

# Effecting Culture Change through Direct Engagement of the Organization in the Change Process

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## Abstract

A common thread in many maintenance and reliability discussions these days is “you’ve got to change the culture” if you want to achieve lasting, large-scale improvement. Mindsets and rituals around the day-to-day business of operating and maintaining an industrial facility are hard to change, all too often deeply engrained in the culture having been that way for years, if not decades. In the face of this challenge, unfortunately, the end result for many reliability initiatives is frequently lack of sustainable business results desperately needed by many companies in today’s tough economic environment.

So, if the importance and value of culture change are so well-known, why do most comprehensive reliability initiatives fail to adequately address the “soft” side of change? The answer to this question is lack of direct engagement of the organization in the culture change process itself. Direct engagement here means actively engaging the organization in the process of mobilizing stakeholders, identifying sources of resistance to change, and implementing strategies to overcome that resistance.

This paper will explore a proven approach describing how stakeholder groups – from the shop floor to the C-suite - are given the opportunity to participate in this process from their own unique perspectives. Included in the paper are anecdotal results from applying this approach in several industrial settings. One case study will show how over time, an organization gradually shifted to a new mindset. Other results presented include the importance of acting on findings and recommendations derived from the culture change process - and where failure to do so can sometimes prove fatal to an important initiative.

In conclusion, this paper will illustrate how addressing the “soft side” of reliability through direct engagement of the organization is an important and necessary ingredient to achieving long-term, sustainable reliability improvement.

## Introduction

Maintenance and reliability best practices have been common knowledge for decades. Since the advent of Reliability Centered Maintenance in the 1970s and the full-scale introduction of predictive maintenance technologies to the industrial setting, there has been no shortage of technical “know-how” with regard to improving reliability. A disproportionate amount of maintenance and reliability initiatives, however, have failed to deliver expected results and continue to do so even when best practices and available benefits are widely known. There are myriad reasons for this, and the most frequently cited are almost exclusively related to the “soft side” rather than the technical:

- Lack of leadership support
- Changes in management
- Embedded culture of resistance
- Lack of communication
- Poor understanding of the need for change
- Poor understanding of the benefits of change
- Lack of persistence
- Limited resources in money, time, people
- Poor teamwork
- Inadequate training

Some successes have been achieved by addressing elements from the above list, such as through leadership and communication. But what happens when key, motivational leadership move on? What happens when communication about the change stops or becomes ineffective? Or, what happens when funding for resources is cut back or cut off? Unfortunately, in most of these cases, the initiative is bound for failure.

Directly engaging the organization in the human side of the change process leaves much less to chance, therefore giving the initiative a greater opportunity for success. Here, not only are the key elements required for successful change considered and deliberate actions taken around them, but ownership and active participation in the change process itself is built among stakeholders. The result is a greater commitment by the organization as a whole for the change, one that is much less likely to be unraveled by circumstances beyond immediate control.

## Change Management Methodology – A Short Tutorial

Resistance to change is a natural human characteristic. Those impacted by any major change effort typically follow an emotional progression as shown in Figure 1. Early in the progression, fear and doubt about the change dominate as the comfort of the current state is threatened and the future state is unclear. This is also known as the “valley of despair”, when things seem like they are getting worse before they get better<sup>1</sup>. But as concerns and questions are addressed, gradual acceptance and eventually full support of the effort to achieve the future state is possible.

