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Polk Power Station Intervention: Follow Up

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Abstract

This article is a report of a follow-up study for a OE technology intervention conducted in late 1996. The original intervention was reported in the Journal of the Organization Development Network. That article described how OE technology was used to create a system of teams for a new power station. This article revisits the plant and describes the long-term results of that intervention.

POLK POWER STATION INTERVENTION: FOLLOW UP

By: John Stepanek

INTRODUCTION

Organizational design and development has many studies that tell about interventions of all kinds. These typically describe what was done, give a sense of success and draw "lessons" that can be useful in the future. Efforts of this type often advance the state-of-the-art.

There is, however, a missing piece. This missing bit is the duration of the change. In technical training this is usually not an issue. Once a skill is acquired it is usually retained. For example, the knowledge of how to make a sales cold call or how to improve presentation skills can be retrieved whenever they are needed. Duration is usually not a concern.

Duration of gains is often overlooked

Soft skills are another issue. People can walk out of a learning session pleased and excited. Three months later they remember the circumstances of the learning event but not the content. For example, informal follow-ups on Myers-Briggs (i.e., MBTI) based interventions indicate that people remember only a limited amount of the designations and their meaning. This suggests that the duration of the benefits of these kinds of interventions is a bit limited.

There has been some follow-up work on OE technology by Larry Burnett at Cummins Engine. He applied the technology to a labor-management group. The initial results were very successful. Long-standing team issues were quickly resolved. Larry went back after several months to see if the technology was still in evidence. He reported "even sitting at a lunch table with some of the (team) members, terms like HA and RI were casually used in discussing work issues."

OE seems to yeld long-term gains

Larry went back again with an email inquiry after 18 months. He asked "did it help you understand others on the team." In reply he received comments like "Yes, yes, yes, yes, yes. It really opened our eyes to each other" from a union member and "We trusted each other more..:" from a Director of Engineering (Organizational Engineering Newsletter, 1999). The response suggests that the original intervention had endured over time.

TECO Energy had an opportunity to duplicate the Cummins Engine inquiry. The instance involved an effort conducted in 1996 (Stepanek, 1996). The technology was applied once and not repeated in the interim period. This means that any residual effect would not be muddied by other more recent efforts. In other words, any learning still in evidence will be due to that single effort.

A 1996 effort offers an opportunity to confirm

The intervention involved an entire power station. The large-scale size means that sufficient number of people will still remain. Turnover, promotions and reassignments are likely to take a toll on a small group. The shear size of this intervention made it likely that a reasonable sample would still be available even after all of the intervening years. In addition, the power station's mission is stable. This means that stress, tension and friction that might arise from mission changes would not be a factor.

Another attractive aspect of the power station intervention was its scope. The effort involved all levels of management. It extended from the General Manager to the hourly workers. It included the staffs such as the laboratory and finance. This wide scope can give assurance that any enduring effects are not confined to a particular level or function.

In view of this natural opportunity, the author decided to revisit the site of the original intervention. The purpose was to see if Organizational Engineering learning had persisted since 1996.

BACKGROUND

Polk Power Station is a state-of-the-art facility. It uses coal gasification to generate electricity. Coal is converted to a clean burning gas. This is burned to spin the turbines that create electrical power. The advanced technology required that a new plant be constructed and staffed. This gave an ideal opportunity to use OE to help design and develop the human systems of the facility.

Plant management and support staff was selected on the basis of their professional skills. Their roles and relations were dictated by functional needs. OE was used here to identify synergies and exposures that accompanied the preplanned arrangements. Standard OE strategies were applied to help improve the functioning of these groups.

The Polk Power plant was treated in depth

The operating base of the plant were 50 people who would actually run the plant on a 24/7 basis. Management decided to use Self-Managed Teams. The nature of the technology suggested that this would be the best way to efficiently operate the plant. The OD Department's role was to help create a team structure that would operate effectively from "Day 1."

The first task was to divide the 50 employees into teams that would operate the plant. Using traditional methods would result in teams whose members had a high degree of commonality. They would tend to share the same decision horizon, seek the same level of certainty of outcome, appreciate the same level of detail and so on. This would produce teams with a high level of internal

cohesion.

The natural corolary of high team commonality is that the difference between the teams would be maximized. The danger was that the teams were really codependent. Each operating team would be "turning over" the plant to another team as one shift ended and another commenced. If the teams were too dissimilar, there was a possibility that the groups would view each other as competitors. "Doing things the right way" for one team might be "doing it wrong" for another. In other words, sources of tension could be inadvertently created.

One possible outcome of differences might be contests. One team may try to "prove" that their way was "better" than another team's way. The more the teams differed, the greater the likelihood of tension generating activities. The plant was governed by well-defined procedures. However, there is no set of procedures that can cover everything. Anywhere human groups are involved, there will always be grounds on which contests can be conducted. The more different the teams, the greater was the probability of tension.

Teams were consciously suboptimized

Management agreed that differences between teams were an exposure. They also agreed that the benefits of high team cohesion were not enough to fully offset that risk. A decision was made to make the teams resemble each other. Everyone involved knew that this meant that individual teams would be suboptimized. However, OD was able to assure management that each team would have to have enough similarity to function effectively as a unit.

OD proceeded to design and implement its intervention. This was done in iterative steps involving all parts of the Polk Power station. People were told what was being done. Why decisions were made was explained. TeamAnalysis and LeaderAnalysis were used to help minimize the exposures that remained. At the end, everyone involved had at least an operating knowledge of Organizational Engineering.

