

CONSTRUCTION RELATED DATA MANAGEMENT – CLASSIFICATION AND DESCRIPTION OF DATA FROM DIFFERENT PERSPECTIVES

Janne Harkonen
University of Oulu, Finland
janne.harkonen@oulu.fi

Erno Mustonen
University of Oulu, Finland
erno.mustonen@oulu.fi

Harri Haapasalo
University of Oulu, Finland
harri.haapasalo@oulu.fi

Abstract:

The productivity improvement of the construction sector has fallen behind other industries. One potential factor is the on-site nature of the work that may not allow for as industrial way of operations as off-site construction. Also, the division into non-optimised chain of domains of architecture, engineering, construction and facilities management may play a role. The construction objects may not be considered as products that would necessitate careful consideration of the product structure, both commercially and technically to optimise the use of platforms, assemblies, components, and materials while offering what customers desire. Furthermore, the life-cycle of building objects and the varying needs during design, construction and the use-phase are not acknowledged effectively. Addressing the life-cycle of building objects necessitates taking command of the relevant data and understanding the bigger picture. Currently the data is managed in an un-organised manner. This study aims to form the pre-requisites for managing construction object related data. The study is realised as a combination of a literature review and analysing constructors' offerings, requirements plans, Ministry reports, and building control documentations. A rather detailed example of construction object related data management is presented to discuss master data, and business process related data in the context of business processes and enterprise applications, and different BOM configurations to demonstrate the necessary considerations. The example also acknowledges the product structure, necessary parameters, and stakeholders. New contribution is provided by presenting valuable insights with a broader scope for setting up effective data management in the construction sector.

Keywords: Data Management, Master data, Business data, Construction industry, BOM configurations, Product structure, Business processes, Enterprise applications, Productization, Product management.