Relating Goal Modeling with BPCM Models in a Combined Framework

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Abstract. In this paper, the issue of relating goal models with BPCM models in a combined framework is addressed. A business process characterizing model (BPCM) can be seen as a business-oriented model for the use in the early stages of a project, both for traditional development, but also for the development of multi-channel solutions working across a set of contexts. The combined modeling framework consists of goal modeling, process modeling and business process characterizing modeling. The framework is meant to guide both business stakeholders and model developers during modeling-based development. A development methodology to guide the development of goal models in terms of i* from business process characterizing model is proposed. Furthermore, the development methodology is illustrated by an exemplar of call for sponsors case in the field of scientific conference organization.

Keywords: Goal Modeling, BPCM, Process Modeling.

1 Introduction

Different enterprise models can be used to derive business requirements and system requirements to build business process support systems. The goal models, business models and process models are some typical models used for this purposes. A business model helps identifying value exchange information in the business. A goal model is directed at describing intention and strategies of different actors involved in the business. A process model mainly focuses on activities in the business. In this paper, we look at how to derive goal models from a business oriented modeling languages in terms of BPCM models.

As illustrated in [6], one of the main ways of utilizing models is to describe some essential information of a business as informal support in order to facilitate communication among stakeholders. As information systems have moved from office-based systems to mobile and multi-channel systems (e.g.,[9-11, 15]), the potentially essential information to take into account has been extended to support the work process in a number of new contexts.

In [8], by taking inspiration from this idea, we proposed a business process characterizing model (BPCM), which can be seen as a business-oriented model for the use in the early stages of a project, both for traditional development, but also for the
development of multi-channel solutions working across a set of contexts. Business stakeholders might not be familiar with traditional modeling, but should be able to produce a BPCM model that can capture the knowledge about major business processes. Furthermore, BPCM can help to bridge the gaps between business stakeholders and technical model developers ensuring better business process models.

The combined framework for constructing business process support system is present in this paper. This framework mainly consists of goal modeling, process modeling, and business process characterizing modeling. It provides a structured way to develop a business process support system from a BPCM model.

The objective of this paper is to study how to relate goal modeling with BPCM models in the combined framework. To address this, we propose some guides to derive goal models in terms of i* from BPCM models, and illustrate these guides by an exemplar of call for sponsors case in the field of scientific conference organization.

The remainder of this paper is organized as follows. Section 2 briefly describes BPCM. Section 3 describes the combined framework used for developing business process support systems. Guidelines for mapping from a BPCM to a goal model in terms of i* are provided in Section 4. In Section 5, these preliminary guidelines are illustrated by an exemplar in the field conference arrangement process. The use of exemplars is widely recognized as a technique for early evaluation of modeling approaches [5]. Finally, section 6 concludes the paper.

2 Business Process Characterizing Model (BPCM)

In the course of business process support systems development, model developers often focus on operational and procedural aspects of business process systems, while various business stakeholders are more likely to express different concerns with regard to process models in terms of business oriented concepts. The business process characterizing model (BPCM) is a model used to represent a high level knowledge of business processes.

In an effort to facilitate readers’ understanding of the BPCM modeling, we summarize the general definition of the elements for business process characterizing modeling (see Table 1). Since some elements in the BPCM model refer to other ontologies or concepts as presented in the Table 1, a brief description of those concepts and the motivation to incorporate those concepts is provided as follows.

Concerning the element context, there is no universal or absolute definition for context. [4] describes context as “typically the location, identity, and state of people, groups and computational and physical objects”. Context is the reification of the environment, that is, whatever provides a surrounding in which the system operates. People can base their own perceptions or understanding to define context in different ways. In order to better design business process support systems, it is crucial to understand the working context and collect and deliver contextual information in a better way. By including a context element in a BPCM model, the correspondent business process support system can be made to serve people better in both mobile and more stationary computing settings.