
Enhancement of traditional Business Process Management with reflection – a new perspective for Organisational Learning?

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Abstract. The successful management of learning and knowledge has become a critical success factor for organisations in today’s knowledge-intensive business world. However, the question remains how an organisation should act and react in order to fulfill this management task. A common answer to the question is that organisations need employees who have the experience and knowledge to perform their work productively. A prerequisite for such employees is a continuous professional development however. In this context, formal learning methods alone are insufficient because of their long preparation time and their separation from daily working routines. What is needed is a kind of “real-time-learning”, enabling individuals and also organisations to react on changing requirements and conditions in an adequate manner. In order to converge to such a “real-time” organisational learning, this paper proposes a model, enhancing traditional, top-down focused Business Process Management approaches with insights from reflection and reflective learning theory respectively.

Keywords: Business Process Management, reflection, reflective learning, organisational learning

1 Introduction

Triggered by a continuously changing business environment and major technological developments, an intensive discussion of process-oriented management approaches takes place in academic literature as well as in practice for almost 20 years now. Based on fundamental contributions of Davenport [1], Hammer and Champy [2] and Scheer [3], a variety of articles and books dealing with the topic of Business Process Management (BPM) have been published in the meantime. However, this literature holds a very “mechanistic” view, focusing on top-down specified business processes and the resources needed for their execution. Such a perspective disregards the

contribution of the individual employee, whose skills, experiences and knowledge influence the value added through a business process significantly.

In general, the successful management of learning and knowledge has become a critical success factor for organisations in today's knowledge-intensive business world. Back in 1996 already, Argyris and Schön precisely described some requirements for (learning) organisations, which are still up-to-date nowadays: "it is conventional wisdom that business firms [...] need to adapt to changing environments, draw lessons from past successes and failures, detect and correct the errors of the past, anticipate and respond to impending threats, [...] build and realize images of a desirable future." [4] However, the question remains how an organisation should act and react in order to fulfill these requirements.

A common answer to this question is that organisations need employees who have the experience and knowledge to cope with such requirements and perform their work productively. Nonetheless, a continuous professional development including learning processes to acquire knowledge [5] is needed to maintain such capabilities over time. In these situations, formal learning methods alone are insufficient because of their long preparation time and their separation from daily working routines. What is needed is a kind of "real-time-learning" to enable individuals and also organisations to react on changing requirements and conditions in time and in an adequate manner.

In order to converge to such a "real-time" organisational learning, the authors of this paper propose a model to enhance traditional, top-down focused BPM approaches with insights from reflection and reflective learning theory respectively (section 3). This model is based on theoretical results from the research areas of BPM, reflection and reflective learning as well as organisational learning as presented in section 2. The paper closes with a discussion of the conceptual model (section 4) and a conclusion of the work presented herein (section 5).

2 Theoretical background

2.1 Business Process Management

A process oriented design of organisations has been discussed in research and practice since the mid-nineties. Triggered by a rapidly changing business environment and technical innovations, organisations are forced to reconsider their own market position and the related business operations continually [6]. In such business environments, competitive advantages can only be achieved by those companies which are able to adapt their business operations to their own growth and changing conditions in a fast and flexible manner. In this context, BPM is seen as a key concept to provide the necessary flexibility and adaptability [7].

In general, two main concepts of BPM can be distinguished, (1) the concept of Business Process Reengineering (BPR), which postulates a radical redesign of business processes [2] and (2) the concept of Continuous Process Improvement (CPI), focussing on more sustainable, evolutionary improvement of business processes over time. Meanwhile, the continuous improvement of business processes

is often seen as a more promising approach for the implementation of a successful and sustainable business strategy [8], because existing structures in organisations can not be simply changed or dismissed without further implications. Typically, the CPI approach is conceptualized in a BPM lifecycle, consisting of several phases. The classification and description of these phases can vary depending on the respective author. However, Houy, Fettke and Loos [9] subsume a set of aspects, which are generally incorporated in the different BPM lifecycle concepts. These aspects are visualized as different phases of a BPM-Lifecycle in Fig. 1. In compliance with these aspects and according to a definition provided by van der Aalst, Hofstede and Weske [10], BPM in this paper is understood as a set of methods, techniques and software tools which support the design, implementation, execution, control and analysis of business processes aiming to enable an optimized value creation. According to Scheer [11], a business process is defined as a sequence of executions in a business context in order to create goods or services.

