An Agile Business Process and Practice Meta-model

Marielba Zacarias\textsuperscript{a,b,*}, Paula Ventura Martins\textsuperscript{a,b}, António Gonçalves\textsuperscript{c}

\textsuperscript{a} Research Centre of Spatial and Organizational Dynamics, Universidade do Algarve, Faro, Portugal.
\textsuperscript{b} Faculdade de Ciências e Tecnologia, Universidade do Algarve, Faro, Portugal.
\textsuperscript{c} INESC-ID, Lisboa, Portugal

Abstract

Business Process Management (BPM) encompasses the discovery, modelling, monitoring, analysis and improvement of business processes. Limitations of traditional BPM approaches in addressing changes in business requirements have resulted in a number of agile BPM approaches that seek to accelerate the redesign of business process models. Meta-models are a key BPM feature that reduce the ambiguity of business process models. This paper describes a meta-model supporting the agile version of the Business Process and Practice Alignment Methodology (BPPAM) for business process improvement, which captures process information from actual work practices. The ability of the meta-model to achieve business process agility is discussed and compared with other agile meta-models, based on definitions of business process flexibility and agility found in the literature.

© 2017 The Authors. Published by Elsevier B.V.
Peer-review under responsibility of the scientific committee of the CENTERIS - International Conference on ENTERprise Information Systems / ProjMAN - International Conference on Project MANagement / HCist - International Conference on Health and Social Care Information Systems and Technologies.

Keywords: business process meta-models, business process improvement, agile business processes, work practices

* Corresponding author. Tel.: +351 289 800 900.
E-mail address: mzacarias@ualg.pt
1. Introduction

Business Process Management (BPM) encompasses the discovery, modelling, monitoring, analysis and improvement of business processes. Traditionally, business processes are developed by creating a detailed model of such business processes, acquiring an IT-system to support them, and then implementing the system in the organizational practice [5]. One essential aspect of BPM is to guide the design of business process models through a well-defined-language, providing a syntax (rules to build model) and underlying semantics (concepts, and relationships among them). Properly defined languages allow to easily communicate and share models among stakeholders. Such languages are commonly known as meta-models. In a previous work, we proposed the Business Process and Practice Alignment Methodology BPPAM [19]. Rather than using traditional data collection techniques such as interviews and workshops, BPPAM provides a way to build business process models from daily actions in order to assure their alignment with actual work practices. A description of the supporting meta-model of the methodology can be found in [10].

In order to cope with increasingly dynamic business environments, BPM research is looking into the notions of process agility and Agile BPM, where a number of principles, methods and tools have been proposed to adopt an agile approach to BPM [2,4,5,7,16,17]. Our own experience in the application of the methodology on small organizations points to the need of incorporating agility principles in the methodology and adjusting the supporting meta-model. The changes introduced in the agile version of BPPAM are discussed in [11]. The goal is to harness changes in business process improvement needs through business process agility. Business process agility is defined as “the ability to dynamically modify, reconfigure, deploy and control a business process (and its various components) to accommodate required and potential needs of the firm” [14]. BPPAM stresses the need of achieving business process agility by accelerating business process model (re)design within both design and execution phases. The scope BPPAM is the process level i.e. on improvements of individual business process, and its target are small enterprises or organizations.

This paper describes the meta-model that supports the agile version of the methodology. The meta-model is adjusted to accommodate agility concepts and principles, including notions from dynamic control systems fundamentals [3]. The remainder of this paper is organized as follows: section 2 presents a brief discussion of the definitions of agility, business process agility and agile BPM, as well as an overview of traditional and agile BPM meta-models. It also discusses how agile approaches achieve agility, based on the definitions of the literature. Section 3 describes the proposed meta-model and compares it with the other agile meta-models. Section 4 summarizes our conclusions.

2. Related Work

2.1. Agility, Business Process Agility and Agile BPM

The definition of a meta-model for agile BPM entails a discussion of the meaning of the concepts of agility, business process agility, agile BPM. Several agile BPM approaches are based on the agility principles and agile methodologies from the software development field. Agile methods in software engineering emerged from the need of overcoming the limitations of traditional software development approaches to address constantly evolving business needs. The principles and motivation for agile software development (ASD) are expressed in the well-known Manifesto for Agile Software Development [7]. Agile software development cope with change by delivering early and frequent working software products through a continuous planning, execution and feedback loops, performed together by business people and developers. In spite of its extensive application, a thorough discussion around the meaning of agility and no complete agreement on the meaning of agility and ASD is still lacking [5].

In BPM research literature, various authors have addressed the refinement of the concept of agility and business process agility [7,13]. From a business perspective, agility as a concept is built upon the notion of flexibility in economics [6], where flexibility is defined as the ability to respond effectively to changing circumstances. The concept of agility also entails effective responses to change but it stresses that responses must also be quick. Hence, whereas both concepts entail responsiveness to changes, agility has associated a time factor. Sambamurthy et al [14] identify three types of agility; customer, partnership and operational agility. BPM focuses on operational agility,
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات