Project Title:

Extracted DMM data from case studies

Related Publication:

Resource Consumption and Cost Effects of Product Family Design Strategies: An Extended Axiomatic Design Approach

Principal Investigators / Authors:

Lasse Kehrhahn, Hamburg University of Technology, ORCID: 0009-0000-9575-1533

Matthias Meyer, Hamburg University of Technology

Shravan Puthige Mohan, Hamburg University of Technology

1. General Information

Data set Title:

Extracted_DMM_matrices

Short Description:

The dataset provides an overview of the reviewed studies and includes 53 domain-mapping matrices extracted from published case studies. All matrices are binarized (capturing only dependency/no dependency, without indicating magnitude), and concise descriptions of the corresponding domain elements are provided.

Date of Data Collection:

11.10.2024

Geographical Coverage (if applicable):

Hamburg

Keywords:

DMM, domain mapping, axiomatic design, case study, binarized matrix, empirical data, product architecture

2. Methodological Information

Data Collection and Processing:

A systematic literature review was conducted as part of a master's thesis to identify case studies reporting DMMs. Subsequently, the matrix data were extracted and captured in Excel.

Experimental Design / Study Context:

The data provide empirical grounding for the simulation model.

Data Validation and Quality Assurance:

The systematic literature review followed the PRISMA guidelines. The resulting data were checked on a random basis.

3. Data and File Overview

List of Files and Structure:

File	Description	Format	Size
DMM_matrices	The first sheet provides a general overview of the 53 DMMs, including information on the involved domains, matrix size, industry context, and referenced literature. The remaining sheets each contain one DMM along with descriptions of the corresponding domain elements.	`.xlsx`	147 KB

4. Access and Licensing Information

Repository and Persistent Identifier:

Published via TORE, DOI: 10.15480/882.16631

License for Use:

https://creativecommons.org/publicdomain/mark/1.0/

Access Restrictions:

Open

Text for Citation:

Please cite these data as follows: Kehrhahn, Lasse; Mohan, Shravan Puthige (2024). *Extracted_DMM_matrices* [Data set]. TORE. https://doi.org/10.15480/882.16631

5. Reproducibility and Software Dependencies

Software Required:

Excel

6. Contact Information

Corresponding Author:

Name: Lasse Kehrhahn
Institution: Hamburg University of Technology
Email: lasse.kehrhahn@tuhh.de
ORCID: https://orcid.org/0009-0000-9575-1533