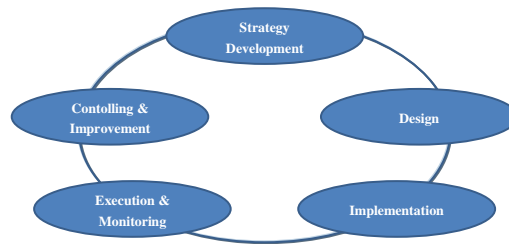


Fig. 1: BPM-Lifecycle (adapted from [9])

Current literature in the area of BPM predominantly holds a very “mechanistic” view, focusing on top-down specified business processes and the resources needed for their execution. As Vanderhaeghen, Fettke and Loos [12] point out however, human task managers usually have a certain scope of discretion while dealing with specific tasks which is not fully representable in predefined business process models. As a consequence, such a “traditional” BPM perspective neglects the contribution of the individual employee, whose skills, experience and knowledge influence the value added through a business process significantly.

2.2 Reflection and Reflective Learning

While studying the literature about reflection, it becomes obvious that this term is an interdisciplinary topic. Accordingly, many sources emanating from partially different disciplines like philosophy, psychology and education exist, with little integration of the respective concepts. As a consequence, reflection can be seen as a generic term, incorporating many ideas [14] and therefore needs to be defined in relation to the respective scope of its use.

In 1933, John Dewey [15] presented his view of reflection which strongly influenced the work of many other authors and determined their ideas and approaches of reflection [14]. He associated reflection with thinking by considering

the skills necessary to manipulate knowledge in order to revise it for a certain purpose. The starting point for the reflective activity he described is a state of doubt or uncertainty guiding the reflective process [13]. According to Dewey, reflective thinking is an “active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it, and the further conclusions to which it tends”[15].

In management development, experiential learning is considered the dominant theory nowadays [16]. *Learning* in this context is defined as a *process of knowledge creation through transformation of experience* [18]. The development of experiential learning theory was stimulated by a publication of Kolb [13], where he introduced a model well-known as the experiential learning cycle [19]. “Immediate or concrete experiences are the basis for observations and reflections. These reflections are assimilated and distilled into abstract concepts from which new implications for action can be drawn” [18]. Although Kolb identified reflection as an important component of learning from experience, he did not discuss in detail what is meant by this component he called “Reflective Observation” [14].

In contrast to Kolb’s work, other authors focus more precisely on the process of reflection in experiential learning (for examples see [13]). The theoretical assumptions guiding the understanding of the reflective process in this paper can be traced back to a model introduced by Boud, Keogh and Walker in 1985 [20]. This model is focused on experience-based, deliberate learning, *presuming a learner who intends to learn* in order to *achieve a specific goal*. Reflection in this context “is an important human activity in which people recapture their experience, think about it, mull it over and evaluate it.”[20] Fig. 2 indicates the three main elements of the Boud, Keogh and Walker reflection model. The left circle represents the total *experience* of a learner as the subject of reflection. The *reflective process* indicated in the central circle can be composed of three main elements. (1) Returning to experience means remembering outstanding events, repeating the initial experience in the learner’s mind and sharing characteristics of the experience with others. (2) Attending to feelings is divided into the utilization of positive feelings, which means to focus on successful learning situations as well as positive experiences, and removing obstructive feelings in order to enable a more rational examination of events. The most important part of the reflective process is the (3) re-evaluation of experiences however. The learner reconsiders the experience according to the specific intention, combines new and already processed knowledge and finally integrates this knowledge into his conceptual frame of reference. The possible *outcomes* of this reflective process may include new perspectives on experience, a change in behavior, the readiness for application or a commitment to action.

