Understanding the Business Side of Your Job

Help management see the maintenance department as a profit center instead of a cost center by speaking their language.

By Mike Cowley, Contributor

Throughout my more than 27-year career in manufacturing maintenance, I have routinely been faced with an undercurrent of distrust, frustration, and communication gaps between manufacturing management and the management of the maintenance organization. These conditions often cause low morale, dissatisfied employees and less-than-ideal success and profitability for the organization.

The root cause of these conditions often lies with the lack of knowledge. In many cases, management has either limited or no knowledge of the maintenance function and its ability to contribute to the manufacturing process. Likewise the maintenance organization has limited exposure to the business side of manufacturing (and their own maintenance responsibilities to the business side).

It is often unclear how either of these groups contributes to the success of the manufacturing process. The net result is that upper management feels that maintenance is a necessary evil and a cost to the organization; the maintenance team feels that the manufacturing management does not understand how to properly care for their equipment and that they only need the maintenance group to fix machinery when unexpected problems occur.

To change this culture of confusion and frustration, two steps must be taken. The first is for management to obtain the knowledge of world class or mature maintenance principles and develop a vision of the type of maintenance culture that would suit the existing manufacturing environment. The slogan that comes to mind in situations like this is that for any program, process, or plant-wide initiative to be successful, it must be “top-supported and bottom-driven.”

The second step is for the maintenance-management team to gain knowledge of the business side of the maintenance operation and to understand more about management’s role in the operation and management of a manufacturing facility. This is important because, in today’s manufacturing and maintenance world, almost *all* of the day-to-day decisions ultimately come down to knowing what the financial implications and justification will be for the actions taken by the plant maintenance organization.

While it would be welcome for both factions to work toward a better understanding of the other, this cannot be expected. For the maintenance professional to attempt to change upper management’s culture toward maintenance, for example, is described by some as trying to move a string by pushing from one end: It is not the easiest thing to accomplish.

On the other hand, the maintenance professional has the ability to change his knowledge, attitude, and ultimately, his culture and that of his employees and the entire team. When this takes place, the maintenance pro can pull the string instead of trying to push it. His goal is to be in a position to justify and “sell” future maintenance programs, processes, and actions that will change the perception and culture of maintenance from that of a *cost center* to a *profit center*. This means that the maintenance function will not be looked at as being a liability, but as a group that contributes to the profitability of the manufacturing group by increasing machine reliability, product quality, and lowering operating costs.

For perspective, it’s worth noting that the job of fully understanding the financial operation of a manufacturing facility is a complex undertaking, and entirely in the realm of financial professionals. Members of this group use numerous financial tools and calculations to determine various indicators of a business’ health, such as current value, future value, and return on investment in new programs, processes and equipment modifications. Maintenance professionals cannot be expected to have access to or training in these financial processes. However, it is possible for maintenance pros to better communicate their needs and strengths to the financial sector of their operation. To do this, they need to know the following:

- The precise information a company’s finance professional needs
- Where this information can be found

- How to accurately convey the maintenance meaning of this information in a way that will allow the finance side of management to make logical and cost-effective decisions.

Maintenance knowledge to financial information

As noted, every decision made in the maintenance world carries a financial component. For example, for a bearing to have a long and useful life, it's understood that proper lubrication is required. Maintenance professionals did not reach this conclusion by using a financial calculation, but through knowledge based on experience or training. But if you take this example a step further, the ultimate or "bottom-line" (a financial term) reason for having a good lubrication program is not simply because it's common sense, but because it can *lower operational costs*.

Now, suppose you want to install an automatic lubricator on a remote bearing that is difficult to reach without causing machine downtime. If you go to management and request $500 for such a purchase, the first question will be why? If you simply say "because it needs one," or "because it is hard to reach," you'll probably be thrown out of the office and asked to come back when you have a better answer.

A better way to attack this problem is to present the proposal this way: "I have an idea that will save us some money." Now you have their attention. To continue: "I propose that we install an automatic lubricator on the bearing on top of machine xyz. We currently lubricate this bearing once each shift which causes about one hour of downtime each shift. If we spend the $500 to purchase and install the lubricator, we will eliminate downtime and the maintenance technician's labor estimated to be three hours per day. Based on the cost of downtime and labor costs, we should see a simple payback in one month." Not many manufacturing managers will turn down a proposal like this one.

The important part of the knowledge segment is to understand and determine how you can explain, justify or defend your maintenance suggestions, ideas, and programs in a financial manner. In simple terms, it usually comes down to what the cost savings or the cost avoidance will be compared with the investment in the actions taken by the maintenance organization.

Where's the information?

While understanding the type of financial information needed to justify a project is key, equally important is knowing where to find it. For this, there is, without doubt, only one place the maintenance manager needs to look when searching for information and history about his facility and production equipment: his CMMS (Computerized Maintenance Management System).