The teams were formed and operationally deployed. The plant was successfully launched. In spite of some normal startup issues, the human factors in the organization

functioned well from the start. The strategy had worked as planned.

The effort was very successful

The question addressed by this article is if the benefits continued over time. Another issue is whether the lessons learned through OE technology would transport to new situations. In other words, were the people involved able to continue to benefit from the human factor knowledge they gained? Would they be able to use it to adjust as situations changed? This article is a report on those findings.

MANAGEMENT

Organizational Development approached the Polk Power plant as a system. Individual groups were purposely suboptimized in order to optimize the system as a whole. There is no "objective" metric with which to judge human factor optimization. The best method to gauge success is to reference an expert. Plant management is the most knowledgeable on the subject. The plant's General Manager is in the single best position to render this kind of judgement.

The General Manager (GM) is the CEO of the plant. In this role he is responsible for a considerable capital investment. However, the use of high technology kept the human factor element small. This meant that the GM could be intimately familiar with the people as well as the teams. The broad responsibility of the job gave the GM a perspective that embraced the interactions of all of the groups. This makes the GM an ideal judge.

The system of teams optimized results

The GM was queried about the operation of the teams OD had help construct. He said that he was "very happy with the performance of the teams". He said that there had been only one negative incident. He added that this single incidence was due to personal factors existing between the two people involved. Overall the plant had performed at a "consistently superior level" in spite of the fact that it was a startup, using new state-of-the-art technology and staffed with people who had not worked together before.

The General Manager also noted that OE technology had made the launch itself much easier. The operating personnel had accepted the "I-OPT" based technology as an

unbiased way of assigning people to teams. This reduced the suspicion of favoritism that can accompany large-scale human factor allocations of this type. In addition, the GM noted that it made his job easier. It had given him a "a firm criteria" on which to base team formation. If this were not available he would have had to rely on balancing the technical skills alone. This would have left human factor integration as an act of faith. He would have been left hoping that the people would eventually learn to get along.

OE was seen as being unbiased

Discussions with the GM and with management suggested that something beyond the technology was in play. The setup of the initial teams and the learning that surrounded it had created a common set of expectations. Over time these had evolved into socially transmitted patterns, traits and other behaviors. In other words, the technology had created a favorable working "culture" (American Heritage Dictionary, 1992). This culture had transmitted the initial patterns to new people and new situations as they arose.

The study had relied on the GM who had been there from the inception. However, a new GM was recently appointed due to periodic rotation. The new GM was familiar with the OE effort and had a unique way of expressing his judgement. He is commissioning another full study for 2003.

An objective vote of confidence

The new GM noted that natural attrition and promotions have gradually altered the mix of people. This has happened at both the staff and operating levels. The new GM believes that a new study could result in an additional pickup in efficiency and effectiveness. At minimum, it will reinforce the favorable processes that were already established.

The gain duration extended over years

On a systems level, the judgement of the persistence of OE benefits is clear. The technology offers both long and short-term advantages. Done on a large enough scale it can also create favorable cultures. This human process acts to carry the benefits to new people and new circumstances. This means that OE technology has both direct and indirect effects on a system level. The indirect effects (i.e., culture), however, may depend on the scale of application.

OPERATING LEVELS

In addition to querying management, the author circulated among the operating teams. The objective was to get their assessment of the success of the engineering effort. This effort involved both individuals and small groups. The personal, face-to-face interactions were well received by all the people involved.

Hourly staff sees a clear benefit

The results were unambiguously positive. Even the skeptics were convinced. One member of a team perhaps best summarized the views characteristic of many of the people. He commented that "I was skeptical of the whole thing when you told us what you were going to do. It sounded too 'touchy feely'. But results are something you can't argue with. All the teams turned out great."

Perhaps even more telling than the overall judgments were the spontaneous recommendations offered. Many people saw further application of the technology. A number of operating staff saw value in applying "I Opt" as new people entered the plant. For example, one control engineer said, "these teams are really working well. We don't want to get the wrong person on the team and mess up the good thing we've got going here."

The gains are widespread and durable

A large number of people echoed the same sentiment. One mechanic said that he was satisfied with Polk's hiring criteria. However, he said, "it seems we should be using it to decide what team they go on after they have been hired." The sentiments of a majority of team members can be summarized in a comment of an electrician who said, "we need to keep up with this."

CONCLUSION

OE technology worked quickly

The overall evaluation of both management and labor was universally positive. They not only remembered what they had learned but saw its value on a continuing basis. The systems based element (allocation of people to teams) had worked as planned. It worked initially and persisted by being socially transmitted over time.

The "engineering" nature is a key

One of the keys to the success of OE technology was its "engineering" nature. People correctly saw it as being free of subjective judgement. The high face validity of the individual reports helped overcome the initial skepticism. The straightforward and specific nature of the group reports (TeamAnalysis and LeaderAnalysis) fit well with the application oriented nature of the jobs being done.

In summary, everyone involved—management, staff and labor—believes that the technology is unbiased and effective. They all feel that they have gained from its application. The technology worked in its initial application. It continues to work years later.

The concluding sentence of the original article said, "we fully expect to be able to structurally optimize not only the operating teams but the entire Polk Power Station as an entity in and of itself." The judgement arising from this review indicates that this original expectation has been fully realized. The fact that it has extended for years after the initial intervention testifies to the durability of these gains.

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