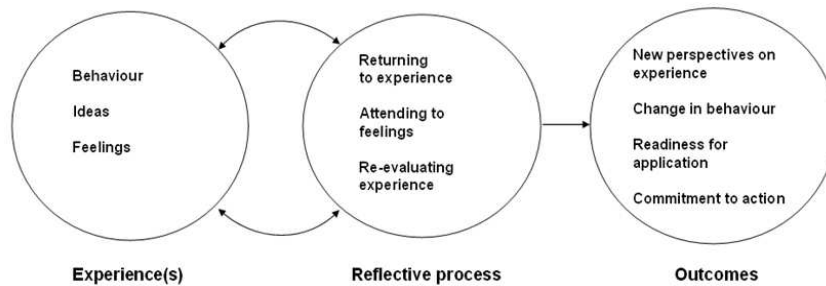


Fig. 2: The reflection process in context (based on [20])

2.3 Organisational Learning

Since its emergence, the concept of organisational learning (and the related concept of the learning organisation) has been widely discussed and studied by various academic disciplines like psychology, organisation theory or management sciences. As a consequence, many different approaches exist in the meantime with little integration of the corresponding concepts or models [21].

Lehner [22] provides a sound overview on important representatives and approaches of organisational learning, highlighting three main concepts which strongly influenced existing theory in this research area. The first one is an organisational learning cycle proposed by March and Olson [23], aiming at the explanation of learning deficiencies. The second one is a conceptualisation of organisational learning processes provided by Argyris and Schön [24], identifying two elementary forms of organisational learning processes: (1) the so-called single-loop learning, consisting in problem-solving without changing the underlying basic assumptions (so-called theory-in-use) and (2) double-loop learning including a critical analysis of these basic assumptions. Last but not least, Senge [25] developed five fundamental requirements (which he called disciplines¹) necessary for the development of a learning organisation.

Further insights in this multifaceted topic can be gained by falling back on existing literature reviews. In 1993, Dodgson [26] examined some literature in order to gain insights in (1) the goals of organisational learning, (2) the learning process in organisations and (3) ways to facilitate or impede organisational learning. Relating to the goals (1), Dodgson concludes that organisational learning is just an attempt of adjustment to a competitive and fast-changing environment (i.e. the business world) in order to ensure the survival of the organisation. In summary, this author came to the conclusion that organisational learning aims at adequately dealing with situations of uncertainty and that “learning occurs throughout the activities of the firm” [26] in this context.

Based on very similar questions, Lähteenmäki, Toivonen and Mattila [21] presented the results of their extensive literature review in the British Journal of Management in 2001. However, their work was focused primarily on the

¹ These disciplines are personal mastery, mental models, shared visions, team learning and systems thinking.

identification of several gaps in existing research and the introduction of a set of measures for organisational learning derived from a single case study. The first gap identified was that existing research emphasizes the learning of individuals too much instead of concentrating on the learning of organisations. Apart from this learning subject viewpoint, these authors also conclude a lack of conceptualization concerning the actual translation of learning by individuals into the learning of organisations. After their literature review, they came to the conclusion that existing research is insufficient to develop a holistic model for organisational learning and that despite of many similarities between the two perspectives, existing models ignore the change management theory almost completely. Vice versa, in change management literature, the concept of organisational learning is often included implicitly but not really defined.

In 2003, Wang and Ahmed [27] introduced five focuses of the organisational learning concept² which were also identified through an extensive literature review. Of special interest for this paper are the second, fourth and fifth focus. The second one “Process or System” is emanating from the information processing perspective which declares organisations as systems for information processing. The process to manage the experiences of an organisation is interpreted as organisational learning in this context. In recent literature, the fourth focus of “Knowledge Management” became very popular, understanding organisational learning as a change in the state of knowledge. In this context, Nonaka and Takeuchi [29] provided a link between organisational learning and knowledge creation through their well-known model, describing the process to transfer knowledge among different levels. The fifth focus, called “Continuous improvement and incremental innovation” has the intention to correlate process improvement and organisational learning, assuming that incremental innovation composes the learning organisation. Wang and Ahmed [27] conclude from their literature review that current organisational learning approaches are focussed on system thinking, problem-solving and information-processing which results in a mere incremental improvement. “In hyperdynamic business contexts, organisation learning is the process by which the organisation constantly questions existing product, process and system [...] to achieve sustained competitive advantage” [27]. However, these authors do not describe, how their idea could be operationalised.

