Connecting The Dots

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A long-term partnership between a global engineering firm and a manufacturing owner leads to insights with facilitating changes to operations, vision, and metrics.

For a Fortune 500 corporation, a successful engineering project depends on local managers' legacy knowledge and insights into plant operations, the corporation's vision, and key project performance metrics as they change over time. However, the very nature of a high-performance global organization creates challenges to gaining these insights. In particular, the corporation and its managers are challenged to maintain legacy knowledge as managers rotate through various positions and locations.

A long-term global engineering partner, such as SSOE Group, can help a business leader overcome these challenges by providing global insight in all three areas, helping to connect the dots.

Recently, for example, a Fortune 500 manufacturer initiated a plant engineering project to realign its filling lines with palletizers of a similar speed. This would help the plant avoid bottlenecks and under-utilized capacity. The complex project called for seven lines to be rerouted to different palletizers, at an estimated cost of US$2 million.

Unfortunately, the initial purchasing strategy for this project was lowest cost, not qualified resource, so the lowest bidder was selected, was new to the site, and lacked familiarity with the plant, causing delays in the project schedule. Several weeks into the project, it became clear that the selected firm was going to be unable to meet the strict time lines; the owner removed them from the project.

The owner's long-standing global engineering partner, SSOE Group, stepped in with their team to get things back on track. Based on the team's eight year history working with this plant, they were able to get the project back on schedule, avoid costly downtime, and meet the deadlines. The key was utilizing the off-shore resources of an Indian-based engineering firm—knowing that outsourcing was consistent with the owner's corporate vision—to provide round-the-clock development of over 300 drawings. Moreover, the team's history with the owner enabled them to act efficiently as project scheduler, coordinator and supervisor.

Facilitating Transitions in Management

Many global giants maintain their competitive edge through a deliberate strategy of shaking things up at a management level. Through cross-training or frequent changes in managers' locations and responsibilities, fresh perspectives are brought in from other business units and operations which reinvigorates the organization.

As valuable as this process is, some of the organization's plant and systems legacy knowledge can be lost in these transitions as individuals rotate in and out.

A long-term partnership provides stability and consistency during management role transitions, maintaining legacy knowledge across business locations and key levels of management.

That partner’s relationship manager serves as the point person and global team manager in the business partnership, monitoring role changes and transitions with key mid- and high-level corporate managers, those responsible for engineering, construction, and capital procurement at the plant and corporate levels.

The coordination of what’s being said with regard to how, when, and why changes occur is key to a relationship manager’s ability to connect the dots within the organization. As the corporation may mandate a change, the plant’s personnel must figure it out and “live with” it. The relationship manager is the coach who, through team communication, helps bridge the gap between the client and global engineering partner.

Maintaining Legacy Knowledge

A global corporation may struggle to maintain legacy knowledge during changes among management positions. Key to the maintenance of legacy knowledge is maintaining current and accurate organizational charts and job skills of each individual. This enables a relationship manager to follow the careers of key corporate personnel as they transition to other roles. The frequency and method of contact with personnel corresponds to the owner’s preferences and communication needs.

Based on knowledge gained, the relationship manager can help pair project counterparts in both the engineering firm and the owner’s plant, where individual capabilities mesh. For example, piping designers are paired with piping specifiers, and like project managers are paired. Yet, the outage can arise when one side of the partnership remains in the same role, but the counterparts rotate.

Tracking Performance Metrics

As corporate managers rotate through various positions and locations, challenges may occur with tracking key project performance metrics over time and across locations.

One challenge stems from the corporate vision on increasing spending with tier one and tier two Minority Business Enterprise (MBE). Down the road, these MBE partnerships can get lost when leadership role rotation occurs because the one transitioning in from another business unit may have had a different focus than the one transitioning out.

Another challenge occurs with changes that come from improvement initiatives. For example, when efforts toward standardizing where shared project documentation is

located and how it is accessed are contrasted by a corporate vision to move everything to a new system, the impact of the changes to all local and remote personnel, must be identified, mapped and managed seamlessly.

Until a final decision is made, the relationship manager can facilitate team reviews of project documents, track project cost control, and so on, with computer software tools, such as SharePoint.

