

STUDYING THE RELATIONSHIPS BETWEEN SIZE METRICS IN BUSINESS PROCESS MODELS

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One of the key techniques of the Business Process Management approach is business process modeling. Business analysts, software users, department heads, top managers, and other stakeholders looking for business process improvement can all easily understand graphical representations of business scenarios thanks to business process modeling, which can be used by both IT- (Information Technology) and non-IT specialists [1]. However, a business process model can only be analyzed if it is accurate and explicit in terms of compliance with the notation and the actual business process it represents. Business process models with poor structure are assumed to be incomprehensible and unsuitable for further use, which increases the probability of mistakes made during process analysis, as well as during process enhancement and implementation of suggested changes [1].

Let us analyze EPC (Event-driven Process Chain) business process models taken from the BPMAI project [2]. The correlation matrix (Fig. 1) of the main structural metrics of process models (numbers of functions, events, control flows, “and”, “xor”, and “or” connectors) demonstrates strong direct relationships (≥ 0.90) between size metrics of functions, events, and control flows, which should be used for the further analysis of EPC business process models.



Fig. 1. – The correlation heatmap representing relationships between EPC model size metrics

References:

1. Копп А. М., Орловський Д. Л., Лютенко І. В. A software solution to work with a database of business process models and analyze their structural measures. Вісник Національного технічного університету «ХПІ». Серія: Системний аналіз, управління та інформаційні технології. 2022. №. 1 (7). С. 61–65.

2. Model Collection of the Business Process Management Academic Initiative // URL: <https://doi.org/10.5281/zenodo.3758705>