Work Order Costing Strategies that Work for Maximo

Over the coming months, Interloc Solutions will be publishing a series of articles providing real world functional advice for your Maximo implementation. Last time, we focused on the importance of Labor Reporting and Timekeeping

This article focuses on best practices for work order costs.

About David Dawson:

Dave Dawson is the Vice President, Professional Services at Interloc Solutions. Dave has worked in the Maintenance field for over 25 years. His background contains a rather unique combination of real world/front-line experience and business education, as well as process consulting and Maximo implementation. Dave has worked as a mechanic, a lead mechanic, a maintenance supervisor, and a maintenance manager. As a maintenance manager, he was responsible for a fleet of more than 2500 pieces of equipment, with an annual operating budget of over $24 million. Dave's consulting highlights include working with the 3 largest common carriers in North America, the world's largest airline, and numerous other Fortune 500 clients and large public sector organizations. As a maintenance management and process consultant his guidance is extremely credible and proven, always based on what really works in the real world.

Work Order Cost Strategies

When implementing a CMMS/EAM (computerized maintenance management system/enterprise asset management) system, such as IBM Maximo, there are numerous challenging functional, or business related topics that arise in almost every project we encounter. In this series of articles, I will address these issues with the goal to help you make informed decisions on these critical implementation elements.

The first article dealt specifically with labor reporting and timekeeping, including considerations when making important implementation decisions related to time tracking.

This article addresses additional cost tracking elements that are required to get quality work order records to achieve the right goals for your business.

Throughout the article, you will note that I continually remind you to go back to your initial strategy and goals for investing in a CMMS. Keeping your goals in mind will help you to normalize your input data to ensure an equitable outcome.

Work Order Costs

Tracking work order costs is both a fundamental and critical aspect of your CMMS. It should be every maintenance manager's goal to ensure that all costs related to performing work are accurately tracked, entered, and accounted for within each work order record.   IBM Maximo captures this data within the Work Order "Actuals" tab in categories that include Labor, Materials, Tools, and Services. While the names may change, any robust CMMS platform should be able to track and capture these resource expenditures at the work order level, both

quantitatively (how many), and financially (cost).

In the last article, I discussed time tracking. Time, or labor, is one of several types of costs that should be tracked within each work order. This is also an area that can be easily abused or "padded" rendering overall trending and analysis much less meaningful. Other costs that should be tracked each require specific attention, which facilitates realization of long term value from your CMMS.

The first step in the decision process is to determine the overall goals of your system. Most maintenance management systems (including Maximo) focus on core asset management as the driving force behind their design. This translates to a design centered strictly on the total cost of ownership and performance of an asset/equipment, from purchase to disposal. At first glance, you might agree that this is your goal; this is what you want to track in your CMMS. However, as implementation gets closer, you may find these objectives difficult to achieve because costing issues weren't carefully considered in advance.

What Could Go Wrong?

Again, focusing on total cost of ownership and performance of an asset from purchase to disposal might be the assumed goal of every implementation. However, there are aspects of work order cost tracking that make this difficult to achieve, if you do not consider them carefully.

Your CMMS is not an accounting system. Accounting goals are different, and to get the best results, you need to consider strategies that may differ considerably from those employed strictly for accounting.

Anyone who has been involved in an implementation has probably heard these types of questions:

- Will we issue parts at the actual cost, or average cost?

- How do we track the cost of a rebuilt part?

- Shouldn't we bring our actual labor cost over from our HR system?

- What are we going to do with shipping costs?

The list of questions is seemingly endless – and for good reasons.

Answers to these questions can result in conflict between maintenance and accounting. They must match the defined goals for your CMMS, or your CMMS can rapidly turn into an accounting system sub ledger, seriously compromising maintenance management, and therefore asset management, objectives.

How Do I Achieve My Goal?

"Pure" maintenance management focuses on only the assets and is a part of asset management. For "pure" asset management, the end goal is to optimize the return on your assets.

Keeping these principles in mind, your implementation objectives should include efforts to minimize the variables that go into your work orders, like costs. Minimizing the variables means stabilizing (normalizing) costs that go into work orders as much as possible. This makes analysis and trending on those records meaningful, ensuring that you can rely on the results to make management decisions. When reliable quantitative conclusions can be made, your system is doing what it was designed to do.

Some Real World Examples

The cost of materials (parts) is typically a major component of total work order cost. There are several areas where things can go wrong, resulting in data that can produce misleading indications.

For example, if you use the actual cost of a part on work orders, you are now introducing a variable into the equation. The cost for parts changes over time. The best way to smooth the data is to issue parts at an average cost.

Rebuilt parts introduce the same difficulty, but in a much more dramatic fashion. When a major component is rebuilt, there can be a huge variance in the cost due to the components required. Some rebuilds may cost very little, while others may require an in depth overhaul to be restored. When we issue these rebuilt items, recording the actual cost could present a problem.

For example, two identical assets have the same major component fail, and both are replaced with a rebuilt unit. Issued at actual cost, one could get the rebuilt component that cost $5000, while the other gets the rebuilt component that cost $500. If you analyzed the ownership costs associated with these two assets, the one that received the expensive rebuilt component would be identified as a poor performer, and unjustly so.

