

# Auditing the Maintenance Function: The starting point for an adequate management

Hugo Cardoso

ManWinWin Software (Navaltik Management, Lda)

*support@manwinwin.com*

## 1. INTRODUCTION

The maintenance function has over time been increasing its importance in organizations due both to the constant technological advances as well as to various legislation in the fields of environment, safety and health. In addition to these the high competitiveness of markets and society in general should also be mentioned; organizations have felt the need to differentiate themselves from their competitors, thus seeking to improve the quality of their products while at the same time keeping production costs low.

Once maintenance is considered as a key function of a successful business, it is recommended to conduct a **performance appraisal of your management system** for the purpose of identifying the status of current maintenance within the organization and subsequently carry out an analysis of that appraisal and develop a realistic action plan.

On the basis of a number of audits **carried out to a universe of about 30 organizations** in the widest range of activities, the current case aims at demonstrating, the parameters assessed in the audits to the maintenance function conducted by NAVALTIK MANAGEMENT while simultaneously performing an analysis of the obtained results.

## 2. AUDITING THE MAINTENANCE FUNCTION

An unbiased, impartial, constructive audit is designed to identify strengths and weaknesses in the management system of an organization, in order to establish a set of recommendations aiming to improve the effectiveness of its maintenance management system. Auditing the management function necessarily involves an on-site visit to the client's premises, so as to assess *in loco* a particular range of evaluation criteria, such as stock organization and identification of its items, identification of management equipment, organization of the maintenance workshop, among others.

The audits which form the basis of the present work comprise an evaluation of more than **100** criteria divided by a total of **nine** evaluation parameters, as illustrated below:

- Organizational Structure of Maintenance
- Equipment
- Work Plan
- Work Order Management
- Work Requests
- Stock Management
- Cost Control
- Human Resources
- Support to Top Management

Evaluated parameters are weighted by their relative importance in an adequate maintenance management. Different weights are assigned to each parameter for calculation of the final

result, Organizational Structure of Maintenance, Equipment, Work Plan and Work Order Management being those which are given highest weight representation in the evaluation.

Each criterion is scored on a scale from **1 – Poor** to **4 – Good**, 4 being the target score set for all criteria. This evaluation is always conducted at the client's premises. The classification obtained for each evaluation parameter is graphically displayed on a radar chart that enables rapid comparison of obtained results with targets or desirable values in each parameter.



### 3. ANALYSIS OF RESULTS

Once the analysis of classifications obtained by the universe under review is completed, the **average result value** of each evaluation parameter is listed, as below:

- Organizational Structure of Maintenance: 80%
- Equipment: 62,5%
- Work Plan: 62,5%
- Work Order Management: 65%
- Work Requests: 65%
- Stock Management: 55%
- Cost Control: 65%
- Human Resources: 75%
- Support to Top Management: 50%

Considering that a 3 score is the minimum suggestion for each evaluation parameter, it turns out that only two parameters reach that figure: the Organizational Structure of Maintenance and Human Resources. In what concerns the Organizational Structure of Maintenance, approx. 86% of organizations demonstrate clearly defined job descriptions and responsibilities of employees, whereas 93% display a **policy of control of business activities**. Both criteria play a determining role in scoring higher than the minimum suggestion on the parameter in question. Human Resources, on the other hand, highlight a concern with ensuring that their maintenance staff acquires appropriate training adequate to the performance of their duties (89% of the analyzed universe), while being familiar with and respecting existing safety procedures in 86% of organizations.

On the contrary, the parameter requiring greatest changes to arrive at the minimal score is Support to Top Management. The score level reached by this parameter may be explained by the absence of a benchmarking policy, meaning that results are not compared to those

achieved by a company that is considered an example of best practices (external benchmarking) or by another function within the same organization (internal) – in this area 75% of the analyzed universe does not perform active benchmarking, a fact that may be associated with two key factors: the actual non-existence of a benchmarking policy (maintenance indicators are calculated but no comparison of the same is carried out) or the lack of an effective control of maintenance indicators. Only calculation of maintenance indicators enables to collect values that make it possible to assess the performance of your maintenance department and subsequently compare the obtained results with the aim of improving the said performance.

Due to the increasingly important role that the maintenance function has been playing on the basis of the above mentioned motives, it is indeed to be expected that organizations will be moving closer and closer to the value described as attainable goal (4), the moment they define the maintenance function as one that is fundamental to the company's success, so that following objectives may be met:

- Improving equipment operability and performance;
- Savings in operating costs;
- Savings in maintenance costs;
- Qualifying procedures required by Quality, Safety and Environmental Protection regulations;

It is important to ensure that all recommendations issued by the auditing authority are analyzed and implemented, thus seeking to achieve the goal set by the organization – ensuring improvement of the maintenance management system.

It is essential that truthful and reliable information is conveyed to the audit entity, so that the audit may fully correspond to the reality inside the organization. It is the only concrete way to leave a badly managed maintenance behind and move on to a maintenance that is able to faithfully contribute to achieving the strategic goals of the organization.

Performing a diagnostic analysis to the maintenance function of an organization should be considered as a starting point for change in the processes and procedures currently used within the maintenance management system, even if that change involves a financial investment in the maintenance department. Only adequate processes and procedures can pave the way towards a stage where maintenance fully fulfills the goals and objectives it pursues – to decisively and positively contribute to the results targeted by the company.