



Research School for Operations
Management and Logistics

Improving Human-System Interaction in a Condition-Based Maintenance Setting

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Maintenance is a critical activity for many organizations. Condition-Based Maintenance (CBM) is a strategy that relies on monitoring equipment parameters to predict machinery failure. It is applied in a variety of domains and industries and widely praised by practitioners and researchers. Development of CBM Decision Support Systems (DSS) can be costly and labor intensive, but empirical research on the ability of maintenance personnel to apply these tools rationally is absent. Research in the field of Behavioral Operations Management (BOM) has shown in multiple sectors that human behavior is not strictly rational and is often subject to behavioral biases and decision-making heuristics. Recently, BOM has received an increasing amount of attention, with new areas added to its scope annually. The subject of maintenance however, remains an unexplored foray. This research investigates the application of CBM DSS in practice and focuses on the effects they impose on those working with these tools. The research will describe different behavioral patterns resulting from working with CBM tools and predict how changes in this setting, change these patterns. This knowledge will be applied by formulating a change design for CBM tools and resultingly optimize the collaboration between CBM DSS and the people working with them.