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# Department of Equipment Health

Why does everyone hate maintenance activity?



**There's a common** perception in many organizations that everyone hates maintenance activity. Is it possible that this stems from conversations about maintenance work that we and others in our business community hear and repeat to ourselves? Perhaps the reason we look at maintenance the way we do is because there are disempowering conversations traveling around the organization.

There are all kinds of conversations within organizations. Most obvious are the public conversations on everyone's lips. These might be about the industry or profit levels or performance. These public conversations are all the things about the company that people say out loud to each other.

There also are behind-the-scenes conversations. These are just as powerful as the public ones, and sometimes more so. These private conversations can include corporate-wide assessments — "Maintenance is wasteful" — and are significantly harder to change. These behind-the-scenes conversations have tremendous impact on the conduct of maintenance activity and how personnel who do maintenance, either operations or maintenance people, are treated.

One example of a conversation statement is that "maintenance activity is a necessary evil." Let's deconstruct this. What affect does such a conversation have? How do you act if you're a necessary evil? Is this kind of conversation the basis for a healthy attitude? How do you contribute if what you're doing is a necessary evil? Indeed, why would you even want to?

The necessary-evil conversation comes from the simple fact that maintenance activity doesn't contribute directly to the manufacture or delivery of anything. In modern parlance, maintenance doesn't add value to the product. But modern organizations also agree that maintenance is necessary. So the necessary-evil statement is born. If maintenance work is an expense only, how does an expense contribute to the success of the enterprise? A good expense is a dead, or zero, expense. Do you see the uphill battle implicit in changing that conversation?

When we look at other businesses, we can see this idea at work. It would be pretty crazy to look at your 40-man football team and tell the defensive players that they don't add value to the product — value in this case being the points on the scoreboard. The owner could save some real money on salaries without all those defensive linemen, not to mention the reduction in catering costs if you don't have to feed them.

OK, let's admit it would be crazy to run a football team without defense. If we translate the way companies view maintenance to the way football is managed, we would want as few defensemen as possible, pay them as little as possible, maybe even be creative and make one defensive squad play for two different teams. By the way, if the team loses, we would downsize the defense. Also, as they moved to the



top of the salary range, we would scheme to get rid of them through buyouts or outright dismissal.

Plays would be handled differently because we wouldn't try to design defensive strategies. If there were any defensive design, it would be done by the defenders themselves without resources or support from management. From a management point of view, when the ball is snapped, the whole squad should run howling toward the ball.

Forget training and recruiting; just hire bodies. Especially forget respect. These folks don't contribute toward the score on the scoreboard. If times get tough, get rid of them altogether. It seems pretty silly in football. It's not silly in companies; unfortunately it's a way of life.

The all-too-frequent conversation of being a necessary evil greatly limits the contribution of maintenance activity to the success of the enterprise. We have to think up new conversa-

tions to take the place of the old. We have to think up new conversations that make more sense.

What if the conversation went something like this:

"We have different activities that support production, and each contributes its specific expertise. The only issues are whether each activity's specialized contribution adds more to the bottom line than the cost and whether the expertise is essential to the long-term success and enhanced profitability of the organization."

Let's look at a few of the players in a typical corporation. Lawyers contribute legal expertise. Accountants contribute accounting expertise. This seems pretty simple. If you have an accounting question, you ask one of the experts. Likewise, if you have a process question, an environmental question, or even a question about trash, you go to the person who covers that area. The trend today is to get rid of the expertise and use outside consultants. The outcome is the same; you want the specialist's advice to be more valuable than what you pay.

Of course, as organizations' sizes vary, different expertise becomes important. In the 1980s, I worked on a project to computerize the fleet maintenance operation of Federal Express. At the time, FedEx operated 47,000 light trucks. They bought the most advanced software available. Yet FedEx spent the money and time to continue tweaking the package to wring out a few more percent of benefits. After all, a small increase in the savings for 47,000 vehicles was quite a bit of money. In the case of a large company, the specialized knowledge was worth it since the potential savings was so large.

