



Evaluation of business metrics - derived from “big data” - regarding their value to allow judgment about process maturity within strategic procurement at Siemens AG

Aim

The World Class Purchasing Assessment within Siemens AG is the standardized methodology to continuously improve strategic procurement within Siemens AG and has more than 2400 ARE locations in focus. However, limited resources for on-site assessments lead to a low coverage of ARE location and Purchasing Volume within Siemens. To solve this situation, Siemens vision is to switch from on-site assessments to Big data and business metrics based assessment, which would assess maturity of Siemens strategic procurement at the touch of a button (telemetry).

The core objectives are to create an understanding of the basic elements business metrics and big data, to identify new telemetric business metrics for the WP Assessment Model to indicate process maturity, the derivation of fitting assessment strategies for the prioritization of the limited resources within Siemens, and the evaluation of digitalization of Siemens strategic procurement and its implications for the realization of the vision.

Structure/Method

In the theory part of the thesis, initially an overview over selected scientific purchasing related assessment models was given and checked for telemetric content as well as appraised in regards to their efficiency. After that the basic terms business metrics and big data were defined in detail and maturity assessment related findings were derived by using fitting publications and studies.

In the practice part at first the Siemens AG, its Supply Chain Organization, the maturity assessment model, and strategic procurement was introduced. Based on that knowledge, the first step was to identify new telemetric business metrics, as indicators for process maturity, for prioritization of on-site assessments. This was done with the help of a self-developed selection matrix, based on the maturity model content, and the input from the Program Manager of World Class Purchasing. Additional information was collected via expert interviews. The derivation of assessment strategies for the most efficient use of the limited resources was done with the help of an ABC-Analysis and the qualitative feedback of the Program Manager of World Class Purchasing. The next step was to assess the impact of digitalization of strategic procurement on the World Class Purchasing assessment and its vision. This was done with a self-developed evaluation scheme, based on the maturity model content, the input from the Program Manager and available information about the planned digitalization of strategic procurement within Siemens.

Results

The theoretical part provided first findings on the basic elements of a Big Data and business metrics based assessment concept and provided capabilities, limitations, and potential impacts on assessment models. The appraisal of scientific purchasing assessment with the goal to find more efficient models, resulted in a sobering outcome. On the one hand, more efficient models are present, but on the other hand, the appraised models have no telemetric components present and trade efficiency for the scope of content and validity.

The practice part of this thesis described a significant contribution towards higher coverage of assessed PVO and ARE locations and the current and future degree of digitalization within Siemens strategic procurement. Greater coverage by 18 newly identified telemetric business metrics for prioritization and efficient use of resources by applying three different assessment strategies were derived. However, until digitalization and Big Data is widely utilized in Siemens strategic procurement, on-site assessments will remain the main method to derive a maturity level and recommendations for improvement of strategic procurement, for the foreseeable future.