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Degree of Lean-Implementation in medium-sized industrial enterprises

The conduction of a survey to measure the Degree of Lean-Implementation based on Lean-

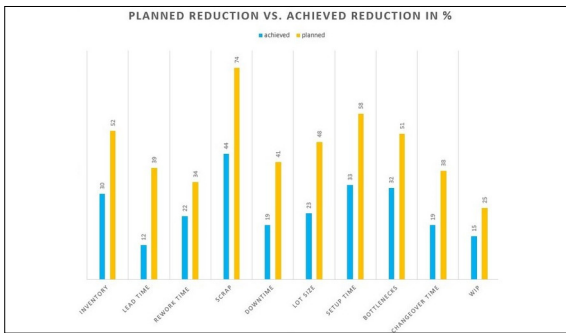


Figure 1 - Planned reduction vs. achieved reduction
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Problem: One can not improve what one does not measure. Hence, it is crucial to know how "lean" a company currently is in order to improve it (Figure 1). Reviewing the literature there are several existing approaches on designing a lean maturity model, lean capability model (which are very company-specific) or assessing the leanness of a company. No research has been conducted yet on establishing a tool for measuring the Degree of Lean-Implementation. Measuring the Degree of Lean-Implementation has the potential to provide companies an indication on which aspect the implementation succeeds or fails. Furthermore, companies are able to leverage the Degree of Lean-Implementation as a comparison tool.

Objective: For this research project, a survey was conducted to gather the data based on which the Degree of Lean-Implementation was measured (Figure 3) and portrayed. After ensuring the quality of the questions by an expert review and a test run, the 10 minutes survey was performed on medium-sized industrial companies with over 100 participants in Switzerland. The survey provides information about the use of specific Lean-Tools, their application-width and the effectiveness which combined determine the degree of the implementation of the different Lean-Principles (Figure 2).

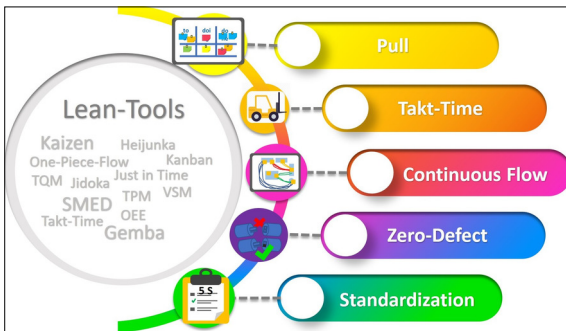


Figure 2 - Lean-Principles and Lean-Tools
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Conclusion: The survey's structure ensured to focus on the scope of the research project while gathering the required data. Applying statistical methods sharpens the picture as the numbers can be put in context and outliers identified. The questions asked in the survey also allowed to determine which "Level" (Figure 3) a company reaches considering their Degree of Lean-Implementation: If Lean-Tools are in use (Level 1), the width of application of the Lean-Tools in use (Level 2) and efficiency of the usage (Level 3). The key finding of this research project is, that using their application-width effectively appears to be a bigger challenge for the companies as the wide application of Lean-Tools. (So, the delta between Level 1 and 2 is smaller than the delta between Level 2 and 3).

Even though the specific challenges of the companies may differ, medium-sized industrial companies in Switzerland have still room for improvement (see Figure 1) when it comes to their Degree of Lean-Implementation. Having measured their current state also uncovered different shortcomings which can now be improved. The survey may further be a basis to analyze why certain Lean-Tools are barely used or cannot be applied widely.

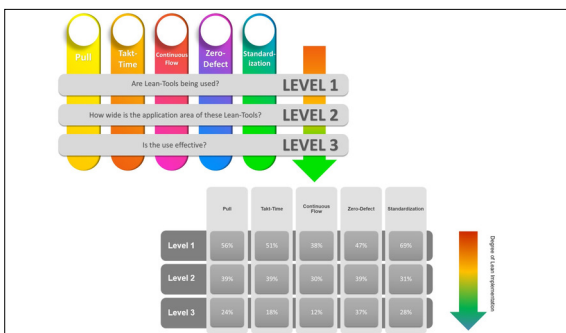


Figure 3 - Matrix snippet of framework for measuring the Degree of Lean-Implementation
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