

Results of CMMS Effectiveness Survey

By Ruth Olszewski and Terrence O'Hanlon

If your company ran its computerized accounting system like it runs its CMMS (computerized maintenance management system), would you let it prepare your company's tax returns? That is the question we asked when we launched the CMMS Effectiveness Benchmarking Survey project (*MT* 3/01, pg 49).

This report of project results allows you to answer that question for yourself. We found that several companies are on their way to achieving world-class status in their use of CMMS; however, the average system effectiveness showed a significant need for improvement.

Results reported here were collected from voluntary survey forms completed between March 1 and April 30, 2001 from ReliabilityWeb.com and MAINTENANCE TECHNOLOGY magazine. The CMMS Benchmarking survey will remain active as a living project, with results updated from time to time to chart industry changes in CMMS use, effectiveness, and best performers.

The survey collected data on 33 measurements. Five key aspects are reported:

- Size of facility and maintenance staff
- Number of assets/equipment numbers entered into the CMMS
- Number of stores items entered into the CMMS
- Percentage of work orders entered into the CMMS
- Automated data capture features used.

Benchmarks reported may be used to identify areas for improvement or areas of excellence in your maintenance facility. Ultimately, these benchmarks may be used for setting facility goals and achieving world-class maintenance status.

All submissions were not complete. Therefore, the number of samples per metric may vary.

Plant size and budget

The average plant that participated was 1,184,880 sq ft, had an annual maintenance budget of \$11,385,766, and employed 123 total maintenance workers.

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- Facility size
High: 21 million sq ft
Average: 1,184,880 sq ft
Low: 8000 sq ft
- Maintenance budget
High: \$150 million
Average: \$11,385,766
Low: \$1000
- Number of maintenance employees
High: 1780
Average: 123
Low: 2

Asset accounting

The benchmark average for amount of asset/equipment numbers entered in the CMMS was only 78 percent which means that 22 percent of all asset/equipment is not tracked or accounted for in the system. Identifying asset/equipment numbers that are wasting maintenance dollars is impossible if not tracked in a CMMS. It is mandatory that all

asset/equipment numbers be tracked to reap the benefits of a CMMS. Best performers achieved 100 percent asset/equipment numbers data entry.

- Number of asset/equipment numbers in plant
High: 600,000
Average: 18,883
Low: 45
- Number of asset/equipment numbers in CMMS
High: 400,000
Average: 13,418
Low: 0
- Ratio of assets tracked to total plant assets
High: 100 percent (Best Performer)
Average: 78 percent
Low: 0

Maintenance stores

The average maintenance stores inventory value was \$5,162,371 with an average of \$475 value per item, yet only 67 percent of the maintenance stores inventory was entered into and tracked by CMMS.

Optimizing maintenance stores inventory items, reducing maintenance stores inventory cost, and negotiating better item pricing is impossible if maintenance stores inventory is not tracked in a CMMS. At \$475 per maintenance store inventory item, this cost by itself justifies tracking it in a CMMS.

Therefore, it is mandatory that all maintenance stores inventory items be tracked in a facility's CMMS in order to reap the benefits of a CMMS.

- Number of stores inventory item numbers in plant
High: 2 million
Average: 68,290
Low: 25

MAINTENANCE LOG

- Number of stores inventory item numbers in CMMS
High: 500,000
Average: 20,774
Low: 0
- Ratio of inventory items tracked to total inventory items
High: 100 percent (Best Performer)
- Inventory value
High: \$70 million
Average: \$5.16 million
Low: \$10,000
- Inventory value per item
High: \$5000
Average: 67 percent
Low: 0

Average: \$475
Low: \$9

- Order time from purchase request to purchase order
High: 350 hours
Average: 25.0 hours
Low: 0.1 hour (Best Performer)

Most CMMS packages will automatically create requisitions or purchase orders for items below their minimum stock levels or for items that have hit their reorder point. Automating the procurement function significantly reduces ordering time and procurement costs. However, before this feature may be used, it is mandatory that all maintenance stores inventory items be tracked in a CMMS with a minimum stock level or reorder point listed for each item. The advantage is that ordering time will be minimized and the focus can shift to negotiating better terms and pricing.

- Number of manual purchase orders prepared per month
High: 4000
Average: 344
Low: 4 (Best Performer)

In addition, maintenance stores items that are well managed via a CMMS significantly reduce the number of purchase orders and ordering time, resulting in minimized purchasing costs for a maintenance department.

- Procurement cost per month
High: \$2.2 million
Average: \$235,173
Low: \$275

Only 60 percent of this survey's participants know their monthly procurement cost. If purchasing is tracked in a CMMS, the system should easily report monthly procurement costs with a click of a button. A maintenance budget cannot be maintained or forecasted unless procurement costs are known.

Work orders

In order to reach world-class maintenance levels, all work needs to be tracked in order for it to be managed. Even if work occurs without a work order, it still must be recorded in a CMMS. If work order information is not recorded in a CMMS, equipment histories with labor, parts, and comments will not be built and maintenance stores inventory items will not be tracked accurately. Recording work order information in a CMMS is the key to effective

management and maximizing a facility's return on assets. The percentage of planned work must increase in order to reduce down time. Downtime is clearly detrimental to a company's bottom line.

Only 42 percent of this survey's participants know their monthly work order cost. If work order information is tracked in a CMMS, then the system can easily report monthly work order cost. It is impossible to maintain or forecast a maintenance budget when work order cost is unknown.

- Percentage of work tracked
High: 100 percent (Best Performer)
Average: 77 percent
Low: 0
- Percentage of work planned
High: 100 percent (Best Performer)
Average: 48 percent
Low: 0.2 percent

Automation features

Bar-coding solutions can be used to break down the barrier of difficult data entry and reduce data entry time and

errors. However, only 18 percent of survey respondents used bar-coding. A well designed bar-coding solution can accurately and reliably collect information and update your CMMS.

Recommendations

Work toward ensuring that 100 percent of asset/equipment numbers, maintenance stores items, and work is tracked in your CMMS. Without this important information, maintenance planning and scheduling, budgeting, and overall maintenance management will never be optimized and costs will never be minimized.

Reporting on this information is the reason the CMMS was purchased and implemented in the first place.

In summary, regardless of how big a facility is, what it produces, or how many employees, asset/equipment numbers, maintenance stores inventory item numbers, or work orders it has, an effective CMMS can be used as a tool to manage its employees, asset/equipment numbers, maintenance

stores inventory item numbers, and work orders. Any obstacle preventing a maintenance department from getting initial CMMS information in it or maintaining CMMS information must be eliminated. A CMMS must be run effectively and used as a tool to optimize your facility's return on assets.

The full report and a recommendation package is available from CMMS data group, inc. in cooperation with ReliabilityWeb.com.

Ruth Olszewski is a principal at CMMS data group inc., a CMMS software consulting and benchmarking firm. She may be reached by phone at (773) 275-8846 or Internet www.CMMSdatagroup.com. Terrence O'Hanlon is the publisher of ReliabilityWeb.com (www.reliabilityweb.com), the industrial review site for the plant reliability community. He may be reached by phone at (941) 985-0317.

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