

Abstract

Maintenance involves a large amount of data management. Although many tools, strategies, and systems, have been developed to organize the maintenance information resources, SMEs have not found the same benefits as large companies due to their inherent characteristics and, above all, the maturity level of the maintenance department.

Maturity models are useful tools for assessing the maturity of maintenance information practices; however, existing models are not suitable for any type of business context, as they required companies to have a clear organizational structure and definite informative infrastructure.

Moreover, they do not assist in identifying and defining actions to reach the highest level.

This thesis proposes a model for assessing and improving maintenance management information practices. It allows a clear measure of the maturity of the maintenance information management practices in industrial contexts and provides improvement actions identifying the information and data needed to enhance maintenance management information practices.

The model was applied to a company's maintenance process. Improvement actions focusing on enhancing the informative infrastructure and improving information management practices have been designed based on the current maturity assessment. The findings and recommendations provide valuable insights for SMEs seeking to enhance their maintenance effectiveness and adopt appropriate IT solutions.

The proposed maturity and improvement model contribute to the field of research by addressing the specific needs of SMEs in assessing their maintenance management information practices.

The model supports SMEs to identify weaknesses, prioritize improvement actions, and enable continuous improvement. By leveraging the benefits of information systems, SMEs can enhance their maintenance processes, increase competitiveness, and achieve higher maturity levels in maintenance management.