There’s nothing worse than your boss (or your boss’s boss) saying, “show me the numbers” when you’re arguing for additional resources or headcount. Acquiring those numbers can be difficult, and sometimes it’s hard to even determine what data you should provide! Here are 9 important and easy to calculate metrics you can use to justify those extra resources you need.
HOW FMX HELPS

In FMX, you can view the average amount of time it takes your team to respond to and resolve work orders.

On average, FMX customers reduce work order response time from 3-5 days to less than a day.

WORK ORDER METRICS

01 Work order response times

Response time refers to how soon a work order was responded to (not necessarily resolved) after it was submitted. After tracking response times for a while, you’ll be able to set goals for your maintenance department based on your organization’s needs. You may also find that you have one response time goal for work orders on critical pieces of equipment, and one goal for less critical pieces of equipment.

Average Response Time (Days) 2.34
Average Resolution Time (Days) 59.83
Backlog of deferred work orders

Your backlog should consist of non-critical work orders only. If you have a backlog of critical work orders, you may have other problems such as a need for additional headcount, lack of funds to make repairs, etc.

A good rule of thumb is to have a backlog of no more than 4 to 6 weeks.

You can view all requests by status in FMX, which allows you to see which requests are pending resolution versus which are finalized. Here, only 42% of requests have been completed, whereas 58% of requests are awaiting completion. This might indicate the need for additional headcount.

You can also filter requests by status to see which ones are open and need to be addressed.
Ratio of planned maintenance and reactive maintenance

Reactive maintenance can cost 3-6 times more than preventive maintenance. Around 50% of your total maintenance should be planned, so if it’s not, you should start looking for ways to improve and more efficiently utilize your preventive maintenance plan.

Here, you can see that FMX allows you to breakdown requests by type. This helps you easily see how much of your maintenance is preventive and how much is reactive.
**PLANNED MAINTENANCE METRICS**

04 Planned maintenance (PM) completion rates

You’ll have to figure out the right completion rate goal for your organization, but if you constantly have overdue PM tasks and work orders to accomplish, then your department may be understaffed.

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\text{COMPLETION RATE} = \frac{\text{the number of PM tasks completed on time in a period}}{\text{total number of PM tasks in a given period}}
\]

FMX shows you which PM tasks were completed on time (and late), as well as all open tasks. To figure out the completion rate for this team, you would simply take the number of tasks completed on time (2) and divide that by all PM tasks (27).
05 Mean time to repair (MTTR)

This metric indicates your organization’s ability to repair equipment in a timely manner after a failure.

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\text{MTTR} = \frac{\text{the resolution time}}{\text{number of repairs and/or equipment replacements}}
\]

In FMX, you can find the MTTR by taking the difference between the completed date and the due date and dividing it by the total number of records (shown in the bottom left corner).
Mean time between failure (MTBF)

This metric gives you a good idea of a piece of equipment's reliability. It enables you to compare MTBF of different equipment models and determine which models are performing better than others.

$$\text{MTBF} = \frac{\text{total operating time of the piece of equipment}}{\text{the number of failures}}$$

FMX will actually calculate the MTBF for each piece of equipment for you.
Although it is expected that equipment will lose its availability over time, it should maintain roughly 95% availability.

Availability refers to the equipment’s ability to perform as intended when needed. Equipment availability will naturally decrease over time as the asset is used.

\[
\frac{\text{MTBF}}{(\text{MTBF} + \text{MTTR} \text{ for that piece of equipment})}
\]
HOW FMX HELPS

08 Top ten analyses
(maintenance cost, repair frequency/duration, etc.)

These analyses can help you identify your top ten best performing assets, your ten worst performing assets, the assets or equipment that incur the greatest cost, the assets that take the longest time to repair, etc.

Academica Nevada, an organization that manages the establishment and operation of charter schools, tracks their cost data and trends in FMX, giving them much more insight into the performance of their assets. This information triggered their decision to initiate a capital replacement plan for rooftop units at one of their campuses, which will result in an estimated cost savings upwards of $30,000 per year in HVAC services.

FMX allows you to prepare top 10 analyses for your equipment to see which ones perform the best, which incur the most cost, and which require the most time from your team.
HOW FMX HELPS

09 Average time to repair routine PM tasks

This information will help you know when to schedule PMs based on your technicians’ availability.

Average time to repair routine PM tasks

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\text{Average time to repair} = \frac{\text{PM task labor hours}}{\text{number of occurrences}}
\]

In FMX, it’s easy to calculate the average time to repair. Simply take the total number of hours spent on preventive maintenance and divide it by the number of records (shown at the very bottom left).
WITH FMX YOU CAN CALCULATE:

• The number of work orders and PM tasks created
• Work order response times
• The total amount of time from when each work order was submitted to when it was resolved
• Your work order and PM backlog
• Ratio of planned maintenance to reactive maintenance
• Work order and PM completion rates
• The number of equipment/asset failures
• MTBF (Mean time between failure)
• Maintenance costs per work order and PM task (as well as labor hours and inventory cost)
• Top ten equipment items that incur the most cost
• And more

Sources:

For more information visit us at gofmx.com

+ How FMX can help

A CMMS, like FMX, can help you streamline your metric calculations by keeping track of important data points and even calculating some of the metrics for you. CMMS reports can tell you where your team is excelling and where to focus energy for improvements, help you make data-driven decisions about equipment replacement, prepare for audits, and more. So, the next time your boss says, “show me the numbers”, you’ll have all the data you need at your fingertips.