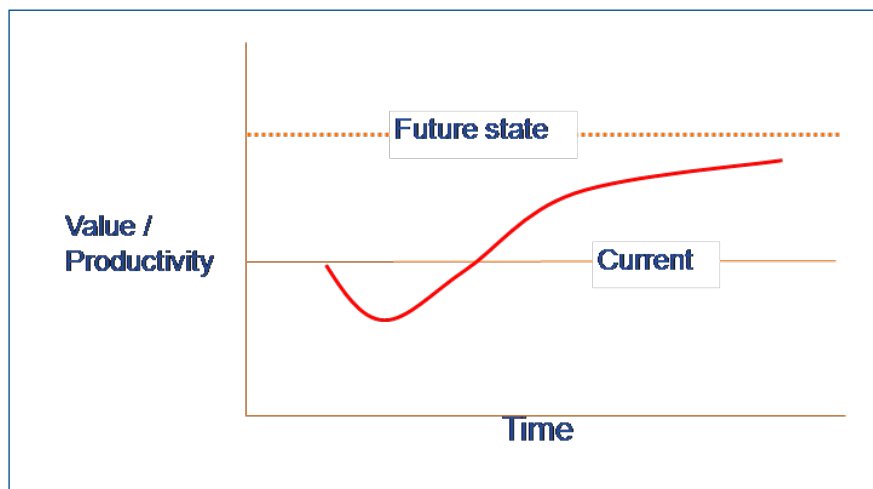


Figure 1 — Change - The Emotional Progression.

There are quite a few commercially available texts on change management. Many have a few things in common when they describe the elements required to facilitate change, those elements necessary to move an organization successfully through the “valley of despair” to the other side. The following summary introduces a few of these elements:

**Leadership<sup>1</sup>:** Everyone knows how difficult it is to accomplish a major change without the full support of upper management. For a comprehensive maintenance and reliability improvement initiative, the role of management is critical in many ways. For example, leadership must ensure the provision of necessary resources and guide the effort. Leadership must also build and maintain a sense of urgency in the organization for the change. A mandate from leadership can provide some motivation in the workforce, but just as important is the consistent, persistent message that the change is both necessary and important.

**The Case for Change<sup>2</sup>:** Sometimes referred to as the “burning platform”, the case for change must be clearly articulated. It should be much more than a financial business case and should incorporate different stakeholder perspectives. In the context of reliability, there is typically a compelling financial justification. But the case for change must also be seen and felt on a personal level by key stakeholders. In other words, it should help answer the question “what’s in it for me?” as seen from each stakeholder groups’ unique point of view.

**Vision<sup>1</sup>:** What the future state will look like must be well-defined before the goals, objectives, and activities designed to achieve them can be determined. Like the case for change, the vision should incorporate different perspectives of the stakeholders.

**Project Plan:** This is the technical part of the project outlining what is in-scope in terms of technology, business processes, skills, and infrastructure for the change to be successful. The project plan should be clear and understood by key constituents who may be assisting in its implementation and who may end up living with the final product.

**Overcoming Resistance:** The force for change must be generated to exceed the force of resistance. Helping lagging elements of the organization through the “valley of despair” should not be left to chance. Strategies must be developed and plans implemented targeting key stakeholder groups – and sometimes even individuals – based on types of resistance and personal “wins”.

**Making it Stick<sup>2</sup>:** Careful attention should be paid to targeted activities such as celebrating short-term wins, ensuring adequate resources are available, and setting up effective reward systems to help maintain enthusiasm and momentum in the organization and make it less likely that the initiative can be unraveled. Ownership of these activities by teams within the organization will make it more likely that positive results can be sustained over time.

### Direct Engagement of the Organization in the Change Process

A Diagonal Slice. First of all, how do you engage an entire organization in the change process? You cannot initially, but you can start with a relatively small group to create forward motion and an initial change plan. And there are advantages to engaging a diagonal cross-section of the organization when doing this. The make-up of this “team” should cut horizontally across functional groups and departments in order to adequately represent stakeholder groups affected by the change. Similarly, team make-up should have vertical representation from different levels in the organization. When effective ground rules are established that encourage candid, honest participation, such a mix can help neutralize the negative effect of functional silos and an “us versus them” mindset. Selections for the initial change team should be based on one’s ability to influence others, not necessarily their position on an organization chart. In this manner, the initial change plan will have a much better chance of incorporating the perspectives of the organization as a whole rather than one or two groups of stakeholders.

