Abstract:
Structural system modeling uses matrices like Design Structure Matrices to model structures of various systems and uses analysis criteria to analyze and optimize these systems. Literature already discussed the application of structural criteria on certain system types. For example, the analysis of design processes have been discussed by Kreimeyer (2009). Accordingly, this paper aims to identify and discuss correlations between product structures and costs. Therefore, the Integrated Value Engineering (IVE) approach is considered as a starting point as it uses structural models to calculate cost values of products. To find correlations between product structures and costs, an exemplarily use case is used. Preliminary structural criteria are identified, arranged and their applicability on different matrix types is discussed, to ensure that the exemplarily use case is analyzed in the right manner. Analysis results are directly compared to the cost values of the relevant elements of the product to identify correlations.