

# Chapter 27

## A Web-Based Tool for Business Process Improvement

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### ABSTRACT

*Current business process modeling methodologies offer little guidance regarding how to discover and maintain business process models aligned with their actual execution. The authors argue that business processes should emerge and evolve collaboratively within an organization. Considering this limitation, this paper presents an overview of some Web-based tools and explores their main functionalities. This study highlights the need of a bi-directional form of communication, between operational and process actors. The paper contributes with a new business process and practice authoring tool based on authors' vision for business process improvement.*

### 1. INTRODUCTION

Business Process Modelling (BPM) specializes on describing how activities interact and relate with each other, and how activities interact with other business concepts such as goals and resources, where resources may be material and informational entities, as well as human or automated actors (Rittgen, 2008). Current BPM methodologies are supported by data collection techniques including interviews, surveys, text/document analysis, among others. BPM emphasizes process notions (workflow, decision, information, activities) as the dominant dimension (Hollingaworth, 2004). However, BPM would benefit from a better understanding of other elements that contribute to process execution such as people and human interactions, products or tools used, specific vocabularies, preferences, habits and rules.

Moreover, it has been argued that existing BPM methodologies offer little guidance in keeping up-to-date the continuously evolving knowledge coming from business process execution (Castela, Dias, Zacarias, & Tribolet, 2012b). Business processes are executed through human and automated activities. Whereas many business processes are fairly static only at a high level, at finer-grained levels such as

DOI: 10.4018/978-1-5225-9615-8.ch027

activities, are more agile and unpredictable. Indeed, many organizations do not know their end-to-end processes accurately or in detail, since the knowledge required for its execution is tacit and decentralized (Verner, 2004). Recent research in BPM is aiming to address the unpredictability of business processes (Mutschler, Weber, & Reichert, 2008; Reichert, Dadam, Jurisch, Kreher, & Goser, 2008), but there is yet little help in addressing the problem of tacit knowledge and business process model maintenance.

From the author's point of view, what appears to be unpredictable behaviour does not mean chaos. Indeed, it follows certain rules. The rules followed in the execution of activities and tasks can be uncovered by capturing work practices. Work practice is a concept that originates in sociotechnical systems, business anthropology, work systems design, and management science. Work practices are behaviours of specific individuals, performing specific activities, in specific circumstances, exhibited as action patterns. Work practices involve people engaging in activities over time, not only with each other, but also with machines, tools, documents, and other artefacts. The importance of discovering work practices to improve user support has been acknowledged in (Pomerol & Brézillon, 2011). Work practice modelling is also important in (1) providing a deeper understanding of the human activities composing business processes, and (2) assessing the alignment between process models and actual execution (M. Zacarias, Serendero, Pinto, & Tribolet, 2008).

The authors argue in their research that the emphasis in Business Process Improvement (BPI) should be stressed on communication, coordination, and collaboration within and among team members in daily work activities, and consequently the effort in business process improvement should be minimized and performed as natural as possible. Business Process and Practice Alignment Methodology (BPPAM) represents a multidisciplinary approach that allows business analysts to discover, supervise, analyse and improve business processes, paying attention not only to the process dimension but also to the product, information and human dimensions that become visible in actual work practices.

Little attention had been paid to the effective implementation of BPI models which has resulted in limited success for many programs. Business analysts want guidance on how to implement BPI activities, rather than what BPI activities do actually implement. Limited research has been carried out on exploring new approaches to effectively implement BPI programs. On this basis, the authors propose a new methodology, and a complementary tool, to describe and improve business process based on daily experience in organizations.

This paper is focused on the description of the BPPAM framework, which is a Web based tool for practice and process definition. Section 2 overviews several initiatives in the domain of business process and work practices. Section 3 describes the BPPAM initiative, with an overview of the BPPAM framework functionalities and its supporting Meta-model. Section 4 describes how the proposed methodology and tool are combined to work together in order to support business process improvement. Section 5 reports results of applying BPPAM methodology and tool. Finally, section 6 concludes this work, justifying authors' perception that this proposal has innovative contributions to the community.

## **2. RELATED WORK**

The idea of implementing a business process management tool, throughout the entire life cycle is not new. Indeed, there are several tools for business processes management and some of the most popular are: Activiti BPM Platform (Activity, 2016), ARIS Express (AG, 2016) and Bonita BPM (Bonitasoft, 2016a). However, many of these tools follow a traditional business process principle, where processes

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