Also, change management is an iterative process. It is not a one-time workshop or event. Engagement of the organization extends well beyond the initial change team, and as additional players take on active roles in the change process over time, critical mass can be achieved where the force for change exceeds the resistance.

**Leadership:** The diagonal slice of the organization - the initial change team - must include key leadership. There are several advantages of grouping leadership with other cross-functional personnel and representatives from lower levels in the organization in change management activities. First of all, this creates an opportunity for leadership to be seen and understood, perhaps for the first time for some participants, as dedicated, invested sponsors and champions (this might be the easy part...the difficult part will be to sustain that initial enthusiasm). Another benefit is by participating with representatives from stakeholder groups, leadership can do a better job relating to different stakeholder perspectives - this can be invaluable when it comes to communicating effectively to a broad audience.

	THREAT (if we do not change)	OPPORTUNITY (if we do change)
SHORT TERM	<ul style="list-style-type: none"> <li>■ Wasted man-hours</li> <li>■ Failing Assets</li> <li>■ Equipment replacement costs</li> <li>■ Equipment infant mortality</li> </ul>	<ul style="list-style-type: none"> <li>■ increased job satisfaction</li> <li>■ Reduced frustration of the maintenance organization</li> <li>■ Prepare for legacy equipment end of life at time of plant expansion</li> </ul>
LONG TERM	<ul style="list-style-type: none"> <li>■ Business as usual</li> <li>■ Won't be able to maintain current staffing</li> <li>■ We could be privatized</li> <li>■ Maintenance Technicians - low morale</li> </ul>	<ul style="list-style-type: none"> <li>■ Improved value from CMMS</li> <li>■ Better understanding of maintenance programs and costs required</li> <li>■ Know how many resources we need and justify it to decision makers</li> <li>■ Satisfied customers (city-rate payers)</li> </ul>

Figure 2 – Example Threats and Opportunity Matrix.

**“It’s Our Case for Change”:** All too often, the case for change is “told” to the organization. It may be a compelling financial business case and even a “burning platform” from the corporate perspective - but is everyone in the organization going to see it that way and thus be sufficiently motivated? By directly engaging the organization in the change process, however, stakeholders play a more active role in defining the case for change and are able to say “This is Our Case for Change” - one they truly own rather than one to simply pass on while towing the company line.

The case for change must incorporate different perspectives and resonate on a personal level with those who need to be on board. The best way to truly articulate a representative case for change is to directly engage stakeholder groups in defining it. One activity that can be employed for this purpose is the “Threat and Opportunity” matrix. In a facilitated setting and with a diagonal slice of the organization as participants, “Threats if the change is not successful” are brainstormed and captured on a flip chart, white board, or other media. This is done in both short-term and long-term contexts to stimulate thoughts on the consequences of failure and help generate content.

Similarly, the opportunities available “if the change is successful” are also brainstormed and captured. Facilitated in this manner, the resulting threats and opportunities that have been articulated are very likely to represent the perspectives of different stakeholder groups as well as individuals. For example, threats and opportunities are just as likely to include personal perspectives from within the various stakeholder groups as financial, market-based corporate perspectives.

An example of the Threats and Opportunities matrix from a municipal water/wastewater treatment utility is shown in Figure 2. Representatives from management, operations, and maintenance brainstormed the content in this simple example in about 30 minutes. The content bears the signatures of different perspectives, and taken as a whole it begins to tell a compelling story in favor of change that others in the organization can immediately relate to. For example, the opportunities to “increase job satisfaction” and “reduce frustration in the maintenance organization” were identified by maintenance department personnel. Knowing they have made a valuable contribution to the organization when they go home at night is a big part of the “what’s in it for me” for many maintenance technicians. Similarly, the opportunity for “satisfied customers (city rate payers)” is primarily from the perspective of management indicating a job well done by the facility. And, “we could be privatized” (outsourced) if not successful is a threat felt by both management and employees – not to mention a strong motivator to adopt maintenance and reliability best practices.

