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BUSINESS PROCESSES ANALYSIS AND ENHANCEMENT USING REFERENCE MODELS

This paper considers practice of business process analysis and enhancement using reference models. First of all, we should review the basic aspects of Business Process Management (BPM). BPM concept is the most important management tool, which allows organizations to reach their business goals. It includes steps of modeling, execution, analysis and enhancement of organizational business processes. Business process modeling is the main aspect of the BPM concept, which used by organizations to describe, collect, store and share knowledge about their business activities.

Therefore, business process model collections of modern organizations may contain hundreds or even thousands models. Collection of business process models allows organizations to reuse best practices of business process modeling in order to design new business processes or enhance existing ones.

Reference models consider patterns of business organization. These models have been developed for specific industries. Reference models are based on proven best practices of implementation in various organizations all over the world. Commonly, reference models define typical business processes and related Key Performance Indicators (KPI), relations among the model's elements, and business rules. Supply-Chain Operation Reference (SCOR) is one of the most popular and widely used reference models. Nowadays SCOR model (fig. 1) is used as an international standard of supply chains planning and management [1].
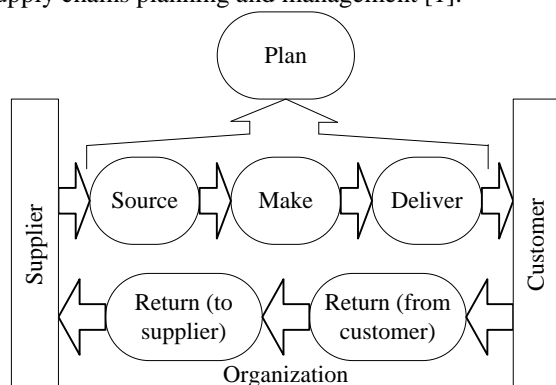

Fig. 1. Primary business processes defined by the SCOR model

Thus, SCOR model defines three levels of related business processes and KPIs. Each level of the SCOR model, except the first level, which defines strategic goals of an organization, contains indicators used to analyze business processes of the level above. Analysis of indicators through the all model's levels allows to define business processes, which need detail analysis and, possibly, further enhancement [1].

Besides SCOR model, a lot of existing reference model could be used to provide recommendations for business process enhancement. Let's list some of these models:

1) 17-processes model;
2) 8-processes model by BKG Profit Technology;
3) International Business Language model;
4) 21-processes model;
5) Oracle Business Model;
6) Value Chain Model;
7) 13-processes model by American Productivity and Quality Center (APQC).

To provide stakeholders with a tool used to define similarity between existing business process model and reference models, we've proposed description based on knowledge representation model Resource Description Framework (RDF). The fragment of RDF Schema, which defines structure of RDF graph used to describe business process models, is given in figure 2.
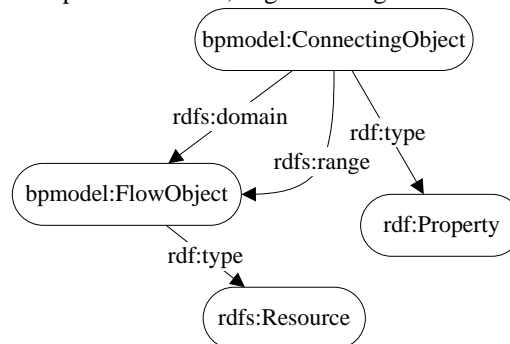

Fig. 2. Fragment of proposed RDF Schema

Usually, the activities related to collecting, storing and sharing organizational knowledge are supported by collaborative database of information about engineering artifacts developed in organization called repository [2]. Its features should be considered in further research.

References

1. Д. Л. Орловський, та А. М. Копп, "Про один підхід до формування рекомендацій щодо удосконалення бізнес-процесів, пов'язаних з постачанням продукції", Вісник НТУ «ХПІ». Серія: Системний аналіз, управління та інформаційні технології, №55, с. 32-41, 2014.

2. K. Shahzad, M. Elias, and P. Johannesson, "Requirements for a business process model repository: A stakeholders' perspective", Business Information Systems, vol. 47, pp. 158-170, 2010. doi: 10.1007/978-3-642-12814-1_14.