The relationship manager tracks metrics that change over time. Intellectual knowledge can be gained through iterative discussions about what determines “success,” and in what ways it can be measured. Program reporting is a side benefit from tracking everything. As a result, Total Added Value (TAV) figures can be derived and shown to support SSOE’s “value promise” of saving clients time, trouble, and money.

In one TAV instance with a manufacturing plant, a stainless steel tank was abandoned in place when the process changed and key client personnel during that time had since rotated to new positions. When a new project required a new ingredient to a new processing system, the plant’s new technical team was unaware of the abandoned / off the books tank. Because the engineering partner’s role had not changed, they had legacy knowledge of the plant's resources, and suggested re-routing piping to re-use the abandoned tank. This solution saved the owner not only time and trouble, but also about $200,000.

Many corporations can envision the cost savings and time advantage of using Off-Shore Engineering (OSE) consultants. But a global engineering partner can draw from its broad industry knowledge and experience to procure capable local resources and meet the purchasing criteria.

In one case, SSOE partnered with a beauty care product manufacturer, providing support for a new process skid. The project started with the front-end engineering and continued with hands-on support through installation and start up. Through legacy knowledge, the relationship manager was able to select the appropriate senior process engineer to lead the effort based on the unique needs of the client and project scope.

Team analysis began with skid design - using 3D modeling to optimize footprint, operability and maintainability, and to minimize product change-over losses. Continued support from the senior process engineer was provided during fabrication.

When it arrived at the destination plant in India, the senior process engineer was on-site, serving as the technical resource for the overall process of the installation and startup, where focus was placed on the sanitary design, and accessibility of components, maintainability and operability.

During the senior process engineer’s holistic review of the facility and systems, it was determined that enhancements to the water supply were needed. Drawing from his many years experience with upgrades and add-ons, special attention was

also paid to the sanitation systems to ensure that a quality end product would be produced.

Although the project was completed on time and within budget, that's not the end of the story. The senior process engineer then conducted a mechanical audit of the existing skid systems and practices and noting any deviations from piping and instrumentation diagrams. The results assisted the manufacturer in transitioning existing process skids to "best-in-class" unit operations.

Executing The Corporate Vision

A long-term partnership enables successful execution of a corporate vision, at multiple levels of global management, locations and markets.

When the corporate vision may be to relocate manufacturing operations, the relationship manager could facilitate the process for significant cost savings in the removal, relocation, and re-installation of the production lines.

For example, a food manufacturer's $19.5 million project featured a phased shutdown of a facility with relocation of 13 production lines to plants elsewhere. The relationship manager facilitated the process by being on-site and in constant contact with all the key personnel to coordinate the relocation and design efforts for the new location. This included the management of shipping schedules, transport loads, paperwork, vendors, and contractors. Because of the relationship manager's familiarity with the owner's multiple levels of global management, locations and markets, the project was completed seamlessly and cost-effectively.

A corporate vision that seeks to *avoid* a particular action or strategy is equally as important. Here, the global engineering partner can help identify cost-effective processes and resources to avoid outsourcing production.

In one case, there was a vision to implement a new milling process to increase oat milling capacity, provide increased production capacity in a smaller space, and avoid outsourcing production. The team performed 3D modeling with 300 pieces of equipment at the project site. Other studies investigated the benefit of outsourcing the oat milling process. Based on the team's knowledge of production costs in other global markets, they found that the existing facility could house the consolidated equipment, improve production, and allow the owner to continue processing in-house at a competitive cost.

Building A Relationship

The relationship takes time, but many beneficial insights into plant operations, the corporate vision, and evolving performance metrics can be derived through a continuum of services, from front-end engineering to start-up and operational support.

To gain insight, many questions must be asked, such as, "How can we help you do what you want to do, and avoid what you don't want to do?" to understand needs,

outsourcing, sustainability, or another strategic business issue.

As metrics tend to change, the following question must be regularly revisited, “How do you define project success and in what ways would you measure that success?”

Other questions help develop insights into vision, operations and performance measures, such as, “What is your off-shore engineering / equipment fabrication vision? And, how do you share best practices among business units / plants?”

Over time, the long-term partnership increases in value as the bank of knowledge, insights and experience grows. As a consistent, stable presence over time, a global engineering partner can help connect the dots to save a corporation time, trouble and money.

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