



How Facility Data Drives Performance and Investments

Executive Summary

A growing number of facility managers understand how data and business intelligence can help them operate their facilities more efficiently, justify their capital and operating budgets, and communicate the value of their work. At the same time, most find their efforts to produce and analyze this data constrained by outdated systems.

Growing Demand for Facilities Data

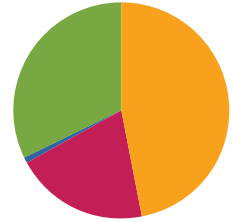
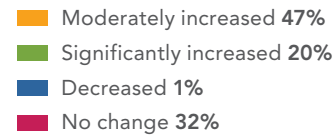
In the eyes of top management, facilities are costly to build and expensive to operate and maintain. While it seems obvious to facility managers that sound investments in physical assets — like good preventive maintenance and appropriate upgrades — will reduce long-term facility costs, facility managers too often lack solid data to support those assertions. Getting that data is an opportunity not only to justify investments in facilities, but to improve facility performance.

It's no surprise that facility managers face a rising demand for good data. Top management increasingly expects that both the operational budgets and requests for capital investments submitted by facility departments have a solid financial underpinning.

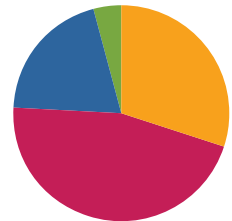
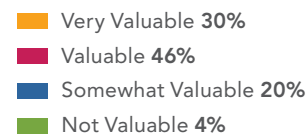
Ten or 20 years ago, many decisions were made based on an individual's experience and opinions, says Mike Cowley, owner and president of CE Maintenance Solutions. "Today, everyone wants more economic, financially-based decisions." CE Maintenance provides training and consulting services to facility and manufacturing maintenance organizations.

A recent survey Building Operating Management conducted on behalf of Dude Solutions, a provider of cloud-based operations management software, documents the increasing urgency of capturing and leveraging good data. More than two thirds of facility managers have seen increased demand for operations or maintenance data analysis and

How has demand for operations or maintenance data analysis and reporting changed during the past 12-18 months? R = 491



How valuable would it be to have historic performance data on the equipment you have in your facility? R=463



reporting over the past 12 to 18 months, with 20 percent calling the increase "significant." What's more, more than three-quarters of survey respondents indicated that historic performance data on their equipment would be either "valuable" or "very valuable."

Over the past few years, Craig Borkman, project manager with Virginia Beach City Public Schools, and his colleagues have taken more steps to use metrics to show the value of what they do. "Budgets are always an obstacle," he says. "Everyone is fighting for the same dollars." A compelling financial analysis often is critical to gaining funding.

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Access to Data Not Always Easy

Despite the increased demand for data, few facility managers currently have easy access to the information they need, Cowley says. "Most facilities managers want ten times more data than they're getting." They need greater insight on the

costs to operate and maintain different equipment, and on the expense to heat and cool a facility, both overall and per square foot. Another in-demand measure is the number of maintenance and custodial full-time equivalent (FTE) employees, expressed not only in total, but on a per-square-foot and per-occupant basis, he adds.

Because many facility managers face obstacles accessing performance data, they're often unable to provide their superiors visibility into their operations. Just 11 percent of survey respondents said their managers or executives

11%

ONLY 11 PERCENT of FMs surveyed said their superiors fully understand the complexity and volume of their work. And only 11 percent said their managers have excellent visibility into the true budgets necessary to maintain equipment and optimize operations.

fully understand the complexity and volume of their work. Nine percent said their managers don't understand at all.

Similarly, when asked about the visibility their managers have into the true budgets necessary to maintain equipment and optimize operations, just 11 percent indicated excellent visibility. On a scale of one to five, with one being poor visibility and five being excellent visibility, 35 percent were right in the middle, at three.

Three Types of Data Needed

Facility managers are looking for better data on equipment performance, energy and utility consumption, and information that will help facility managers link costs to specific facilities and identify areas of improvement, the survey showed. For example, survey respondents said they're looking for:

"Cost comparisons between department(s) to allocate resources."

"Down time of equipment, efficiency of equipment."

"Sub-metering to see where our utility costs are focused, and to track specific savings after upgrades."

"Utilities consumption by building. This would be used to diagnose malfunctioning equipment."

Tom Meany is facilities manager with Compassion-First Pets, a family of about 27 veterinary hospitals throughout the United States. He notes that most well-run veterinary hospitals have become quite sophisticated in practice management and client experience. Of course, that's a positive trend. However, it makes it more difficult for any practice to out-perform its competitors. "In my view," Meany says, "to compete in today's saturated veterinary market, the difference is in the 'back of the house.' This is where the savings are easiest to achieve."

One step Meany says he's taking is implementing a CMMS (computerized maintenance management system) solution. The data provided should boost efficiency. He adds that his firm jumped from eight hospitals to 27, just within the past year. "All operate as silos,

FMs need greater insight on the costs to operate and maintain equipment, heating and cooling expenses, and the number of FTE employees

and inefficiencies abound, so we really need the data to begin managing properly," he says.

