

Approaches to Business Process Management: An Overview and Systematization

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Abstract. Business Process Management (BPM) is a multidisciplinary domain that utilises strengths and advantages of management approaches, frameworks and tools for a company's process improvement. However, meanwhile there is a variety of different approaches that can be attributed to the broader topic of research and application of BPM. Some suggestions are designed mainly to pragmatic considerations, e.g. by consulting companies, other approaches are primarily subject relevant research. This work discusses terms and management methods like Business Reengineering (BRE), Business Process Optimization (BPO) and Business Process Improvement (BPI), which do have a close link to BPM. An overview of available approaches to the management of business process has been developed. Therefore those techniques are described, structured and systematized, based on a set of defined criterias. A final evaluation of the approaches demonstrate their interconnection and demarcation. This paper shows that BPM, as a systematic concept, is a highly interdisciplinary approach for the management of organisations, which expresses itself through its holistic principle.

Keywords: BPM, BPO, BPI, BRE, Management, Approaches, Systematization

1 Introduction

The design, management and automation of 'Business Processes' (BP) even warrants its' own field of study, known as 'Business Process Management' (BPM). Even though this domain has received much attention in recent years, there are different basic definitions about what BPM actually is. There is no universally accepted definition due to the diversity of approaches and background of the subject.

Nowadays, there are a variety of suggestions, which can be attributed to a broad understanding of the concept of research and application of BPM. Some proposals are (1) designed first and foremost from a pragmatic point of view, for example by consulting firms, other available approaches are (2) primarily relevant for research questions and studies within the overall context.

Additionally, the thematic classification ranges from management functions to realisation and implementation of technical solutions. This is also due to the fact that the main ideas and concepts behind those approaches have changed dramatically in recent decades.

2 Problem Definition

In the early 1990s, Michael Hammer and James Champy referred to an approach of engineering as a business management strategy. Hammer said, that “we should ‘reengineer’ our business: use the power of modern [...] IT to radically redesign our business processes [...]” (Hammer 1990, p. 1). A couple of years later, Thomas H. Davenport focussed with Business Process Innovation (BPIN) on the resulting impacts of such an application and process redesign according to Hammers’s approach. Davenport stated that “[...] process innovation encompasses the implementation of change in all its complex technological, human, and organizational dimensions” (Davenport 1993, p. 2).

More recent contributions, e.g. by van der Aalst et al. in 2003, either tent further into the direction of information technology based and enterprise wide approaches. BPM “can be considered as an extension of classical Workflow Management” (van der Aalst et al. 2003, p. 1), or like Paul Harmon in 2007, BPM is used “[...] to refer to how business managers organize and control processes. When we want to refer [...] to automated systems we will use the term [...] BPMS” (Harmon 2007, p. xxxvi).

On the other hand, a more common and flexible approach is being considered. John Jeston and Johan Nelis offer the definition of BPM as an “[...] achievement of organisation’s objectives through the improvement, management and control of essential business processes” (Jeston and Nelis 2006, p. 14). They treat IT based automation only as one of only several possible mechanisms.

Further definitions can be found in Table 1. The literature, however, agrees that BPM is leastways a structured methodological approach, which is focussed on the handling and continuous development of the companies’ core processes from a process-based view (PBV) of management (Burlton 2001; van der Aalst et al. 2003; Jeston and Nelis 2006; Hammer 2007). Based on this approach, the purpose of BPM and its’ representatives thereby is enabling a targeted control of business processes and thus support the achievement of strategic and operational objectives of an enterprise. Roger Burlton stated that “Business Process Management is the discipline that improves measurable business performance for stakeholders through ongoing synchronization and optimization of capabilities for enterprise-wide processes” (Burlton 2001, p. 1). Commonly, this is done by the application of knowledge and skills, tools and techniques to define, visualize, measure, control, report and improve processes within an enterprise. This complex task is described in literature often based on a continuous loop traversed by several different phases (Becker et al. 2008; Weske 2007).

Nevertheless, neither a predictable and commonly used definition of BPM does acutally exist, nor a general overview of the currently discussed approaches to the subject area is available in literature. An extensive systematization and demarcation of the approaches’ priorities to each other, based on scoping study and further literature review, could prove helpful remedy.