We have to answer the question, "What does maintenance activity contribute to the success of the organization?" Once we identify the contribution, are we positioned to make a maximal contribution based on our present skills, knowledge, and attitudes? We also return to the question, "Do the specialized knowledge and skills contribute more to the bottom line than the cost?"

#### **UNIQUE EXPERTISE**

What is your maintenance department's real expertise? Some departments are experts in repairing breakdowns. This is the historical role of maintenance personnel. They can fix just about anything. They have deep and subtle expertise in broken things, how things break, and how to put them back together. And they know how to do that in the shortest time and with the least cost. There is no dishonor in contributing this expertise to the success of the organization. Fixing breakdowns is a real, valuable, and essential expertise that is duplicated nowhere else in the company.

Consider this: Most doctors also are experts in breakdowns. They troubleshoot problems and, if it's possible, propose fixes. They're done with their work when the disease is gone from your system and you're discharged. In truth, very little of a doctor's training or practice is concerned with health. Mostly, they wrestle with and hope to cure disease. Often, that's enough. Believe me, when you're sick you don't want a lecture on preventive maintenance telling you that you should have given up smoking 10 years ago. You want action now.

Yet, medicine is changing, as is maintenance.

The new, improved conversation might revolve around the idea that the contribution of the maintenance department to company success is its expertise in asset, machine, and unit health. We know how fast and how long to run the equipment to maximize profit. We're the folks who know what should be done for maximum equipment life, minimizing long-term cost. In short, we're the high priests of the balance

3. We need to understand accounting and economic modeling. We may need to become experts in economic models that include run-to-failure, run-with-shutdown, run-with-PM or run-with-whatever scenarios. Right now the decision to run-to-failure is made in most organizations by default without data and without expert input from the Department of Equipment Health. We have to be able to answer questions like these:

- "Given the facts of the value of the production, the impact on the customers of missed or late shipments, and the costs of the additional deterioration, what direction should we take?"
- "Should we run all-out or stop for maintenance?"

We have to be able to look at the lifecycle cost per part made or gallon shipped. What would be the impact of increasing production with the existing equipment? If we do this, what additional maintenance will be needed and when will it be needed? We want to be at the table when there's a discussion of which is the better business decision.

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## Why is it so hard to change a company's culture and conversations?

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between production and equipment integrity.

In fact, part of this is already happening. In maintenance there is a burgeoning subfield in machinery health. Machine health subfields include TPM, PM, PdM, and RCM. Conference sessions are full when the focus of the talk is on detecting failure before it happens and how to extend the life of the asset. Advanced maintenance departments are becoming experts in machinery health.

### EQUIPMENT HEALTH

Imagine that over the maintenance department's door is a sign that reads, "Department of Equipment Health." To expand into this role, we need to work on three things:

1. We must continue to build expertise in machine health and push to change the focus from reactive to proactive maintenance. We need to get really good at predicting what will occur based on historic data. Almost all maintenance departments already are either working on this or saying they're working on this.

2. We need to master the operating modes and conditions of the equipment. We know what happens in the operation and how it's likely to impact the life of the equipment. We must be able to answer the question, "What will happen if we double the capacity of the feeder" or "What if we speed up the conveyor?" This requires deep knowledge of process, additional knowledge about engineering, and some knowledge of the market.

The million dollar question: How would you start up this new conversation? If that is the conversation we want to create, how do we do it? Why is it so hard to change a company's culture and conversations? The reason it's difficult is that the fundamental conversations have not been understood and dealt with. These old stories and assumptions still run the show and any new cultural changes are merely smeared on top.

To permanently change the status of maintenance, we have to begin by noticing the existing conversations. The old culture is anchored in place by structures, incentives, memory, and custom. As such, it takes no extra energy to keep the old culture in place. The next thing is to disassemble the structures that hold those conversations in place while at the same time creating new ones.

What conversations are going on in your company about maintenance? Look below the surface, turn over rocks, and listen without getting mad. The next step is to see which reports, customs, and incentives hold the old conversations in place. Once the field is cleared out, we're free to invent new conversations. The final step is to begin building new reports, incentives, and customs to support these newer, healthier, more successful conversations. Then, let's order the Department of Equipment Health signs. ☺



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