DISCREPANCY OF TERMINOLOGY IN BPM-SYSTEM IMPLEMENTATION

Shima Abdullah

School of Information Systems - Curtin University - GPO Box U1987 - Perth Western AUSTRALIA 6845

ABSTRACT

Organizations worldwide are investing in BPM-systems and are becoming more prevalent in an attempt to gain better competitive advantage. Despite immense attention in BPM-systems implementation, it has introduced a new problem where terms to describe the implementation phases and activities are inconsistent and cause confusion for practitioners as well as research academics. This study investigates this confusion in terminology by reviewing current literature. First it introduces the concepts and definitions of BPM and BPM systems. It then investigates system implementation categorization and highlights the conflicting terminology. This is an on-going review of literature and this paper makes an interim report of findings.

KEYWORDS

BPM-system, implementation phases, terminology

1. INTRODUCTION

The area of Business Process Management (BPM) has grown immensely over the past two decade. BPM is a management concept which originates from the concepts of Total Quality Management, Business Process Modeling and Business Process Improvement. Conversely, BPM-system is the concept of supporting management functions through the advanced use of technology. BPM-system is mostly influenced by enterprise resource planning systems, workflow management systems and enterprise application integration. BPM-system can be thought of as an integrated system streamlining all the business processes in an organization in order to provide the semblance of one database, one application with a common interface throughout the entire enterprise. This may be the main reason for the discrepancies and inconsistencies of the number of phases and nomenclature used among various BPM-system implementation projects. Thus, it is the intention of this study to review current literature on BPM-system implementation and highlight these discrepancies. BPM-system implementation phases are the temporal sequence of activities during implementation. By disclosing the discrepancy, practitioners and academics would have a better understanding of the terminology. Better understanding of the terminology would contribute positively to the group dynamics and communication among various members of a BPM-system implementation project team and enhance critical success factors of that project.

2. LITERATURE REVIEW

Extent literature review reveals that there are many categories of BPM studies and schools of thought. These may be categorized into several headings such as BPM optimization; BPM case studies; BPM Notation (BPMN) and BPM-system implementation. This categorization is probably due to different research communities addressing the same issue from their area of research perspective. Hence, it is expected that there would be various definitions of BPM and BPM-systems including the use of terminology and division of phases. However, review of current and future literature in this area is still continuing.

2.1 BPM and BPM-system Definitions

Some of the definitions in the literature are provided below. Table 1 exhibits the definitions for BPM and Table 2 provides definitions of BPM-Systems.

Table 1. Definitions of BPM

Definition	References
'a systematic, structured approach to analyze, improve, control, and manage processes with the aim of improving the quality of products and services'	Elzinga et al., 1995
'Supporting business processes using methods, techniques, and software to design, enact, control, and analyze operational processes involving humans, organizations, applications, documents and other sources of information'	van der Aalst et al., 2003, Weske et al., 2004
'a structured approach employing methods, policies, metrics, management practices and software tools to manage and continuously optimize an organization's activities and processes'	Gartner et al., 2005, McCoy, 2005
'BPM is a structured approach to manage and continuously optimize an organization's processes'	White, 2008

Table 2. Definitions of BPM-system

Definition	References
'A generic software system that is driven by explicit process designs to enact and manage operational business processes'	van der Aalst et al., 2003, Weske et al., 2004
'a suite of software applications that enable the modeling, execution, technical and operational monitoring, and user representation of business processes and rules, based on integration of both existing and new information systems functionality that is orchestrated and integrated via services'	Ravesteyn and Versendaal, 2007
'to make business processes more effective and efficient by cutting costs, increasing quality of goods and services'	Andersson et al. 2005

2.2 BPM-system Implementation Phases

BPM-systems promise many benefits such as the automation and integration of business processes; facilitating day-to-day management; reducing operating costs; increasing productivity; improving quality and services; and so forth. The study of system implementation has been an important area of research in information systems (IS). Hence, it is imperative to understand the implementation process as to maximize those benefits.

Most system implementation phases attempt to associate required activities that must be performed during implementation. The significance of delineating the activities in each of the phases is that it enables practitioners to better manage and plan the system implementation process. It also facilitates practitioners to anticipate potential issues that may arise during implementation and ameliorate these problems.