Author(s)	Definition(s)
Gaitanides, Michael; Scholz, Rainer; Vrohliings; Alwin ⁱ	Prozessmanagement umfasst planerische, organisatorische und kontrollierende Maßnahmen zur zielorientierten Steuerung der Wertschöpfungskette eines Unternehmens hinsichtlich Qualität, Zeit, Kosten und Kundenzufriedenheit.
Pritchard, Jean-Philip; Armistead, Colin ⁱⁱ	BPM is a 'holistic' approach to the way in which organisations are managed. This integrated the process perspective into all aspects of the business and implied a commitment to managing by process in the long term.
Zairi, Mohamed ⁱⁱⁱ	BPM is a structured approach to analyze and continually improve fundamental activities such as manufacturing, marketing, communications and other major elements of a company's operation.
Burlton, Roger ^{iv}	BPM is the discipline that improves measurable business performance for all stakeholders through the ongoing optimisation and synchronisation of organisation-wide process capabilities.
van der Aalst, Will M.P; ter Hofstede, Arthur, H.M.; Weske, Mathias ^v	BPM includes methods, techniques, and tools to support the design, enactment, management, and analysis of operational business processes. It can be considered as an extension of classical Workflow Management (WFM) systems and approaches.
van der Aalst, Will M.P; ter Hofstede, Arthur, H.M.; Weske, Mathias ^{vi}	BPM is defined as 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.
Smith, Howard; Fingar, Peter ^{vii}	BPM is the convergence of management theory - total quality management, Six Sigma, business engineering and general system thinking - with modern technologies-application development, systems integration, computation, service-oriented architecture, workflow, transaction management, XML and Web services.
Weske, Mathias ^{viii}	BPM includes concepts, methods and techniques to support the design, administration, configuration, enactment, and analysis of business processes.
Scheer, August-Wilhelm ^{ix}	Das Geschäftsprozessmanagement umfasst den gesamten Lifecycle von strategischer Planung, konkretem Design, operativer Steuerung, Analyse und Controlling der Prozesse.
Scheer, August-Wilhelm; Heß, Helge ^x	Business Process Management [besitzt] mit der Optimierung der konkreten Geschäftsprozesse eines Unternehmens einen mehr operativen Fokus ...
Schmelzer, Hermann J.; Sesselmann, Wolfgang ^{xi}	Unter Geschäftsprozessmanagement wird ein integriertes Konzept von Führung, Organisation und Controlling verstanden, das eine zielgerichtete Steuerung der Geschäftsprozesse ermöglicht. Es ist auf die Erfüllung der Bedürfnisse der Kunden und anderer Interessengruppen (Mitarbeiter, Kapitalgeber, Eigentümer, Lieferanten, Partner, Gesellschaft) ausgerichtet und trägt wesentlich dazu bei, die strategischen und operativen Ziele des Unternehmens zu erreichen.
Jeston, John Nelis, Johan ^{xii}	[BPM is] the achievement of organisation's objectives through the improvement, management and control of essential processes to the business.

EABPM ^{xiii}	BPM is a disciplined approach to identify, design, execute, document, measure, monitor, and control both automated and non-automated business processes to achieve consistent, targeted results aligned with an organization's strategic goals. BPM involves the deliberate, collaborative and increasingly technology-aided definition, improvement, innovation, and management of end-to-end business processes that drive business results, create value, and enable an organization to meet its business objectives with more agility.
Rosemann, Michael; Vom Brocke, Jan ^{xiv}	Six core elements of BPM are, namely, (1) Strategic Alignment, (2) Governance, (3) Methods, (4) Information Technology, (5) People and (6) Culture.
Thiault, Dominique ^{xv}	BPM is a management through processes method which helps to improve the company's performance in a more and more complex and ever-changing environment.

Table 1: Different Definitions of BPM

3 Overview

As mentioned before, a number of approaches exists within the domain and research topic 'Management of Business Processes' and literature mentions different terms relating to the management and improvement of Business Processes. However, the level and type of change, the starting point, the frequency of change, the required time and the scope differ in these methodologies. This includes 'Business Process Redesign', 'Core Process Redesign', 'Business Re-structuring' and 'Business Process Change'; altogether used terms for 'Business Process Reengineering'. Within the following, the most widely used methods are shown and described in detail, the current state of available and emerging standards are discussed.

(1) Business Process Management is a systematic approach for improving an organisation's existing business processes by "... capturing, designing, executing, documenting, measuring, monitoring, and controlling both automated and non-automated processes ..." for delivering value-added products or services to "... meet the objectives and business strategies of a company" (Freund and Rücker 2012, p. 1) and is often referred to as "Management by Business Processes" (Thiault 2012, p. 10). BPM attempts to improve processes continuously, while striving for innovation, flexibility, and integration with technology. Therefore BPM promotes an in-creasing business effectiveness in addition to efficiency and does not only addresses technical issues but especially organisational aspects, such as strategic alignment, or-ganizational culture or the integration and management of process participants. "Through BPM, processes can be aligned with the business strategy and so help to improve company performance as a whole thanks to the optimization of processes within business divisions or even beyond company borders" (Freund and Rücker 2012, p. 1).

Roger Burlton stated that "[BPM] is the discipline that improves measurable business performance for all stakeholders through the ongoing optimisation and synchronisation of organisation-wide process capabilities" (Burlton 2005).

(2) Business Process Reengineering is a systematic approach for redesigning an organisation's existing resources. BPR is also known as 'Business Process Re-Engineering', 'Business Process Redesign', 'Core Process Redesign', 'Business Transformation' or 'Business Process Change Management' and is established both in management- and in the IT tradition.

According to Soliman the main objectives of BPR are to (1) improve the business processes and (2) reduce costs (Soliman 1998). Therefore business processes are usually fragmented into subprocesses and tasks, which are carried out by several individuals within an organisation. "As a structured ordering of work steps across time and place, a business process can be decomposed into specific activities, measured, modeled, and improved. It can also be completely redesigned or eliminated altogether" (Hammer 1990, p. 1).

