Chapter 28
Social Business Process Modeling

Fadwa Yahya
University of Sfax, Tunisia

Khouloud Boukadi
University of Sfax, Tunisia

Zakaria Maamar
Zayed University, UAE

Hanêne Ben-Abdallah
King Abdulaziz University, Saudi Arabia

ABSTRACT

Capitalizing on Web 2.0 to improve communication and knowledge sharing among stakeholders, a new form of business processes (BP), called social business processes (SBP), has emerged. This chapter provides a social business process meta-model called SBP2M that enriches an existing business process meta-model with social aspect. It also proposes a domain-specific language (DSL) for SBP modeling. This DSL is defined based on SBP2M and developed as an extension of the standard BPMN notation. The proposed DSL is simple and yet generic thanks to the reduced number of extensions and its ability to model SBP regardless of the used Web 2.0 technology. To show the applicability of the proposed notation, the authors have implemented it within the BPMN2 modeler editor.

INTRODUCTION

Web 2.0, which represents a major evolution of the regular Web (*aka* Web 1.0), provides Internet users with a set of technologies (e.g., AJAX and JSON) and applications (e.g., Facebook and Twitter). It aims at increasing communication, collaboration, and knowledge sharing among multiple stakeholders (Yahya, Boukadi, Maamar, & Ben-Abdallah, 2015). To tap into these Web 2.0's opportunities, enterprises are putting a lot of efforts into adopting Web 2.0 in their day-to-day operations. These enterprises are referred to as *Enterprise 2.0* (Mäntymäki & Riemer, 2016).

More specifically, an Enterprise 2.0 is characterized by the use of Web 2.0 technologies and applications to achieve different goals (Mcafee, 2006) like improving its visibility on search engines, reducing the cost of some services such as communication, improving the quality of services it provides especially those related to customer satisfaction, etc. It may also use Web 2.0 to enhance transparency by enhancing the availability of information and knowledge across its organizational units (DiStaso & Bortree, 2012).

To reach its goal, an Enterprise 2.0 may need to "re-engineer" its Business Processes (BP) due to the new context imposed by Web 2.0. The resulting business process, called Social Business Process (SBP) (Yahya et al., 2015), differs from the classical business process in two main aspects: On the one hand, the new interactions over Web 2.0 should be integrated into the SBP model so that ``to-be'' *versus* ``as-is'' processes are aligned: on the other hand, the business and social aspects of an SBP should be modelled separately so that the "separation-of-concerns" principle is supported. The business aspect may be represented using any existing notation like UML activity diagram (OMG, 2011b) or Business Process Model and Notation (BPMN) (OMG, 2011a). However, the social aspect is not supported by existing notations and thus should be modelled using a Domain Specific Language (DSL) that extends any existing business process modelling language. To provide for such DSL, we first enrich the BP meta-model proposed in (Curtis et al., 1992) with social aspects. Secondly, based on the obtained meta-model, we develop a BPMN extension, called BPMN4Social, for modeling SBP. BPMN4Social is a simple, yet generic domain-specific language that is based on BPMN, the de facto standard for business process modelling.

The remainder of this chapter is structured as follows. Section 2 discusses works related to SBP. Section 3 introduces our SBP meta-model which we produced by enriching the business process meta-model with social concepts. Section 4 presents BPMN4Social including its meta-model and concrete syntax. Section 5 illustrates the BPMN4Social notation supported by its editor. Finally, Section 6 summarizes the chapter and outlines future works on SBP.

BACKGROUND

The business process meta-model of Curtis et al. (Curtis, Kellner, & Over, 1992) is the most referenced business process meta-model by the ICT community (Figure 1). It encloses the core business process components classified into four perspectives: functional, organizational, behavioral, and informational. The functional perspective focuses on the tasks in a business process where a task is either an atomic or composite unit of work. The organizational perspective describes the units that participate in the business process execution. The behavioral perspective represents the flows and control nodes linking the tasks of the business process. Finally, the informational perspective describes the entities that a business process produces or manipulates. These entities could be events, information resources, or tangible resources. These four perspectives are commonly modeled using BPMN (OMG, 2011a).

RELATED WORK

In this section, we present the most important works dealing with social business process management systems (BPMS) and those focusing on Social Business Processes.

Related Content

Leader Deception and Ethical Decision-Making: The Role of Sensory Processing Sensitivity
Cheryl Stenmark (2022). *International Journal of Responsible Leadership and Ethical Decision-Making (pp. 1-16).*
www.irma-international.org/article/leader-deception-and-ethical-decision-making/315612

Let's Get a Two-Sided Platform Started: Tactics to Solve the Chicken and Egg Paradox
Daniel Trabucchi (2020). *Journal of Business Ecosystems (pp. 63-77).*
www.irma-international.org/article/lets-get-a-two-sided-platform-started/250364

Designing and Adapting Services to Create Value Outside a Hospital Using Blockchain Architecture: Care Delivery in Patient Ecosystem
Mohan Rao Tanniruand Robert Tanniru (2020). *International Journal of R&D Innovation Strategy (pp. 44-67).*
www.irma-international.org/article/designing-and-adapting-services-to-create-value-outside-a-hospital-using-blockchain-architecture/258298

Modeling Multi-Criteria Promotional Strategy Based on Fuzzy Goal Programming
B.K. Mangaraj (2011). *Implementing New Business Models in For-Profit and Non-Profit Organizations: Technologies and Applications (pp. 246-265).*
www.irma-international.org/chapter/modeling-multi-criteria-promotional-strategy/51509

Lack of Characteristics Management Causing Biggest Projects Failure
Loredana Arana (2019). *Advanced Methodologies and Technologies in Business Operations and Management (pp. 1339-1350).*
www.irma-international.org/chapter/lack-of-characteristics-management-causing-biggest-projects-failure/212202