Obstacles to Accessing Data

While most survey respondents recognize the need for more and better data, more than 40 percent rated their ability to provide accurate operations

REPORTING

How would you rate your ability to provide accurate operations performance data to your managers? R=487



performance data to management as "adequate," "poor," or "very poor."

Unfamiliarity with current technology options is one reason. In the veterinary industry, Meany says, everyone still is learning how a CMMS can help the organization move ahead of competitors.

In addition, tight budgets can make it difficult to dedicate personnel to anything other than building operations. "We're always trying to do more with less," Borkman says.

Some point to the lack of training. Few facility managers have learned how to use spreadsheets to track and evaluate costs, says David Patnaude, director of facilities and real property management, project executive with Trinity Wall Street.

Even when facility departments implement CMMS solutions, they often go unused, Cowley says. Unless employees are required to use them, many will continue the manual processes they know. Or, if they do use the systems, they'll include minimal information, such as identifying

a piece of equipment as "broken" and then "fixed." Such limited responses hinder facility managers' ability to troubleshoot, conduct root cause analyses, and improve expenses.

If an organization doesn't know where it's spending money, it's hard to identify areas for saving. Conversely, facilities that have a solid handle on their historical performance can do a better job predicting future expenses. They're better able to estimate, for instance, the repairs that will be needed soon and the costs required to maintain the HVAC system.

Using the systems that can provide this data shouldn't be onerous. "We're talking 20 minutes at the end of the day," Cowley says.

Mike Shelgren is assistant director of facilities and operations with Owen J. Roberts School District in Pottstown, Pa. "We track utility costs per building using Utility Direct from SchoolDude," he says. "With Utility Direct I can view any building's monthly costs for all utilities, compare it to historical data, compare square foot operating costs to other buildings, and look for changes in trends." SchoolDude is part of the Dude Solutions family of applications.

Using Facility Data

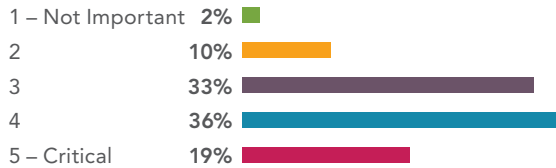
Many survey respondents understand the importance of data in justifying requests for additional funding, whether for resources, personnel, or equipment. Nearly one in five said it was critical; another two-thirds ranked it a three or four (out of five) in terms of criticality.

Nearly all respondents — 87 percent — say benchmarking their organization's performance against that of their peers is at least somewhat important. Facility managers who are interested in benchmarking internally or with outside peer organizations are leaders in the field, says Jim Whittaker, president and chief executive officer with Facility Engineering Associates. "They understand where they are and where they can improve," he adds.

Many benchmarking efforts encounter

FUNDING

When securing additional funding for resources, personnel, and equipment, how much do you rely on data and reporting to justify those requests? R=453



legitimate difficulties, Whittaker says. One is ensuring an apples-to-apples comparison. Facilities data can show significant variations depending on how the information is captured. For instance, in one school district a custodian mows lawns, so this expense is captured in custodial service. In another, a maintenance worker handles the job and it's captured in maintenance.

In addition, benchmarking itself can invite criticism, if the information reveals operations that are less-than-optimal. Facility managers who undertake a benchmarking initiative need to be willing to be held accountable and to use the information to improve performance, Whittaker says.

Borkman says his school district is using School Dude to compare its operations with other districts that are similar in size. "You can identify areas of opportunity and areas where you're the leader," he says.

Improving Equipment Performance

Along with information that can be used to benchmark, nearly all survey respondents said they would find value in accessing historic performance data on the equipment in their facilities. These comments reflect some of the

information they'd find useful:

"Past history of dollars spent fixing problem with repairs in lieu of replacement."

"Speeding up the draining and refilling of systems and getting systems back on line in the shortest and safest amount of time."

"Utility bills of aged buildings and mechanicals versus those that have been modernized."

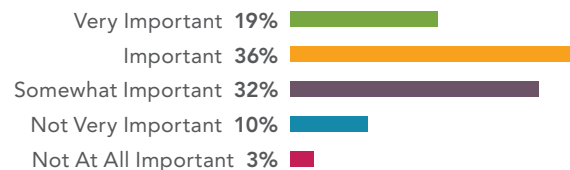
A common roadblock in obtaining this information is equipment age. Most older equipment offers little, if any, information on its performance. Richard Chavez, general services bureau chief with the New Mexico Department of Transportation, notes that many of his facilities are 60 years old. Most information comes from visual checks of the machinery and equipment.

Shelgren says he's unable to report the actual costs required to operate individual pieces of equipment. A primary obstacle is "older equipment that does not have a capability to provide as much data as new equipment," he says.