(3) Business Process Improvement is a systematic approach to assist companies and organisations to optimise their underlying processes and results in operational efficiency and customer focus. It is directly connected to BPR and other process redesign-methodologies. The methodology is based on Kurt Lewin's work about Change Management in 1958, namely 'Group Decision and Social Change', who came up with a holistic framework for change. According to Lewin, the initial step in the change-process is to unfreeze the existing situation (Lewin 1958).

However, the goal of BPI is to achieve significant more efficient results by a set of radical changes in the performance of an organisation, rather than a series of incremental changes. Additionally it should be noted that BPI focuses on 'doing things right' more than it does on 'doing the right thing'. In essence, BPI attempts to reduce variation or redundant ballast in processes, so that the desired outcome can be achieved with better utilisation of available resources (Forster 2006; PRGS 2010).

(4) The approach of Business Process Optimization is not yet in the stage of a systematic method. BPO is based on the fact that it is possible to evaluate and optimise processes on the basis of process key figures such as (1) throughput times, (2) process costs or (3) quantities. Thus, this method is conceptually similar as BPI, but "while the term 'improvement' implies a qualitative approach of developing an existing business process to a better version, 'optimization' is more automated improvement of business processes using prespecified quantitative measures of performance objectives" (Vergidis et al. 2006, p. 1).

4 Conclusion

Smith and Fingar (Smith and Fingar 2003, p. 2) point out that, although the concept of management of Business Processes is not new, the existing theories and implementations have not been able to map the reality. After reviewing the literature, these statements are obsolete. In this case Paul Harmon (2003, p. 37) must be consented, who stated that the business environment has changed and organisations, which have implemented process projects during the last years, have learned important lessons.

Even though the topic of the processorientated management is still hard to cover and, due to its' interdisciplinary nature, extremely complex. The available approaches and those methods underlying, have been refined and evolved since their introduction. Different focus of the individual methods complicates a substantive comparison and, complementary to this, numerous approaches can be found under different names and in similar or even completely different contexts. A clear delimitation and demarcation of individual approaches seems difficult, but is possible. According to Janne Ohtonen and Timo Lainema BPM has several challenges over many categories and this has "lead into difficulties of clearly categorising and making critical BPM factors general" (Ohtonen and Lainema 2011, p. 1). Anyhow, within this work, a systematic dispute with that complex issue was conducted and approaches for a systematization have been found.

Basically, it can be stated that the current present distinction between each other appears still propagated historically. Although quality-oriented approaches show some occurrences of management-driven characteristics, those approaches of the Quality Control-Tradition can be identified almost completely as components in the approach of BPM. The carried out survey and the subsequent systematization as well as declination of the approaches showed a large number of matching and exclusionary characteristics between BPM, BPR, BPI and BPO.

The most beneficial outcome of a fully implemented BPM is, that entire value chains can be monitored, continuously improved and optimised. To achieve this, in accordance with Rosemann and de Bruin, an approach to Business Process Management is needed that includes "... on one hand the steps of the process lifecycle as a structured approach to the implementation ... [and] on the other hand ... needs to have a sound focus on developing both a culture and strategies receptive to BPM." (Rosemann and de Bruin 2005, p. 2)

The approach of BPM, as defined currently by Dominique Thiault (Thiault 2012, p. 12), consolidates objectives and methodologies, which has been proposed in a number of existing and concurrent approaches, including Business Process Innovation, Business Process Modelling and BPR. This thesis strengthens this theory and shows that Business Process Management, as a systematic concept, is a highly multidisciplinary approach for the management of organisations, which expresses itself through its holistic principle.

However, the period of limitation to a purely IT-based approach is over. Nowadays, BPM includes versatile aspects of Corporate Governance and Strategic Alignment; both the embedded people and the existing culture are being considered in a special way. To enable this, within BPM, methods from the Change Management, IT-modeling and Workflow Management Systems, Process Design and Business Redesign as well as from the Quality Optimisation can be found and are utilised.

References

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i	Cf. to Gaitanides et al. (1994), p. 3
ii	Cf. to Pritchard and Armistead (1999), p. 14
iii	Cf. to Zairi (1997), p. 64
iv	Cf. to Burlton (2005)
v	Cf. to van der Aalst et al. (2003), p. 1
vi	Cf. to van der Aalst et al. (2003), p. 4
vii	Cf. to Smith and Fingar (2003), p. 1
viii	Cf. to Weske (2007), p. 5
ix	Cf. to Scheer and Heß (2009), p. 145
x	Cf. to Scheer and Heß (2009), p. 145
xi	Cf. to Schmelzer and Sesselmann (2008), p. 52
xii	Cf. to Jeston and Nelis (2008), p. 11
xiii	Cf. to EABPM (2010), p. 24
xiv	Cf. to Rosemann and Brocke (2010), pp. 112 ff.
xv	Cf. to Thiault (2012), p. 4