Including product features in process redesign

This article suggests a visual modelling method for integrating models of product features with business process models for redesigning the business processes involving specifications of customer-tailored products and services. The current methods for redesigning these types of business processes do not take into account how the product features are applied throughout the process, which makes it difficult to obtain a comprehensive understanding of the activities in the processes and to generate significant improvements. The suggested approach models the product family using the so-called product variant master and the business process modelling notation for modelling the process flow. The product model is combined with the process map by identifying features used in each step of the process flow. Additionally, based on the information absorbed from the integrated model, the value stream mapping modelling technique is applied to the specification process to evaluate its performance in quantifiable terms. The proposed modelling approach was investigated through three case studies. Experiences from the case studies were that the suggested modelling techniques gave additional insight into the specification processes and formed a good basis for process improvement. Furthermore, the case studies indicated that the suggested modelling techniques were applicable and easy to use.

General information
State: Published
Organisations: Department of Management Engineering, Management Science, Operations Management, Department of Mechanical Engineering, Engineering Design and Product Development, Centre for oil and gas – DTU, University of Southern Denmark
Contributors: Hvam, L., Hauksdóttir, D., Mortensen, N. H., Haug, A.
Number of pages: 17
Publication date: 2017
Peer-reviewed: Yes

Publication information
Journal: Concurrent Engineering: Research and Applications
Volume: 25
Issue number: 4
Article number: 1063293X1772732
ISSN (Print): 1063-293X
Ratings:
BFI (2019): BFI-level 2
Web of Science (2019): Indexed yes
BFI (2018): BFI-level 2
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 1.66 SJR 0.642 SNIP 1.133
Web of Science (2017): Impact factor 1.456
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 1.45 SJR 0.549 SNIP 1.116
Web of Science (2016): Impact factor 1
Web of Science (2016): Indexed yes
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 1.14 SJR 0.574 SNIP 1.023
Web of Science (2015): Impact factor 1.02
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 1.08 SJR 0.386 SNIP 0.826
Web of Science (2014): Impact factor 0.851
Web of Science (2014): Indexed yes
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 0.9 SJR 0.485 SNIP 1.007
Web of Science (2013): Impact factor 0.531
ISI indexed (2013): ISI indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 0.65 SJR 0.437 SNIP 0.69