Keys to Success

While the survey uncovered much room for improvement, some organizations are making headway. The Virginia Beach School District introduced Netbooks several years ago. Now, craftsman can access all floor plans from the device, without having to return to the shop to look things up, Borkman says. "We were also able to do away with pen and paper, and send emails throughout the day as we received them,"

How important is it to benchmark your organization's efficiencies vs. that of your peers or competitors? R=462



BENCHMARKING

For a CMMS to provide value, the workers capturing data have to understand how it will help them justify their positions and obtain resources.

he adds. "We even cross train some personnel whereby they are more of a general craftsmen and can complete more work orders in a building per visit. We estimated that our productivity increased in excess of 25 percent."

One key to success in implementing new systems is knowing the goals for doing so, Whittaker says. "You need to know where you want to go, and have a vision and plan to get there."

This means deciding upfront how to categorize information. Whittaker provides an example: Most organizations say they want to do more preventive maintenance. To achieve that goal they'll need to decide how technicians should record their time. For instance, will a service request be considered preventive maintenance? "Capturing time and classifying work is important," he says.

Training also is crucial, Whittaker says. The individuals who will be studying the reports likely will be executives. However, the people capturing the data are tradespeople who want to fix things. "The last thing they want to do is administrative work," he says. For the systems to provide value, the workers capturing data have to understand how it will help them justify their positions and obtain resources, he adds. "They need to know they're not just capturing data for sake of capturing data."

Facility organizations also need to strike a balance between taking on too much at once and taking too incremental an approach. Those that bite off too much at once often fail to

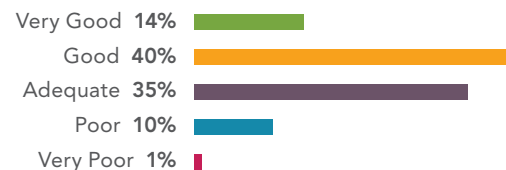
recognize the cost to capture and maintain information over the long term, Whittaker says. They're likely to set expectations they can't meet because they haven't developed a sustainable system for managing the data. Conversely, organizations that take too piecemeal an approach can end up constantly re-tooling their systems, he says.

Acting on Improvement Opportunities

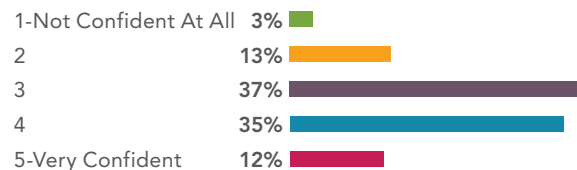
How effectively do organizations take action once they've identified areas for improvement? The survey results show many facility departments could do better at this. Forty percent said they were "good," and 35 percent said they were "adequate." Just 14 percent ranked themselves as "very good."

Once any changes are made, just 12 percent of

Once you've identified areas for improvement, how would you assess your organization's ability to put that insight into action? R= 464



Once those changes are in place, do you feel confident your organization can consistently monitor performance and progress to ensure those changes remain effective? R=463



FOLLOW THROUGH

respondents are very confident their organizations can monitor their performance to ensure the changes remain effective. More than half (53 percent) ranked themselves three or lower, on a scale of five.

“Facilities managers need to take on greater leadership roles in determining the performance measurement framework they want to have,” Whittaker says. They should help drive the development of data standards and be held accountable for data they’re collecting. “This

About the survey

The survey was sent out via email to 30,000 subscribers of *Building Operating Management* (building owners, facility managers) and *Facility Maintenance Decisions* (maintenance/engineering managers) magazines on November 9, 2016. Follow-up survey reminders were emailed to non-respondents on November 11, November 18, and November 22, 2016. A total of 250 chose to opt out or failed to respond due to an invalid email address. The survey garnered 533 qualified responses, for an estimated margin of error of plus or minus 4.23 percent at the 95 percent confidence level.

needs to be a key leadership role of facilities managers,” he adds.

To be sure, this reflects a shift from a culture of keeping one’s head down and fixing things that break, Whittaker says. While fixing balky systems and equipment remains key, today’s facilities professionals need to offer a compelling account of all the work they do to provide a safe, comfortable and cost-effective environment.

“We can do a better job of telling the story of what facilities professionals do,” he says. Doing so can help the organization, the facility itself, and the facility professionals who want to advance and be considered integral to the organizations within which they work. ■



About Dude Solutions

Dude Solutions, parent company of SchoolDude, FacilityDude and TheWorxHub, is a leading software-as-a-service (SaaS) provider of operations management solutions to education, government, healthcare, manufacturing and membership-based organizations. The company combines innovative technology with operational insight to transform the places people learn, live, heal, work, and play. Today, more than 9,000 organizations are using Dude Solutions' award-winning software for facilities, energy, safety, IT, and a growing suite of related enterprise applications to increase efficiencies, improve service and save money. For more information, please visit <http://www.dudesolutions.com>.

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