Considering Context in Business Process Management: The BPM Context Framework

Abstract: In this note, we want to make the point that BPM needs to consider the context of a BPM initiative much more than is currently being done. The management of processes in organizations has moved from managing production processes to managing administrative processes, and today there is a need (and a chance) to move beyond incremental improvement of processes towards their complete innovation, particularly through digital technology. The methods used for process management, however, have not followed these developments, and they are essentially the same ones that were developed twenty years ago to streamline operational processes. We find that this causes two important problems: (1) the failure of BPM projects, as methods are used that do not fit the relevant context, and (2) the organizational renunciation of BPM in order to avoid such failure. However, we also find that BPM could successfully meet a variety of contemporary challenges. But in order to leverage this potential, BPM needs to be more sensitive towards the relevant context of its application. For this purpose, we recently developed a contextual framework to help identify and discuss relevant contextual factors and to develop skills and methods that are context-sensitive. It is referred to as the BPM Context Framework. We will introduce the BPM Context Framework in this note and show how it can be applied in BPM practice. The context factors of the BPM Context Framework can be enhanced through additional factors, and we invite everybody to engage in this discussion to help BPM become more context-sensitive and to increase the efficiency and effectiveness of BPM practices.

Introduction
While many methods of BPM have been developed, their application as general BPM methods creates difficulties because BPM methods are typically designed for a specific purpose only. Usually, BPM strives towards ensuring compliance, process standardization, and automation. The processes that are improved are mainly structured or semi-structured processes that are supported through information systems. However, today, the application fields of BPM have been broadened to also include unstructured, knowledge-intensive processes (Davenport, 2015; Isik, Mertens, van den Bergh, 2013; Eppler, Seifried, & Röpnack, 2008) with the aim to not only standardize and automate processes but also to innovate them (vom Brocke & Schmiedel, 2015).
The extension of BPM to further business contexts leads to a variety of new requirements regarding BPM methods and practices, which the current BPM body of knowledge does not sufficiently cover. Today, there is still a high failure rate of BPM projects, which stimulates research on the success factors of BPM (Trkman, 2010; Ravesteyn & Batenburg, 2010). One of the principles that we recently identified as critical for successful BPM is the principle of context awareness (vom Brocke et al., 2014). It emphasizes that successful BPM requires considering the given organizational setting of a BPM project. To do so, practitioners must be able to identify relevant contextual factors in order to understand the context in which a BPM initiative takes place.

Unfortunately, there is no common understanding of the contextual factors of BPM, which makes it difficult for practitioners to identify and consider relevant contextual factors in their BPM initiatives. Therefore, we recently started working on developing such a framework that can help practitioners to understand the context of their BPM case and to deploy a relevant BPM solution for the given situation (vom Brocke, Zelt, & Schmiedel, 2015).

In this note, we would like to share our view of BPM context, which consists of factors that differ both between organizations (such as size, industry, and market) and within organizations (such as process type). Because context awareness enables BPM initiatives to be adapted to the situation and to truly create value, the effectiveness and efficiency of BPM initiatives in organizations can be increased by developing a contextual perspective in BPM.

Towards a Framework of Context Factors in BPM: Introducing the BPM Context Framework
The context factors of BPM, which we introduce next, have been derived based on a literature review and based on our experience in the field of BPM (see original paper by vom Brocke, et al., 2015). The framework that includes these factors is displayed in table 1.
Table 1: The BPM Context Framework: A Morphological Box to Identify the Context of a BPM Project

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**Goal-dimension**

The first contextual factor in the BPM Context Framework is the goal an organization pursues when implementing process management practices. Goals that are frequently distinguished in BPM are exploitation and exploration (Rosemann, 2014; Benner & Tushman, 2003; vom Brocke, Seidel, & Tumbas, 2015). While exploitation-oriented BPM attempts to increase process efficiency and effectiveness through established tools and management approaches of BPM, exploration-oriented BPM
focuses on innovating processes, services, products, and business models through creative techniques (Rosemann, 2014).

As goals influence how BPM should be implemented or which tools and techniques should be applied, we consider them as an important context factor. Appropriate approaches in exploitation-oriented BPM focus on operational excellence and incremental improvements, such as quality management approaches, reference modelling, process integration, and compliance (Rosemann, 2014). These traditional approaches are less likely to increase organizational effectiveness in situations where innovation is pursued (Benner & Tushman, 2003). In such exploration-oriented BPM situations, creative management approaches are more appropriate, such as design thinking, open innovation, or product innovation (Rosemann, 2014).