Actually, an organisation learns on a number of levels, ranging from the individual over the team to a company-wide level, and in addition to this internal point of view, also to an inter-organisational level [28]. The question remains however, how to distinguish this learning from mere individual or team-based learning without further implications for the organisation (for a similar argumentation see Argyris and Schön [4], p. 17-18 for example). In this paper we follow the approach of Argyris and Schön, understanding organisational learning as “an organization’s improvement of its task performance over time” including the “learning to change the values that define ‘improvement’” [4]. In this context “organisational learning occurs when individuals within an organisation experience a problematic situation and inquire into

² These focuses are called Collectivity of individual learning, Process or System, Culture and Metaphor, Knowledge Management and Continuous improvement and incremental innovation

it on the organization's behalf. [...] In order to become organisational, the learning that results from organisational inquiry must become embedded in the images of organization held in its members' minds and/or in epistemological artefacts (the maps, memories, and programs) embedded in the organisational environment" [4].

3 "Real-time" Organisational Learning – a conceptual model to intertwine BPM and Reflective Learning theory

3.1 The conceptual model – two different perspectives

As already mentioned in the introduction, organisations have to cope with a rapidly changing business environment nowadays. Therefore, it is very important to constantly enable and support the development and proficiency of their employees. The question is however, how this task can be performed by and for the benefit of an organisation. In general, two different approaches to answer these questions do exist in literature [30]. On the one hand, the problem is regarded from a management perspective, stressing the importance of activities like strategic planning and controlling as well as competence management in order to provide a kind of framework for the daily working environment of the individual employee. On the other hand, there is the perspective of early literature on organisational learning (e.g. [23]), building on the understanding that only individuals can acquire specific skills and knowledge. In this context, organisational learning does occur if the individual is learning and acting on behalf of the organisation [31].

Accordingly, we distinguish in our conceptual model (see Fig. 3), if reflection in the context of BPM leads to a top-down process or a bottom-up process of organisational learning. The bottom-up approach is characterized through the (self-) development of the individual employee, assuming that enhanced individual performance contributes to a better mode of operation within the organisation [32]. However, the experiences concerning the individual performance enhancement must also be communicated within the organisation to contribute to the organisational knowledge base. Accordingly, the learning results have to be embedded into employee's minds and/or in organisational artifacts to become organisational. From our point of view, this embedment takes place through the integration of the learning results into daily business processes and the enclosed working routines and tasks.

However, this bottom-up (individual) perspective is insufficient to explain a target-oriented development of an organisation over time. What is missing are reference functions guiding private adjustments, for example if comparing individual performance and its contribution to the favored performance of the organisation. "Such reference functions are fulfilled by organisational maps, memories and programs" [4], which incorporate work flow diagrams, data bases and procedural specifications of organisational routines for example. Due to the fact that such organisation-wide references can only be created or adapted if harmonized with top-management directives, the authors consider this kind of organisational learning as a top-down approach. The interrelation of these two approaches and the contribution of reflection theory to this model will be explained in the next subsections.

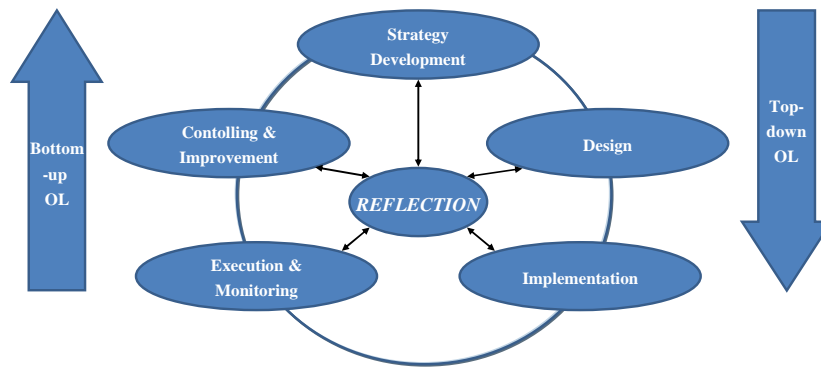


Fig. 3: A conceptual model to intertwine BPM and reflective learning theory

3.2 Top-down Organisational Learning - from Strategy Development to the Implementation of business processes

The challenge in the *Strategy Development* phase of the BPM-Lifecycle (cp. section 2.1) is to align the defined corporate strategy with the (core) business processes of the organisation. Strategy definition is generally top management responsibility. In this context, the management board can reflect systematically on own or others' experiences in order to attain new perspectives or the readiness for strategic decision making (cp. the reflection process as indicated in section 2.2). Reflective learning in this context is initially restricted to the members of the management board. However, the results and implications of the reflection and strategic decision making process need to be established on all levels of an organisation, because the implementation of the defined corporate strategy will fail on the operational level otherwise.

