



Manufacturing Metrics that Matter

BY LUIGI DE BERNARDINI | TUE JUN 17 2014



MESA (Manufacturing Enterprise Solutions Association) and [LNS Research](#) recently published the results of a poll titled “Manufacturing Metrics That Really Matter.”

This initiative behind the survey is to understand the business use and impact of metrics in different types of manufacturing companies. The analysis, conducted from October 2013 to February 2014 on a sample of 214 companies from different industry sectors, sizes and geographical locations, gave a very interesting snapshot into improvement objectives on which companies are focusing and how the adoption of specific indicators is crucial to achieve those goals. The amount of available key performance indicators (KPIs) now used in business makes it necessary to reflect on what will bring real benefit so that each company is able to correctly choose which indicators to measure and support their continuous improvement initiatives.

The adoption of software to improve the quality of information and the timeliness on which it is available is a multiplier that allows you to amplify the effect of individual initiatives on profitability.

One aspect that I think deserves more consideration is the correlation between the measurement of financial and operational performance, and the use of software to address this. It is not difficult to imagine that a good operational result is a decisive element for a good financial result, but it is interesting to analyze and quantify in some way this correlation.

The study's analysis shows that those who increased efficiency (production throughput/output, capacity utilization, schedule attainment) by 10 percent or more also recorded an average financial performance improvement of 14 percent. That compares with an average increase of 6 percent among those that have improved efficiency of less than 10 percent. In particular, those who have improved production throughput/output of more than 10 percent showed an average improvement of cash-to-cash cycle time by 15 percent against an average increase of 7.9 percent. Also, companies that have improved capacity utilization by more than 10 percent on average saw an increase in the net profit margin of 24 percent against a 10.4 percent average.

Quality: An improvement of 5 percent or greater in terms of first-pass yield, increased supplier quality incoming, or reduced customer rejects has resulted, according to the study, in an average financial progress of 14 percent, compared with 6 percent of those who did not reach the same goals of qualitative improvement. In particular, those who have improved increased supplier quality incoming by 5 percent or more have seen a reduction in the total cost-per-unit, excluding materials, of 24 percent against a 13.1 percent average. The impact of overall equipment effectiveness (OEE) is significant, too: Companies that registered an OEE greater

than or equal to 80 have seen a financial improvement of 14 percent and an increase in terms of revenue per employee of 20 percent, compared to an 8 percent average.

Software: Even more interesting is how the KPIs listed above are closely related to the adoption of software aimed at their measurement and management. If we take, for example, the total cost per unit, excluding materials, the survey shows that companies that adopted an operational intelligence software, enterprise manufacturing intelligence software or a manufacturing execution system (MES) improved more than 22 percent against an average of 13.1 percent. Companies that use software for quality management report an average OEE of 73.5 against 67.7 of other enterprises. But even more interesting is the figure related to the adoption of software from companies that declare an OEE greater than or equal to 80: Among those companies, 67 percent use enterprise resource planning (ERP) or planning, scheduling and dispatching software; 46 percent use MES ; and 42 percent use a manufacturing operations management (MOM) suite. This is reasonable considering that the OEE is the result of a combination of a number of factors ranging from production planning to the quality of the finished product.

The close correlation found in the study between adoption of software, improved operational performance indices, and increase in financial performance—the ultimate goal of every company—seems particularly significant.

The results demonstrate how careful management of operations is a key factor for the prosperity of the company. Even more significant is how the adoption of appropriate software to improve the quality of information and, above all, the timeliness on which it is available, is a multiplier that allows you to amplify the effect of individual initiatives on profitability.

[View the Manufacturing Metrics that Really Matter Summary Report and infographic.](#)

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