While not a direct work order cost, shipping also can inadvertently become a work order cost, and the cost of shipping presents another opportunity for skewing the data required to trend or analyze asset performance. Maximo lets you distribute the shipping costs over the materials purchased. While this may seem to be a convenient way of handling the expense, it introduces another variable that can compromise meaningful analysis.

For example, consider the cost of a single part purchased in an emergency using overnight shipping, versus a bulk order (many parts) using standard shipping. We now have the potential for significantly different costs being introduced for the exact same part.

Maximo, or any CMMS, is a tool to facilitate improved management of assets. The tool is only useful if it can demonstrate to us what we are doing well, and show us where we need to focus on improvement. If shipping costs are hidden in the cost of the parts, you lose visibility into what could be a significant problem.

How does your storeroom look? Can you walk around and spot "red label" packages that are collecting dust? I bet that you can. Hiding shipping costs inside of the cost of parts prevents you from troubleshooting shipping expenses, which for many significantly sized organizations can be huge. Hiding it is a mistake.

As discussed in the previous article, labor cost is another critical area. Using fully burdened average rates for labor costs is a great way to insure that your data analysis is producing meaningful indications. Keeping your labor entries "clean" is important as well. If you intend to analyze your assets, introducing travel time and/or other overhead (non-production) activities into work orders compromises your results.

I need to reemphasize a statement from the previous article, since both topics influence work order costs:

The worst mistake an organization can make is to confuse accounting, finance, timekeeping and payroll goals with those of an asset management system.

They are very different, and each of the prior examples has the real potential for compromising the ability for you to achieve your maintenance management goals.

If your implementation's goals are a mixture of "pure" maintenance management goals and some of the others listed above, this needs to be carefully discussed with your implementation team.

You've Made Your Decision

How you track costs in Maximo, or any CMMS, is critical to its long term effectiveness. As with timekeeping discussed in the previous article, you have to make decisions. If you've decided on "pure" maintenance management goals, your path is straightforward, and systems like Maximo will excel at collecting and providing all the information required to optimize your assets, and to make informed maintenance, reliability and replacement decisions.

If your goals appear to be some hybrid set, proceed carefully, or the data needed for running an optimized maintenance organization will be lost. It can be done, particularly in systems as flexible as Maximo. However, very careful strategies need to be employed to meet these distinctly different goals.

My Accounting People Have Read This, and They are Not Happy…

And there is a possibility this will happen. It is beyond the scope of this article to explain all of the differences between asset management objectives and accounting objectives. However,

they are very real, and do need to be considered by both groups.
Keep in mind that Maximo is a highly configurable tool. In most cases, a solution can be designed to keep both departments happy, and to provide them with the data they require.

For example, both an actual labor cost from a payroll system and a burdened average can be captured in Maximo through simple configuration. Therefore, both can be reported on. In the case of materials, you can capture actual cost on the purchase order, while tracking an average cost in inventory. Some of these conflicting needs can become quite intricate, but there is usually a good solution available.

The bottom line is that you have invested in a maintenance management system. When you are implementing it, there will be many chefs in the kitchen, including people from both the IT and Accounting/Finance department. Do the best that you can to help them understand the differences, and the fact that oftentimes your objectives will collide. However, through careful workshop and design processes, a good outcome for all parties is possible.

Conclusion

The costs that make up a work order provide numerous opportunities to introduce data that can negatively impact achievement of maintenance

management objectives. The fundamental principle is to minimize the variables, and to smooth data as much as practical. Any system configuration or design decision that enables exceptions on work order costs, where there might be the exact same part at $1 or at $10, there you have a problem. Make sure to proceed very cautiously if any of the objectives within your implementation differ from the "pure" approach, as these objectives can easily prevent you from gathering data required to optimize the maintenance and management of your assets.

The data that goes into your CMMS needs to be **comparable** data. When you introduce wildly fluctuating part, rebuild, shipping, or other costs into your work orders, they are no longer comparable. Any decisions made with this sort of data are vulnerable to being poor decisions, and when you consider that at some point you may be analyzing the results from thousands or more work orders, this fact can present a significant problem. And it should be noted, that this sort of issue is quite difficult to back out of once in place.

Work to ensure that the data that makes up the cost portion of your work orders is as stable and normalized as reasonably possible, and your outcome will be a good one.

Extending Maximo with Innovation

Achieve faster ROI on your enterprise assets with Interloc Solutions!

- **Mobile Informer**, Interloc's flagship mobile platform integrated as a native application in Maximo allowing you to quickly create custom mobile applications on the device of your choice.

- **Capturx for Maximo**, instant import of data from paper forms into Maximo.

- **Interloc Mailer,** take action on any Maximo action with just a single click from an email — logging in is not required.

- **Technology Toolkit for Maximo**, tools and products that optimize Maximo for your business:

  - **Interloc Data Loader**, consistent and repeatable methods for staging, coordinating, and loading data into Maximo.

  - **Interloc Release Manager**, customizations and configurations made on one Maximo environment migrated cleanly to another (i.e., Test to Development)

Learn more at www.interlocsolutions.com

http://www.interlocsolutions.com