

A CMMS HIDDEN TREASURE

By Scott Franklin

Investing in a CMMS is very similar to any other capital investment.

You prepare a budget (oftentimes supported by a return on investment calculation), perform a selection process, make the purchase, perform the installation and begin operations.

One significant difference between the CMMS investment and other capital investments is that, over time, your return on investment for a CMMS can actually increase. This is because the CMMS system is doing something hardware doesn't. It is collecting information that can then be used to further improve the efficiency of your processes.

Installing a CMMS is generally viewed as a two-stage process.

The **first stage** being everything necessary to make the system operational followed by the **second stage** of operating the system. There is a **hidden third stage**, however. As the system is used to purchase repair parts, issue and track work orders, and schedule/plan maintenance and capital projects, a wealth of history is being collected. Since there is no quantifiable point where historical data automatically becomes useful (at least not in the same manner that 'going live' with the system is) it is easy to overlook the fact that over time, you have collected a significant amount of information. **This hidden third stage is the ability to analyze this collected information to improve and optimize your maintenance program.**

In reality there is a point where your historical information has 'gone live' and this is when you have one calendar (or fiscal) years' worth of information.

Let's step back and make a few assumptions.

1. One being that the Thanksgiving/Christmas holiday spirit is usually greatly enhanced with the always-enjoyable Annual Budget Preparation festivities.
2. The second assumption is that you also get to enjoy starting the new year spending some quality time with your boss reviewing last year's maintenance expenses (readily available at your local accounting department).
3. Simply put, every year provides two discrete data points - an itemized cost projection/budget and an associated year-end actual cost total. If your CMMS system has been in operation for that entire year,
4. Then you now have a third piece of information, your CMMS totals. One small problem may exist, however. Chances are that your CMMS totals don't match anything. The reason for the mismatch is that your accounting process is basically designed to track expenses and your CMMS is designed to track equipment, labor, and parts. This does not mean that they are mutually exclusive, but that they are optimized to track common information differently.
5. Ideally, the CMMS should be configured to collect and categorize the same cost information that your budgeting/accounting process does. For example, how is your budget categorized? Capital improvements vs. general maintenance repairs, corrective maintenance vs. preventive maintenance, etc., and is your CMMS system set up to match these categories?

6. Assuming you have a year's worth of data available, try printing reports to match the original budget estimates. If there are certain areas of your budget that you don't track within your CMMS system – i.e., capital projects or equipment upgrades – then you may want to consider using the CMMS for these items also. Most CMMS systems have matured to the point that the most recent releases have significantly expanded their capabilities beyond the basic maintenance management/equipment history/purchasing/inventory functionality of the original products. This means that the CMMS you purchased 4-5 years ago has probably had one major upgrade and numerous minor upgrades and may include significantly greater functionality and features that you may not be aware of.

In addition to annual budgets, there is also the availability of cost information from your accounting system.

- If your accounting system is not integrated with your CMMS system, then getting accurate correlation between Accounting's Accounts Payable entries and CMMS parts/equipment costs can be difficult.
- You may need to work with your accounting department to find some way of recording a common identification number between the two systems – e.g. recording the Purchase Request/Purchase Order number, the invoice number, or the work order number.
- Ideally, all parts/equipment are purchased against a work order and coordinating with your purchasing department to record the Work Order Number can greatly simplify resolving discrepancies between CMMS numbers and accounting numbers.
- It should also be possible to identify or develop a report from the accounting system that can itemize costs by Work Order number and allow direct comparisons with the CMMS system.

The most obvious advantage to configuring your CMMS to match your budgeting / accounting process is that this information is now readily available in the CMMS and greatly simplifies the budget preparation and adds near-real time cost tracking.

Additionally, the ability to show figures from the CMMS system that directly correlate to budgeting/accounting numbers creates inherent credibility when presenting information from the CMMS.

While there are definite advantages to having budgets, accounting costs, and CMMS totals correlate, this may not always be possible and/or cost effective.

Configuring your CMMS to collect and categorize costs to match your budgeting/accounting procedures is a useful guideline to ensure quantifiable costs are being recorded, the real value in this historical information is how a review of history can improve future operations. For example:

- 1) Expense Analysis. There are a number of areas that can be analyzed by expenses. These include:
 - Corrective vs. Preventive costs. Realizing that preventive maintenance cost are primarily labor costs and consumables (with the notable exception of scheduled overhauls/replacements), building a reviewable history of the relationship between Preventive Maintenance and Corrective Maintenance costs allows the potential to

build a 'Return on Investment' of your Preventive Maintenance program, especially if you can track associated/estimated costs for unscheduled downtime/equipment failures

- Capital Improvements vs. Maintenance/Repair costs. Capital expenditures/equipment replacements (especially unplanned replacements) can often skew maintenance costs analysis. Tracking these in the CMMS can simplify
 - Spare Parts Utilization/Expenses.
- 2) Cost Tracking. Tracking maintenance expenses/costs simplifies the ability to stay within budgets and also justify next year's budget requests. Properly recording and categorizing maintenance expenses allows on-demand reporting of year-to-date costs and comparison to budget projections.
 - 3) Equipment Cost Analysis. A recent review of one company's CMMS showed that they were spending \$17,000 per year to maintain a group of pumps that had a \$350 replacement cost per pump. This had been going on for a number of years and wasn't immediately obvious until:
 - a) A year's worth of information had been collected and,
 - b) That information was reviewed.Most CMMSs include a 'Top Ten' or 'Top Twenty' listing based upon various criteria (maintenance cost in this example) that can be used to identify trends. Be aware that you may have to look a little deeper to identify some problems. The problem cited above wasn't noticed until the report was run by grouping all identical equipment (i.e., a cumulative total for all the \$350 pumps)
 - 4) Equipment Reliability. A simple comparison of preventive maintenance vs. corrective maintenance can be quite revealing. A make/model of equipment that is 25% less expensive than a similar model by a different manufacturer, but has double the maintenance problems may not be your best investment. A review of history can also identify areas where you may want to re-evaluate your maintenance focus. Equipment with a high amount of corrective maintenance is a prime candidate for reviewing the quantity and quality of your preventive maintenance. Conversely, equipment with a high amount of preventive maintenance, but very little corrective maintenance may not need quite so much attention.
 - 5) Labor Analysis. If you have been the Maintenance Department director for a number of years, chances are you have been faced with the requirement to justify your staffing levels or justify increasing your manpower. Additionally, the availability of quantitative data would greatly simplify the justification process. By using the CMMS system to document labor hours, over time you can build a significant amount of information. The primary benchmark is how much time is being documented. A reasonable target is to try to get anywhere from 50% to 80% of the labor hours documented in the CMMS system – i.e., labor hours documented against a work order. Being able to show a relatively high utilization along with a comparative breakdown of preventive maintenance hours vs. corrective maintenance/capital improvements can provide significant ammunition when faced with labor justification questions. (Note – Ensure that you have a defensible explanation for the utilization percentage. Your maintenance supervisors should be able to give you a realistic target number and a justification for that number. Make sure you take the time to phrase the question constructively)

These are just some examples of different analysis possibilities. The real 'secret' is to recognize that information exists in your CMMS that wasn't there the day you started using the system. Take some time to see what you have. It may surprise you.