- |  |  |
|--|--|
| <ul style="list-style-type: none"><li>■ Not needing "this" anymore (cell, page) for callouts</li><li>■ Job Satisfaction improved</li><li>■ Documented performance shows to Public Health, Environment Protection, and the entire organization that we have an efficient and effective maintenance program</li><li>■ Less complaining about training books, documentation</li><li>■ New plants are engineered with maintenance in mind</li><li>■ Consistency in ways plants run</li></ul> | <ul style="list-style-type: none"><li>■ Know you can trust equipment to make it to the next maintenance without failing</li><li>■ Confidence in equipment reliability - able to chart c=histoer</li><li>■ Don't waste maintenance resources on throw-away equipment</li><li>■ Cooperative team that is invested and engaged</li><li>■ Pride</li><li>■ Owneship</li><li>■ Effectively used CMMS</li><li>■ Have all tools for the job</li><li>■ Satisfied customers (city-rate payers)</li></ul> |
|--|--|

**Figure 3** – Example Vision of the Future State.

**It’s Our Vision:** Like the need for change, the vision of the future state must also be one where stakeholders can say “This is Our Vision”. In a facilitated setting, a diagonal slice of the organization is asked to describe the vision of the future state. This is not about “wordsmithing” a one-size-fits-all mission statement and company vision, but more of brainstorming what the future state will look like upon success from different stakeholder perspectives. Brainstorming is an effective technique here also because input from participants is not critiqued but faithfully captured and included so as to balance the different perspectives of the organization. The advantage of doing it this way is that this “vision” will now include valuable nuggets that further answer the question “what’s in it for me?” for stakeholders.

An example vision of the future state is shown in Figure 3. This was extracted from a visioning exercise, also done at a municipal water/wastewater treatment facility undertaking a reliability initiative.

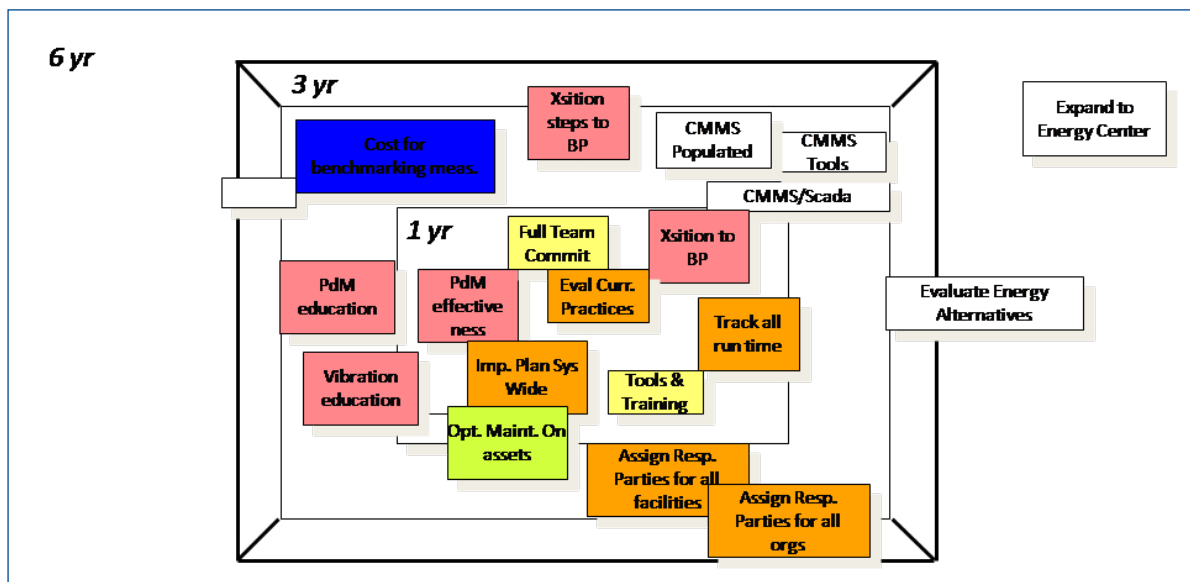
**“It’s Our Project Plan”:** Many organizations make the mistake of including a consulting company or service provider name in the title of their internal initiative – this is not the best way to instill a sense of ownership of a new way of working within an organization! This may just be a simple language issue, but it often goes deeper in that key stakeholder groups may feel the initiative is being forced on them without their involvement. By engaging stakeholder groups directly in the technical project – both the definition and execution phases of it – the organization is more likely to own it and will be able to say “This is Our Project Plan”.

