LL
- Unit Manager/ Supervisor evaluates LL or assigns unit SME
- Does this change a standard or guideline? — Yes / No
- Unit SME evaluates and determines revision needed
- Unit Manager/ Supervisor approves LL/Change
- LL Admin. approves and publishes to LL Library
- LL Admin. updates LL status to approved/ closed
- SharePoint automatically sends notification to subscribers
- Feed into Starting Point
- Supervisors report published LL at staff meetings and coordinate trainings
- LL Admin. develops quarterly executive summary of LL and identifies training opportunities
- PM reports LL at Gate presentations
- At Gate 4, PM/PE schedule meeting with O&M 1 year from substantial completion

LEGEND: Start/End point | Actions | Actions not project specific | Decision point | Subtask to the action | LL Admin = Lean Coordinator

Workshop 3: Function Analysis, Development, Presentation

The third workshop was held to finalize recommendations for the new lessons learned process and produce an implementation plan. A similar method was used as in the first workshop with the team performing a Random Function Analysis to determine the functions of the implementation plan. The functions identified to inform the brainstorming are included in Table 4.0.

Table 4.0 Implementation Random Function Analysis Results

Function
Enhance Process
Increase Capture (of lessons learned)
Increase Availability (of information)
Increase Involvement
Increase Participation

Once the functions for implementation had been defined, the team developed performance metrics for a successful implementation of the new lessons learned process. Development of these performance metrics occurred through facilitation of another OD framework, Liberating Structures. Essentially, Liberating Structures are microstructures that can be used with any number of people and help to foster participation, innovation and trust (www.liberatingstructures.com). A multitude of Liberating Structure frameworks exist; however, in the context of this study, a "1-2-4-all" structure was selected. The "1-2-4-all" structure is performed by first having individuals silently self-reflect and then pair up in groups of two and then four, to build on ideas generated during self-reflection. Finally, the foursomes share out with the entire group. This Liberating Structure framework was chosen for developing performance metrics for a variety of reasons including the desire to engage every individual in the room, create a safe space for individuals to gather their thoughts and express their individual ideas without fear of judgment, and organically build toward group consensus regarding a successful implementation of the new lessons learned process.

The team then identified the actions needed to implement the new lessons learned process across WTD. The eight actions shown below were developed further by assigning a lead, naming a task force, outlining key steps, identifying deliverables to produce, determining additional resources needed, and setting a timeline for completing the action.

The eight high-level action items included:

1. Obtain buy-in from Management/Key Stakeholders
2. Develop communication plan
3. Incorporate continuous improvements to lessons learned
4. Develop guidelines for documenting/capturing lessons learned
5. Develop Lessons learned library structure and interface in SharePoint
6. Prepopulate lessons learned Library with past projects (baseline)
7. Revise existing templates/forms to include lessons learned
8. Develop trainings across multiple functions

Again, leveraging elements of OD including the principles of self-management and responsibility for action included in Future Search, members of the lessons learned project team evaluated the eight high-level actions by "voting with their feet." When "voting with their feet," the project team members physically walked over to the flip chart with the action they were personally most passionate about, indicating they were interested in developing a detailed implementation plan for that particular action item.

Finally, the third workshop concluded with a Kaizen activity. Kaizen, a Japanese philosophy most commonly associated with Lean Six Sigma, "focuses on continual improvement [. . .] and can improve every function of a business" (https://www.isixsigma.com). Events designed with Kaizen principles as a priority help to convert a group of individuals into a group of process owners. Each member of the project team was given the opportunity to voice one action they wanted to personally commit to that would help ensure implementation of WTD's new lessons learned process would be a success.

Conclusion

In summary, significant opportunity exists to continue combining elements from VE and elements from OD to improve business outcomes. As was illustrated in this case study, many OD concepts and frameworks directly influenced the design of the study and aided in optimizing the experience for those involved. When integrated with the original VE framework, the OD concepts applied within this case study created opportunity for the project team to accomplish a significant amount of work, ultimately resulting in the successful development of a future state lessons learned process well suited for all WTD moving forward.

Continuing to augment the VE job plan with key elements from OD not only shows promising results in improving business outcomes, but also increases buy-in, engaging the larger organizational system, and assists in building inner-organizational capacity to endure continuous change.

References

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