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FORMALIZING A MODELING BUSINESS ORGANIZATION METHODOLOGY (MLEARN)

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KEYWORDS

Business organization modeling, methodology formalization, UML, SPEM, BPMN

ABSTRACT

Business organization modeling has long been an important issue on Information Systems research. Far from the popular frameworks (Zachman) or theories (Work System) thoroughly studied in the academic medium, less know methodologies like MLearn, locally developed and studied at Universidade do Minho, awaits its turn to take part on this world.

Inspired in similar studies on the popular trends, we aim to formalize the MLearn methodology, using and extended, if needed, the UML, SPEM and BPMN notations.

LITERATURE REVIEW

Modeling organizations by defining business strategies, building enterprise architectures, aligning business with IT, going through the generation of IT requirements, defining key performance indicators, measuring success and improvements on process changes are all central issues in the Information System (IS) area.

Several frameworks, theories, methodologies, methods and techniques, try to answer this related IS questions, going through the business requirements to the IT definitions and trying to close this gap between two different worlds.

One of the most popular, the Zachman framework, builds on architecture and modeling concepts (Sowa & Zachman, 1992) to provide a way of viewing a system from many different perspectives and showing how they are all related.

On a more recent approach, (Alter, 2009) presents a metamodel of the well-know work system view, understandable to business professionals, more rigorous on its concepts, and linked to precise, highly detailed analysis and design approaches for IT professionals. The specification and use of the metamodel clarifies ambiguities in the work system framework and forms a clearer conceptual basis for tools and methods that

improve communication and collaboration between business and IT professionals.

The MLearn methodology, locally developed and studied at Universidade do Minho, proposes a top-down approach, integrated, systemic and process-oriented in order to facilitate the definition, control and communication strategy of an organization, thus providing organizational agility. It helps to design and implement a continuous improvement model of organizational learning support, based on an architecture of organizational skills, in consensus building and in a spirit of organizational therapy. Also, it provides adequate conditions for innovation in the organization, ensuring changing attitudes and behaviors, and creating a clear picture of individual and organizational accountability.

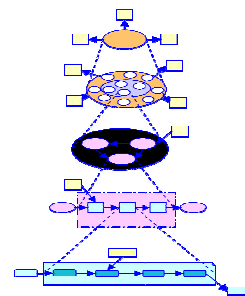


Figure 1: MLearn methodology

Although its success in the local and national market, this methodology is yet to be formalized and so available for a broader academic use. In our point of view this is a critical issue for the future success and evolution of this methodology.

Studies as (Fatolahi & Shams, 2006), which cover the Zachman framework using all of the UML features, (Bendraou, Combemale, Crégut, & Gervais, 2007), which performs a critical analysis on the newly SPEM defined standard and its proposed approach in order to extend it with a set of concepts, and (Ouyang, Dumas, Aalst, Hofstede, & Mendling, 2009), which delves into standards-based methods for developing process-



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oriented systems, starting with BPMN models and translating them into BPEL definitions, among many others, directs us for the use of UML, SPEM and BPMN notations in order to get the job done.

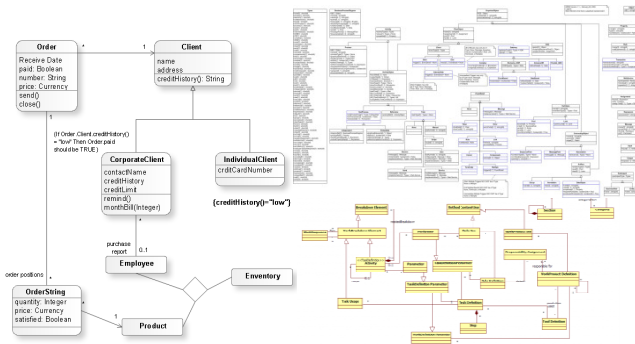


Figure 2: UML/SPEM/BPMN notations

RESEARCH OBJECTIVES

The objective of this research is to formalize, using notations as UML, SPEM and BPMN, the entire MLearn business organizations modeling methodology, publicizing it to the world. This will allow it to be studied, compared, criticized, extended and used in the future by other people, technological or business based. The availability of metamodels to describe the methodology elements and its deployment applicability, illustrated with sample cases, will allow for reproducibility of the methodology on the field by other people other than its creator and specialized consultants, being one of the major contributions of this study. In order to overcome any impossibility of UML/SPEM to completely define the metamodels needed, the extension of one or both of these languages will be provided for, resulting in a scientific innovation which will strengthen this work.

RESEARCH PLAN

After attending the base subject courses of the doctoral program on Information Systems and Technology at Universidade do Minho, the next step comprises the preparation of a literature review on the subjects of the thesis, defining well the terms to be used along its writing, and a research plan, ending with the presentation and defense of the research proposal. The literature review will focus on frameworks, theories and methodologies for business organization modeling, and also on the usage of the UML language and the SPEM metamodel in formalization processes.

Next step will be to formalize, using UML, the objects, entities and artifacts identified in each phase of the MLearn methodology, and formalize, using SPEM, the dynamics of the different phases for deploying it. Metamodels on each of these phases will constitute the deliverables of the study, illustrating their applicability using real cases of business organizations or simulated ones, as appropriate.

Dissertation writing will be done incrementally during the entire process of research and, as result of the work being carried out, some articles and conference communications are planned periodically.

RESEARCH ACTIVITIES

The first year, in part-time basis, was dedicated to the disciplinary part of the doctorate, which included written works on the business analyst role, research methods in my area of research and topics of study in teaching project management, and the participation in the 3rd TSI Winter Workshop, with a very preliminary paper on modeling organizations and business processes.

Following the research plan, through this year the intention is to prepare the PhD thesis proposal to present in July, at the TSI Summer Symposium 2012, with an early presentation at the 4th TSI Winter Workshop, in February. The writing of two articles is also planned for this next year, submitting them to relevant conferences in the information systems area.

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