عنوان فارسی مقاله:

استفاده یکپارچه از تکنیک‌های مدل‌سازی سرمایه گذاری و سیستم های دینامیکی در مؤسسات تولیدی

عنوان انگلیسی مقاله:

The Integrated Use of Enterprise and System Dynamics

Modelling Techniques in Manufacturing Enterprises

45th CIRP Conference on Manufacturing Systems 2012

توجه!

این فایل تنها قسمتی از ترجمه می‌باشد.

برای تهیه مقاله‌ی ترجمه شده کامل با فرمت ورد (قابل ویرایش) همراه با نسخه انگلیسی مقاله، اینجا کلیک نمایید.
To help address the limitations associated with the CL modelling methodology as described in section 1, an EM tool which helps to capture processes and their associated resources and flows is introduced. Although many EM modelling tools exist, previous publications by the authors and their colleagues have shown how processes and their resultant elements of interaction are decomposed into lower-level processes called Business Processes (BPs). Relationships between BPs are captured using a so-called ‘Top level Interaction diagram’. The interaction diagram therefore shows the interactions that exist between the domain processes.

Based on the observed goals and associated processes, activities (EAs) [2, 4, 5]. In essence, DMs represent functional areas of the enterprise which are decoupled and representational formalisms are capable of decomposing complex systems into sub-systems that can be analysed independently [5]. Further work by the authors and their colleagues has shown how processes can be classified as Enterprise Domains (DMs) and decomposed into their respective Domain Processes (DPs), Business Processes (BPs) and Elementary Activities (EAs) [2, 4, 5]. In essence, DMs represent functional areas of the enterprise which are decoupled from each other with clearly identified objectives which enable them to be composed of well-defined processes for achieving the objectives defined for the domain.

Based on the observed goals and associated processes, stand alone processes, called Domain Processes (DPs) are grouped to reflect the distinctions in goals and deliverables. In a graphical form, the achieved goal of a collection of DPs is modelled using suitable templates and this is termed as ‘context diagram’. At the next stage of the process decomposition, interactions between respective domains in terms of information and material flow are modelled. The outcomes of this modelling stage are captured using a so-called ‘Top level Interaction diagram’. The interaction diagram therefore shows relationships that exist between the domain processes. Textual descriptions can be expressed but for the sake of simplicity a graphical representation of the interactive processes and their resultant elements of interaction are normally developed. At the next stage of modelling, DPs belonging to CIMOSA conformant DMs are further decomposed into lower-level processes called Business Processes (BPs). Relationships between BPs are described in sub-interaction diagrams.

2. The integrated EM-SD modelling methodology

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