There are many ways to engage stakeholders in definition of the project plan. First, resident subject matter experts are very likely to be called upon to evaluate proposed technologies and solutions, thus giving them a stake in the project.

These SMEs could be called upon to support the actual design of the project as well. And during the execution phase, allowing the organization to take ownership of deliverables from the very outset is critical to ensuring not only that the final product is acceptable, but that the future state once achieved will be maintained and even improved upon.

A simple exercise that can be done with participants, once again with a diagonal slice of the organization, is to brainstorm what is “in scope” vs. “out of scope”. Participants brainstorm project elements and then place them on a chart as either inside the frame (in scope), outside the frame (out of scope), or on the frame (either in or out of scope). Another way to do this is to place brainstormed project elements on the chart but prioritized based on what should be addressed short-term versus long-term. This can even be done if the technical project has already been defined, because the exercise enables participants to identify project elements already included in the project plan (and therefore relate to the project) and identify additional actions that may be important but not included in the initial project scope.

A very simple example of the project plan exercise is shown in Figure 4 using the short-term versus long-term technique. While the actual project plan was much more detailed, this exercise resulted in clarifying for the participants the high level plan for the immediate project while also instilling an additional sense of ownership around it.



**Figure 4 – Example of Short-Term Vs. Long-Term Project Definition.**

Involving the organization in the definition of the project plan in such a loose fashion may seem like a dangerous exercise. For example, a participant could potentially be alienated if he/she contributes a project element that has already been considered and rejected. On the other hand, the ensuing dialogue may serve to convert that person’s opinion about the project from pessimism to a positive understanding. In the opinion of the authors, change management can be best achieved when dialogue brings issues out onto the table in a constructive manner.



**Overcoming Resistance:** Change management is not just about painting a rosy scenario for the future. Quite often many constituents will find the change a bitter pill to swallow. Change management is also about bringing out some uncomfortable issues and finding ways to deal with them. There are several ways to engage the organization directly in the change process to identify sources of resistance and develop strategies to overcome them. One simple technique for getting an initial “read” on sources of resistance is to ask a diagonal slice of the organization “What threats/issues will result if the change is successful?” The responses to this question provide early clues to sources of resistance.

- Tough personnel decisions
- Job loss or change of job
- Increased workload on plant personnel
- Bottlenecks will move
- Loss of overtime money
- Union issues
- Some facilities may close
- Ability to sell excess products
- More pressure on vendors/supply chain

**Figure 5** – Example of “Threats if Change is Successful”.

A global company undertaking an enterprise-wide reliability initiative involving approximately 80 locations asked this question of their regional reliability leaders. The responses were at a high level and did not delve deeply into local site issues, yet they provided initial insight into obstacles likely to be encountered at the site level. Figure 5 is an example of this, charting several key issues highlighted during this exercise. Knowledge of these issues contributed to an initial change plan that included strategies for addressing these and other anticipated issues.

**“It’s Our Change Plan”:** Change must be led by leadership, but successful change also belongs to key stakeholders. Direct engagement of the organization in the change process also means development of a change plan by representatives of those stakeholder groups. Change management activities similar to the above examples, when used with a diagonal slice of the organization, generate a great mix of content that serves as feedstock for action planning. The change plan takes that content into consideration when designing targeted activities to mobilize and sustain commitment throughout the organization.

This content is also excellent feedstock for simple talking points in the form of an “elevator speech”, as well as a more comprehensive communication plan. What makes the messaging here more effective is that it has been developed from the shared perspectives of affected stakeholders.

