Understanding the impact of non-standard customisations in an engineer-to-order context -
DTU Orbit (09/12/2018)

Understanding the impact of non-standard customisations in an engineer-to-order context: A case study
Companies operating with an engineer-to-order (ETO) manufacturing strategy produce customised solutions for their customers. While they may be able to build on a base of existing sub-solutions, e.g. standard product structures, modules or parts when engineering a customer-specific solution, they often have to create something completely new to satisfy customers’ requirements. However, it is not always clear to ETO companies what the costs associated with making customer specific solutions are, or which product or project characteristics drive costs and in what business processes. Therefore, it is not clear to companies if it is actually profitable for them to fulfil all of their customers’ requirements. Hence, making it relevant to understand how creating non-standard customisations impact project profitability. This paper presents a framework for how ETO companies can quantify the impact of the complexity associated with non-standard customisations when cost data is only available at the project level. The framework is theoretically founded; it is based on statistical regression and a definition of a complexity index for non-standard customisations. The framework is validated in the context of an ETO case company and empirical data is presented.

General information
State: Accepted/In press
Organisations: Department of Management Engineering, Management Science, Operations Management
Contributors: Johnsen, S. M., Hvam, L.
Number of pages: 15
Publication date: 9 May 2018
Peer-reviewed: Yes

Publication information
Journal: International Journal of Production Research
ISSN (Print): 0020-7543
Ratings:
BFI (2018): BFI-level 1
Web of Science (2018): Indexed yes
BFI (2017): BFI-level 1
Scopus rating (2017): CiteScore 2.9 SJR 1.432 SNIP 1.483
Web of Science (2017): Impact factor 2.623
Web of Science (2017): Indexed yes
BFI (2016): BFI-level 1
Scopus rating (2016): CiteScore 2.67 SJR 1.435 SNIP 1.413
Web of Science (2016): Impact factor 2.325
BFI (2015): BFI-level 1
Scopus rating (2015): CiteScore 2.29 SJR 1.306 SNIP 1.317
Web of Science (2015): Impact factor 1.693
Web of Science (2015): Indexed yes
BFI (2014): BFI-level 1
Scopus rating (2014): CiteScore 2.15 SJR 1.222 SNIP 1.33
Web of Science (2014): Impact factor 1.477
BFI (2013): BFI-level 1
Scopus rating (2013): CiteScore 2.09 SJR 1.2 SNIP 1.53
Web of Science (2013): Impact factor 1.323
ISI indexed (2013): ISI indexed yes
Web of Science (2013): Indexed yes
BFI (2012): BFI-level 1
Scopus rating (2012): CiteScore 1.93 SJR 1.238 SNIP 1.558
Web of Science (2012): Impact factor 1.46
ISI indexed (2012): ISI indexed yes
BFI (2011): BFI-level 1
Scopus rating (2011): CiteScore 1.69 SJR 1.136 SNIP 1.392
Web of Science (2011): Impact factor 1.115
ISI indexed (2011): ISI indexed yes
BFI (2010): BFI-level 1
Scopus rating (2010): SJR 0.889 SNIP 1.119