Identifying system implementation phases is also crucial because the individual or organizational or technological factors can be associated to one or more of the implementation phases. For example, the organizational factor of top management support of the implementation effort can be linked to the initial phase of system implementation and the continuous improvement phase. The main rationale for associating the factors to each of the implementation phases is because the factor's degree of importance varies across the different phases of the implementation process. Hence, the factors must be prioritised accordingly.

Since BPM-systems are part of IS, prior studies on IS implementation phases can be applied to BPM-system. Unfortunately, the majority of BPM-system studies form their own nomenclature to describe the implementation phases and have dissimilar number of phases making it equally difficult to comprehend and map relevant factors. Based on on-going literature review, Table 3 and Table 4 below illustrate some terminology of BPM-system and system implementation phases with numbers of phases that have been described by published studies.

Table 3. Diverse terminology for system implementation phases (adapted from Kumar et al., 2002)

Cooper and Zmud (1990)	Rogers (1995)	Soh and Markus (1995)	Ross and Vitale (2000)	Parr and Shanks (2000)
Initiation	Adoption	IT Expenditure (Adoption)	Design	Planning
Adoption	Implementation	IT Assets (Implementation)	Implementation	Project
Adaptation		IT Impacts (Post-implementation)	Stabilization	Project
Acceptance			Continuous Improvement	Enhancement
Routinization			Transformation	
Infusion				

Table 4. Diverse terminology for BPM-system implementation phases (adapted from Houy et al., 2010)

Markus and Tanis (2000)	van der Aalst et al. (2003)	Netjes et al. (2006)	Hallerbach et al. (2008)	Kannengiesser (2008)
Chartering	Process Design	Design	Modeling	Design
Project	System Configuration	Configuration	Instantiation / Selection	Implementation
Shakedown	Process Enactment	Execution	Execution	Realization
Onward and Upward	Diagnosis	Control	Optimization	Diagnosis
		Diagnosis		

Although the terminology, number and name of the implementation phases vary, the definitions describing each of the phases have a fundamental similarity. For example, during the *design* (Ross and Vitale, 2000) or *planning* (Parr and Shanks, 2000) or *chartering* (Markus and Tanis, 2000) phase, the main activities are similar as outlined below:

- Defining the business case
- Setting clear project goals and objectives
- Determining the project scope and resources
- Defining the user and system requirements
- Selecting a suitable BPM-system for the organization

The above list of activities is not in any particular sequence. The number of phases varies since researchers partition the phases differently. Since there are no clear cut-off points from one phase to the next, mapping of activities for each of the phases becomes difficult. Looking at the variety of terminology and diverse number of implementation phases, there needs to be some kind of standardization. This would avoid confusion for practitioners implementing the BPM-system and academics wishing to embark on this research topic. Nonetheless, most BPM researchers seem to ignore the need of having standardization. Continued research in this area may reveal the reasons for non-standardization.

2.3 Research Methodology

This study examines a number of studies pertaining to BPM-system and system implementation phases. Although this literature review itself does not present any new findings yet, it is important that the discrepancies in terminology are disseminated to assist future research and practice. The main objective of this literature review is to recapitulate, synthesis, and evaluate the findings of previous studies. This current study will continue to review other published literature.

3. CONCLUSION

This study establishes the foundation for both practitioners and researchers to comprehend BPM-system implementation phases. Particularly for practitioners, the study reveals that many different terms are used to describe similar implementation phases. Regardless of the terminology employed, identifying the activities

throughout the implementation phases promote better management and planning of resources. This study, when complete, hopefully will provide some consensus approach to a framework of standardization.

Standardization has many benefits. With standards, uniformity can be achieved and thus enables a basis for systematic comparison. Discrepancies of terminology induce misunderstanding and misconception. Hence, research works to advance successful BPM-system implementation may be affected. Nevertheless, it is not easy to standardize terminology especially when there are many different research communities involved.

Future research on taxonomy of BPM-system implementation phases is much desired. It is envisaged that linking the implementation activities to each of the phases is achievable. However, the major concern here is agreeing to a common terminology.

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