The same global company already mentioned sequestered a group of key regional leaders together for a session over several days to work through a series of change management activities similar to the examples above. The content developed by this group was impressive – and so were the comprehensive action and communication plans that were the output of that session. The action and communication plans constitute an initial “change plan” to facilitate the roll-out of maintenance and reliability best practices throughout their enterprise. Implementation of the change plan will be managed along with other technical project deliverables, effectively embedding change management in the project. The plan is considered “initial” because it is a “living” plan and not yet complete – involvement of a diagonal slice of the organization at the plant level will occur in concert with maintenance and reliability program rollout activities.

## A Tale of Three Treatment Plants

### Full Buy-In From the Team – A Case Study

Five years after introducing the change management practices described in this paper at three municipal treatment plants, the reliability program is strong and still growing. Reactive maintenance labor is down 54% and spare parts expenditures have been reduced by 50%. Isolated pockets of resistance, however, are still hampering full success. One project success criteria developed by a diagonal slice of operations and maintenance staff, “full buy-in”, gives a clear indication of the successes and failures of this culture change initiative.

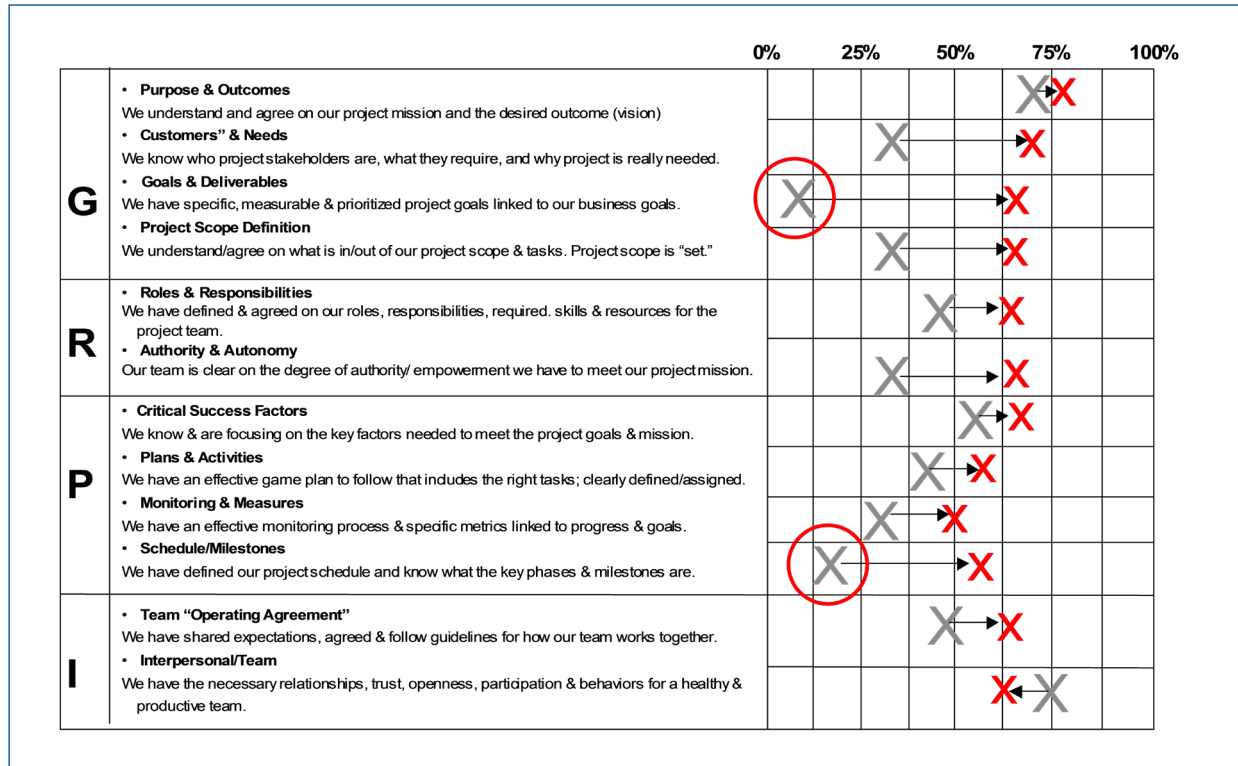


Figure 6 – Example of Goals, Roles, Processes, and Interpersonal.