The *Design* phase incorporates two main tasks, the identification and documentation of already existing business processes (as-is-analysis) [33] and the design of favored, future business process models (target processes to-be) [34]. The process of model design is an appropriate activity for reflection. The model designer can re-evaluate systematically his own and others' experiences in order to find new perspectives on and improvement potentials for the respective business process. Furthermore, it is also possible that the model designer starts to reflect while designing a business process, because s/he is confronted with an unexpected situation or problem incidentally. In this context, reflective learning occurs on the individual level of the process designer initially. However, if the improved business processes are implemented in the organisation, every employee contributing work tasks to these business processes as well as the whole organisation can benefit from these improved models. With regard to the concrete work tasks of employees, the improved process models can be seen as a top-down specification of individual working procedures.

After the design of business processes is finished, these processes need to be *implemented* within the organisation in order to execute them in day-to-day business. Reflection in this context can help the organisation to prepare for a smooth integration of the designed business processes into daily working routines. By re-evaluating past experiences systematically, e.g. about already occurred problems

while transforming process models into more technical models executable in information systems, some implementation obstacles may be prevented. Furthermore, it could also be very beneficial to anticipate possible future circumstances which might influence or even prohibit the implementation of business processes (e.g. restrictions due to laws, etc.). *The implementation* of business processes is the continuation of the *Design phase* activities, assuring the actual incorporation of the top-down specified working procedures into the organisation. Therefore, also these activities conducted during the Implementation phase of the BPM lifecycle contribute to a top-down approach of organisational learning.

3.3 Bottom-up Organisational Learning – from process Execution to process Improvement

Once the business processes are implemented into the organisation, they can be *executed* in daily business. Depending on the available IT systems and the respective level of automation, this execution can be monitored, for example by examining the work progress regularly. Concerning the execution of business processes, two possibilities for reflection can be identified. On the one hand, an employee can reflect on his everyday thinking and acting while executing business processes in order to evaluate and improve the daily working routines. On the other hand, it is also possible to re-evaluate others' experiences systematically, aiming to improve the own way of executing business processes. As mentioned above, it is also possible to monitor current business processes in progress. In this context, deviations from normal conditions and exceptional circumstances should be disclosed as soon as possible in order to enable the employee executing or monitoring the respective business process to react directly and in an adequate manner. Reflection on this current (maybe incidental) experience can help an employee to cope with such incidents and unexpected events by evaluating appropriate reactions. From a learning point of view, the reflective processes described above lead primarily to a learning of the individual employee. However, by communicating concrete results and improvement potentials concerning specific business processes, this individual learning can be transferred to the organisational level. Accordingly, the described learning activities in the Execution & Monitoring phase of the BPM lifecycle can be classified as bottom-up organisational learning.

The *Controlling & Improvement* phase of the BPM-lifecycle deals with the analysis of aggregated data about multiple, already completed process instances [35]. For this analysis, it is necessary to gather and aggregate information about the respective processes. Afterwards, deviations between actual and favored performance parameters can be analyzed in order to identify improvement potentials. While analysing and interpreting aggregated process data, a process manager or owner can reflect systematically about these past experiences in order to gain new insights on current working routines and develop some alternatives to change organisational business processes and behaviour subsequently. Graphical representations of relevant information about the finished business processes (e.g. diagrams and dashboards) can support the reflective process reasonably. Organisational learning in this context occurs on an individual level (process owner or manager) initially, based on the

experiences from many executed process instances and the respective employees involved in these business processes. However, this individual learning can be transferred to the organisational level while discussing and considering the underlying improvement potentials in the next *Strategy Development* and *Design* phase of the BPM lifecycle respectively, thereby closing the loop between the bottom-up and the top-down approach of organisational learning.

