

Microsoft Excel Vs CMMS

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The main purpose of the present article is to perform a functional comparison between maintenance management relying on Microsoft Excel® and a CMMS-based system [CMMS: Computerized Maintenance Management System].

Maintenance management relying on pen-and-paper, Microsoft Access® or Microsoft Excel®, among others, was widespread practice for years in a great number of businesses.

Can you imagine nowadays a pen-and-paper based system for your scheduled work orders? How would its management and control be like? Is there some supporting document stating that work order “A” was assigned to technician “B” on a particular date, “C”? What does the technician do with the sheet of paper? Does he fill in the task start and end dates, as well as times, does he note the parts used and amounts spent? Is the sheet returned to the maintenance supervisor who files it in a physical binder? What type of processing does this information go through? Is the same procedure used for non-scheduled tasks? If you want to track the breakdown history of a piece of equipment will you have to search through all sheets filed and remove the pages you are looking for? Will they at some later stage be recorded on some computer-based medium according to the required indicator or analysis?

And what about stock management? Is there a paper-based medium where each and every consumption and purchase of materials is recorded? When am I to find out *what* to order and *when* is the right time to order? Who might be the best supplier for each part? Is it possible to estimate consumption of materials throughout the year and set up a procurement policy in order to avoid stock outs?

How is maintenance management run? Does it rely exclusively on invoicing of purchased materials? Would it be important to find out the weight of maintenance costs in the total business costs? Would it be important to measure the maintenance costs vs sales revenue ratio? According to several studies a benchmark for the latter ratio stands at 4% to 6%.

What kind of indicators do we get when we rely on pen-and-paper management? How to calculate equipment uptime? Is calculation the responsibility of the maintenance department or rather the production department? Does it make sense to keep continual maintenance of a particular piece of equipment or should we consider replacing it instead?

According to William Edwards Deming, “you can't manage what you can't measure”; “if you can't define something, you can't measure it”; if you can't understand something, you can't define it” and “where there is no management there is no success”.

I was recently involved in a CMMS ManWinWin implementation project as consultant and coordinator. It was mainly concerned with switching from a traditional Excel-based management system to a CMMS.

The first project task was the elaboration of a diagnostic analysis of the maintenance function, where I was able to work closely with the different maintenance staff members. The company's technical department was split into several intervention areas, each one with its own manager. Management was Excel-based. So far, so good! However, when I became acquainted with each area's way of working I drew the conclusion that each used its own Excel files for its own management processes. And right there I realized how difficult it was for the company to conduct an overall analysis of the performance of its maintenance system, since there was no centralized information. By monitoring how each department operates I verified the non-existence of soundly established procedures, which meant that each was working its own way. I could also establish that specific Excel sheets are used to record maintenance intervention requests from customers while another type of sheet is used to record interventions themselves. There is no communication with one another. If we wished to track which maintenance works are carried out in order to fulfil a request, it would prove impossible to do so.

As we pursued our diagnostic analysis, it was requested that the yearly breakdown rate be determined as well as total maintenance costs over the past years – this information was unobtainable. However high the number of filters applied in Excel files might be, in no situation whatsoever was it possible to extract the required data.

Finally, I asked the group to gather the items list so as to record this information in the CMMS. I was given more than one Excel file, each holding one items list: customers with an active maintenance contract and equipment list available in the company's ERP. I was assured that there were no repeated items among the lists. It turned out to be otherwise.

How reliable might the available information be? I am afraid reliability was not very high.

May the shift to using a CMMS be the ideal solution found by this company? Indeed, it was! Without going into detail about the experienced benefits, the following may be pointed out: information became centralized, the different areas communicate with one another, it is possible to track maintenance requests and actions carried out to fulfill them, procedures were redefined and standardized, information is now available on equipment maintenance history, as well as email notifications about the maintenance status.

The goal of CMMS implementation as maintenance management strategy is to enable the coding and inventory of all maintenance assets, managing and optimizing maintenance plans, extending the equipment's lifecycle, relating spare parts to equipment where they are used, keeping the spare parts list and stock levels updated in order to know at all times what exists in stock and what may be missing, planning and carrying out maintenance interventions of any type, reporting the work performed in detail and, of course, keeping a complete history of each individual maintenance asset, each work, man-hour effort, spares used and costs. As a result, to perform financial and technical analyses: creating and monitoring relevant maintenance indicators [KPIs], like breakdown rate, MTTR, MTBF, etc., and evolutionary charts and graphics, as well as monitoring, in general, the performance of Maintenance.

An "indoor" development of Microsoft Excel sheets may be useful in graphically organizing basic information and simple lists. More complex management tasks – such as the planning and control functions – turn out to be more complicated, even inadequate.

Investing in Maintenance offers significant, possibly very fast return. It is also a driver of sustainability.