Buy-in ranked high on the team’s success criteria during direct engagement activities. Five years later, acceptance of reliability practices can be framed by a single culture with three distinct personalities, one for each of three separate treatment facilities. The rule of thirds applies as each facility has adopted reliability practices but with varying degrees of effectiveness. The differentiating factor appears to be primarily the degree of acceptance by local site plant management.

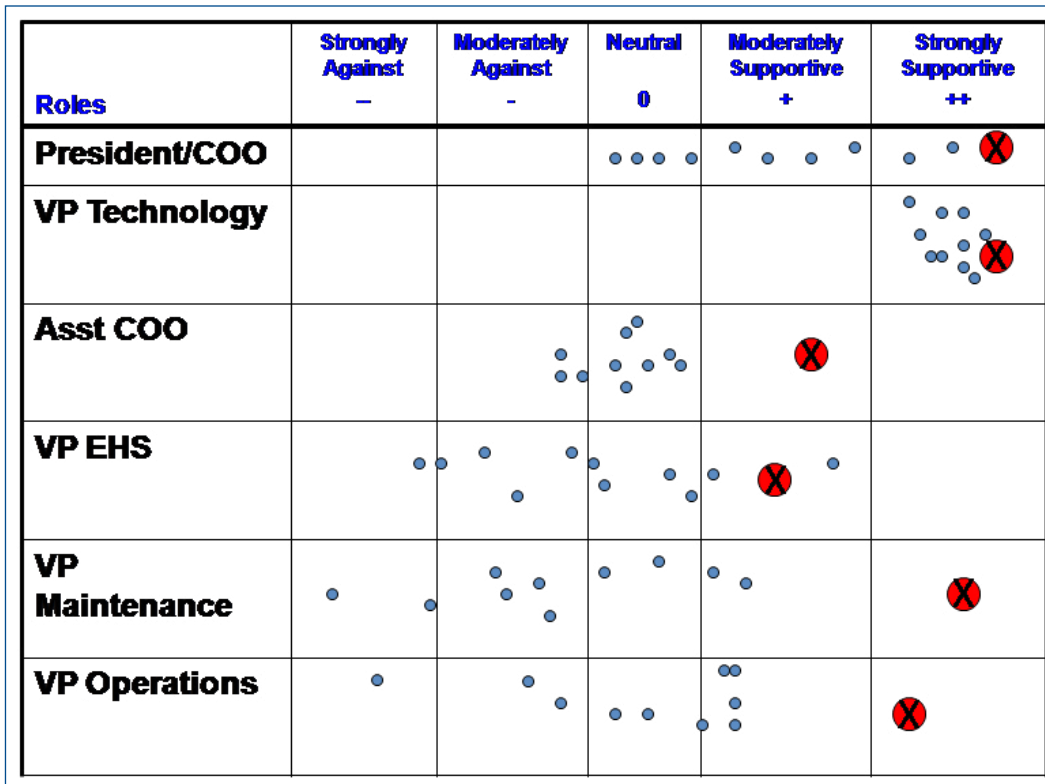
On one side of the fence, one wastewater facility has embraced reliability practices as critical tools in ongoing plant operations. Plant management understands the financial and reliability benefits, and the plant staff has adopted the same approach. The reliability program is perceived as not just beneficial, but critical to success.