4 Discussion of the model

The authors consider BPM and its possible interrelation with reflective learning theory as a very promising approach to support organisational learning for several reasons. As already outlined in section 2.3, organisational learning in this paper is defined as the improvement of an organisation's task performance over time, including the learning to change the values that define 'improvement'. The tasks within an organisation can be broken down to individual work steps which, in their collectivity constitute the business processes of this organisation. Thus, every work step can be interpreted as a part of a business process since it has a specific output. Learning interprocesses in this context occur, if individuals, teams or whole organisations - represented by their decision-makers - reflect about single and several work steps respectively as well as whole business processes and their interdependencies in order to improve them. Improvement in this context means an optimized value creation in accordance with the organisations' objectives. Accordingly, the BPM approach is seen as key concept to provide the necessary flexibility and adaptability to achieve competitive advantages which are required to adjust to a competitive and fast-changing environment in order to ensure the survival of the organisation, which is the main idea behind the concept of organisational learning (cp. section 2.3)

Another shortcoming mentioned in the context of existing organisational learning theory was that it emphasizes the learning of individuals instead of concentrating on the learning of organisations. Most approaches just transfer methods and concepts of individual learning to the organisational level. Accordingly, there is a lack of conceptualization stated concerning the actual translation of learning by individuals into the learning of organisations (cp. section 2.3). The conceptual model presented in this paper is based on solid results of BPM research. BPM as a management approach is strongly focussed on an organisational point of view. However, "traditional" BPM approaches often neglect the contribution of the individual employee, whose skills, experience and knowledge influence the value added through a business process significantly (cp. Section 2.1). Accordingly, the authors propose to support also the so-called bottom-up organisational learning approach in order to utilize the innovation potential of the individual employee thereby complementing the 'traditional' top-down approach of BPM. Furthermore, this view also fits to another implication derived from organisational learning research, stating that there is a constant interaction between individual and organisational learning processes. The learning process at an organisational level can be seen as structural changes which in turn affect the individual level and the subsequent individual learning processes. These structural changes are implemented via the Design and

Implementation phase of the BPM lifecycle into the organisation through modified business processes as explained in section 3.2.

Furthermore, it was mentioned that continuous improvement is a prerequisite for organisational learning and that incremental changes need to be complemented by more radical innovations in order to achieve sustained competitive advantage of an organisation over time (cp. section 2.3). By constantly questioning products, processes and systems, such innovations should be enabled. The conceptual model presented in this paper enables such a continuous improvement of (business) processes and systems over time by repeatedly passing through the BPM lifecycle and utilizing the concept of reflection to re-evaluate ("questioning") own and others experiences in the different phases. Furthermore, the CPI approach does not exclude the BPR approach (cp. section 2.1) which can be used to implement more radical changes in an organisation if feasible and necessary.

Last but not least, it was stated in section 2.3 that learning results have to be embedded into its member's minds and/or in organisational artifacts in order to become organisational. From our point of view, this embedment takes place through the integration of the learning results into daily business processes and the enclosed working routines and tasks. Due to the fact that such organisation-wide references can only be created or adapted if harmonized with top-management directives, this point of view is defined as top-down approach of organisational learning in the conceptual model presented - the documented business process models are such organisational artifacts actually.

5 Summary and Conclusion

In this paper, a conceptual model to enhance traditional, top-down focused BPM approaches with insights from reflection and reflective learning theory is presented in order to converge to a kind of "real-time" organisational learning. Based on theoretical findings from the respective research areas, possibilities for reflective learning with regard to different phases of a BPM-lifecycle are discussed. Furthermore it is explained how these reflective activities can contribute to organisational learning – either from a top-down or from a bottom-up perspective. The authors consider BPM and its possible interrelation with reflective learning theory as a very promising approach to support organisational learning, because re-evaluating ("questioning") own and others experiences with regard to business processes facilitates innovations in as well as a continuous improvement of organisations. While traditional BPM literature holds a more "mechanistic" view, focusing on top-down specified business processes and the resources needed for their execution thereby disregarding the contribution of the individual employee, the model proposed in this paper explicitly addresses also the bottom-up perspective of organisational learning, trying to utilize individual skills, experiences and knowledge to influence the value added through a business process.

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