Though still an under-utilized tool in industrial maintenance, the CMMS is, nonetheless, the very best way to store maintenance data. It is highly recommended that any serious effort to better interpret the financial side of the maintenance function include maximized use of a CMMS. This means that the system be used to document work orders for all work performed by the plant's maintenance technicians and contractors, and that work orders are properly coded for work types, failure codes, machine identification, and that completed-work comments are recorded with appropriate details. With this system, there exists a complete, updated machine history, history of labor rates for all maintenance technicians, contractor costs, and supply and repair parts. It provides a complete picture for each piece of production equipment, which is what I call the true cost of maintenance.

Returning to the lubricator example, justification for this purchase included a reference to the routine savings of three hours of downtime to perform traditional bearing maintenance. With a properly installed CMMS, you can easily sort the lubrication work orders for that bearing and machine to determine the exact downtime and maintenance technician labor hours spent in this endeavor. Armed with this information, your justification for an automatic lubricator just advanced to a higher level of credibility. You now have facts instead of estimates, assumptions and beliefs.

Furthermore, the CMMS gives you the ability to review and trend measurements like backlog, work distribution, downtime, planned work, interrupts, and many others. This will further allow you to logically justify, in financial terms, items like machinery replacements, new maintenance programs (lubrication, PM, PdM), manpower allocations and equipment for the maintenance organization.

The bottom line is that you must have accurate, reliable information at your disposal in order to make solid economic decisions. As with other aspects of maintenance, you cannot manage what you cannot measure.

Communication

We have talked about the knowledge and information needed to understand the business side of the maintenance job. But neither of these is of much use to the maintenance professional unless he has the ability to communicate this information to the management team.

Over the years I have learned two important communication lessons the hard way. The first is this: Never present a problem to management without having one solution, or several, to offer. And the second: Never try to sell an idea to upper management, which could be a new program, purchase of equipment, or staffing changes and allocations, without having the compete justification to present at the same time. Let's look at each individually.

The first rule, never present a problem without a solution, applies to situations where you have the time to properly develop possible solutions and ideas. In cases where you are trying to solve emergency situations, don't be afraid to respond and say "give me a few minutes and I will have several possible solutions." In either event I encourage the team approach, which improves communication and makes all involved feel like they share in the ownership of the outcome. If time permits, I like to categorize responses in four groups. These are:

- the ideal solution (if time and cost were not considered)
- the fastest solution
- the cheapest solution
- the best long-term solution

Create an executive summary listing the various solutions on one page so that they can be compared rapidly. Each solution should contain the cost, time required, adverse consequences, maintainability, and long-term reliability. With this information listed for each of the potential solutions, making a knowledgeable and financially sound decision should be relatively simple.

The second rule, never present an idea without justification, has some of the same components as the first, but differs in that it gives you a chance to develop all of the back-up data, prior to submitting your proposal or plan. The key to being successful in this situation is to take the time to develop a detailed justification that answers all possible questions before they are asked. Again, one of the greatest advantages you have is your CMMS history and information. This is a powerful tool to assist in developing support for the changes you are proposing and ultimately trying to sell to the management team.

Let's return to the automatic lubricator example, which I will modify to better illustrate my point. Suppose you have a bearing in an awkward location that for a variety of reasons is not getting the manual lubrication and care other bearings in your plant receive. As a result, your maintenance team has replaced this bearing several times in the last year. Your solution is to purchase and install a $500 automatic lubricator that you will only need to refill monthly. How do you sell this idea without getting booted out of the boss's office? You know it's a great idea and the only reasonable solution, but management needs convincing. The best method is to anticipate as many of the questions as possible. Let's assume you have just stated your suggestion to purchase the lubricator. Following are some of the possible questions you would be likely to hear right away:

- Where is the bearing located?
- Which machine is it on?
- When was the last time it failed?
- What is the cost or the repair?

- Why can't we lubricate it on a regular basis?
- Can we buy a better bearing?
- Can the operator apply grease instead of maintenance?
- How much time do you spend greasing it now?
- How many times has it failed in the past?
- What is the cost of the automatic lubricator?
- What will it cost to install?
- Will this solve all of our bearing problems?

If you have the answers to these questions as they are being asked, you may be successful with your proposal to purchase the automatic lubricator. A better approach is to present the answers in written form when you present the automatic lubricator proposal. Laying the proposal out in three sections will work the best. Address the problem, the proposed solution, and the long-range expectations or results. Here's how that version might look:

A bearing on machine #4 has failed four times in the last year. Total machine downtime has been 16 hours with the total repair cost including labor and materials of $2,500. The bearing is in a very awkward location which requires machine downtime to properly lubricate. I believe this to be the reason for the lubrication-caused failures. I suggest purchasing and installing an automatic lubricator which requires only monthly refilling. The automatic lubricator will cost $500.00 to purchase and another $300.00 to install including labor and materials. I expect this to solve our bearing-related downtime on machine #4 with minimal labor on a monthly basis to check operation and refill. While this is a relatively simple example, it demonstrates an effective method of presenting proposals of all types and degrees of difficulty. It also combines all the elements you need to remember to tailor your requests and proposals to the finance team a strategy that should be a routine part of any maintenance training program.

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