On the other side of the fence, the second wastewater treatment plant enjoys fewer of the benefits from the reliability program than does its sister plant just a few miles away. In this facility, local plant management is less engaged in proactive maintenance, and more engaged in special projects and reactive maintenance. In this case, the “what’s in it for me” for plant management unfortunately is seen as a loss of control from the perspective of the internal customer, as the maintenance focus shifts from special projects and breakdowns to programmed maintenance. Reliability practices are perceived as a threat, one echoed by plant staff as a means of “taking our work.”

Sitting on the fence, a third fresh water treatment plant is waiting to see how the program works out for the other two facilities. Local management is non-committal, with recommendations from predictive analysis often discounted, diluting the effectiveness of planned responses. This fresh water plant enjoys a simpler treatment process when compared to the two wastewater facilities mentioned previously, also influencing the perceived benefits of reliability practices. Less rotating equipment provides fewer successes to promote the effectiveness of the program.

In spite of pockets of late adopters, over the five-year life of the utility’s reliability initiative the force for change has exceeded the resistance. The statistics speak to the power of reliability practices, even with mixed acceptance by the staff. Positive change has occurred in this municipal utility, and will continue as maintenance and operations personnel learn that reliability practices reduce “frustration in the organization,” sending staff home at night feeling good about their contributions to the organization.

**Additional Examples**



**Figure 7 – Example of Stakeholder Analysis.**

As mentioned, change management is an iterative process. An initial plan is developed, execution begins, measurements are made, and then adjustments follow to keep change moving and on target. One such measurement is around the health of the team leading the change. An activity that can be employed here is called Goals, Roles, Processes, and Interpersonal (GRPI). It is non-scientific means of gauging how the team is functioning in several critical areas. The exercise can be repeated over time to identify performance gaps and how well those gaps are being closed. An example of GRPI is shown in Figure 6, with two sets of self-measurements taken by team members roughly nine months apart. The chart shows how the initial set of readings (grey “X”s) was improved on over time as the project progressed (red “X”s).

One of the intents of directly engaging the organization in the change process is to identify roadblocks and develop strategies to address them. If these roadblocks are at the leadership level and not addressed adequately, the result can prove fatal to the initiative. An oil refinery complex undertaking a maintenance and reliability improvement program engaged a number of participants representing a diagonal slice of their organization in a series of change management activities. During the session, a recurring issue cited by participants was that they perceived the refinery leadership team as not supportive enough. A formal stakeholder analysis of the leadership team was then conducted to capture these concerns graphically. The example stakeholder analysis shown in Figure 7 clearly shows that the perceived degree of leadership support (blue dots) was far less than the participants believed was required (red targets) for the initiative to be successful. The exception was the VP of Technology who was perceived to be firmly on board. Whether truth or erroneous perception, the lack of confidence overall in the leadership team represented in this data strongly suggested serious issues around the organization's ability to move forward successfully with their change initiative. Only by correcting that perception and backing it up with consistent proactive actions by upper management could the initiative have any chance of success.

### Conclusion

Large-scale change inherent to a comprehensive maintenance and reliability improvement effort is difficult. While the technical aspects of reliability are well-known and frequently implemented, successfully changing the culture in order to fully support and sustain the change is often hit and miss.

Directly engaging the organization in the “soft side” of the change process itself leaves less to chance, increasing the likelihood of positive, lasting change. When a diagonal slice of the organization representing key stakeholder groups participate directly in targeted change management activities, the benefits are many:

- The case for change and vision of the future state collectively reflect the perspectives of the organization
- The ability of management to lead change is aided by a better understanding of different perspectives within the organization
- Many issues and sources of resistance within stakeholder groups can be identified early
- An initial change plan and communication plan can be developed by participants to address those issues and overcome identified resistance
- A sense of ownership of both the project plan and the change plan is cultivated in the organization
- Participants in change management activities are mobilized, and often can effectively serve as champions of the effort going forward.

The force for change must exceed the resistance. Even when late adopters who may never fully support the change hamper the possibility of full buy-in, success can be achieved. For this to happen, the organization must own the future state and the change process required to get there. Directly engaging the organization in the change process itself helps make this a reality.

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