BPM has to be able to support both exploitation and exploration, which is why colleagues have also coined the term “ambidextrous BPM” (Rosemann, 2015). Apart from the goal-dimension, further factors need to be taken into account to optimally tailor a context-sensitive BPM approach. Such an approach can be called “multi-dextrous BPM,” which has been described as an approach that first specifically understands the context of BPM and then tailors a portfolio of BPM practices that best fit this context (vom Brocke, 2016).

**Process-dimension**

BPM today is no longer applied only to structured, transactional processes (Feitzinger & Lee, 1997) but has increased its scope to also include optimizing and innovating human-centric or knowledge work processes (Davenport, 2013, 2015; Eppler et al., 2008), artistic processes (Hall & Johnson, 2009), and creative processes (Seidel et al., 2015).

The so-called knowledge-intensive business processes contain the transfer of knowledge between process participants and require human judgment (Isik et al., 2013; Gronau, Müller, & Korf, 2005). Due to their unpredictable decisions or tasks, their iterative and often collaborative nature, knowledge-intensive business processes can only partially be mapped by conventional process models (Gronau et al., 2005), and traditional methods for process measurement and improvement seem to be inappropriate (Davenport, 2013, 2015; Gronau et al., 2005; Dalmaris, Tsui, Hall, & Smith, 2007).

Similarly, creative processes such as software development or the creation of marketing campaigns demand more flexibility, autonomy, personal judgment, and low levels of structure (Hall & Johnston, 2009; Seidel et al., 2015). Consequently, the management of processes and their underlying supporting information technology (e.g., ERP system) needs to be adapted to fit the specific process characteristics (Wang, Lin, Jiang, & Klein, 2007).

Therefore, BPM approaches have to be tailored to the type of process under investigation. Besides knowledge-intensity or creativity-intensity, there are many other process characteristics that have an influence on the effectiveness of process management practices, such as the degree of value contribution (Leymann & Roller, 2000; Ould, 1995; Gibb, Buchanan, & Shah, 2006), the repetitiveness of a process (Leymann & Roller, 2000; Tenhiälä, 2011), the interdependence of process participants (Davenport, 2015; Tenhiälä, 2011), and the process variability (Gebauer & Lee, 2008; Daft & Lengel, 1986).
Organization-dimension

Another important context factor for BPM is the set of characteristics of the organization in which BPM is applied (Morton & Hu, 2008; Roeser & Kern, 2015). Not all BPM initiatives refer to intra-organizational processes but also to processes crossing organizational boundaries. In some situations, it is important to also control customer processes (Trkman, Mertens, Viaene, & Gemmel, 2015) or even whole supply chains (Palma-Mendoza & Neailey, 2015; Palma-Mendoza, Neailey, & Roy, 2014). The increased complexity in inter-organizational processes needs to be addressed through methodologies that focus on the sharing of information, the coordination of physical goods flows, and the integration of business processes (Palma-Mendoza & Neailey, 2015; Palma-Mendoza et al., 2014; Trkman et al., 2015).

In addition, organizational size plays an important role for BPM. Bigger organizations should be designed in a way that they include vertical and horizontal differentiation (Donaldson, 2001). Large organizations should focus more on BPM practices for formalized processes that cross vertical and horizontal functions than smaller firms. Thus, the organizational size also influences business processes in terms of their design and degree of formalization.

BPM has also been applied in various industries (Reijers, 2003; Benner & Tushman, 2003; Jayaram et al., 2010), but the same BPM practices might not be equally effective in all industries (Skrinjar & Trkman, 2013; Roeser & Kern, 2015). This industry differentiation can also be observed in BPM practice such as IBM® offering Business Process Manager Industry Packs, or APQC offering industry specific business benchmarking for process performance indicators, best practices, and knowledge management research.

Also, cultural values of organizations determine the success of BPM approaches (Schmiedel, vom Brocke, & Recker, 2013, 2014). When cultural values such as customer orientation, excellence, teamwork, and responsibility are highly present in organizations, BPM initiatives are likely to succeed (Schmiedel et al., 2013, 2014). If they are hardly present, however, organizations should first attempt to increase their presence before planning any BPM initiative. Similarly, in a culture that is open for change, agile methodologies are appropriate means, while classical planning approaches seem to be more appropriate for a culture that values continuity (Thiemich & Puhlmann, 2013).

A last organizational factor, which we identified as an important context factor for BPM, refers to organizational resources. In order to implement BPM, an organization needs to free the necessary resources such as personnel and investments in information technology. As an example, Niehaves (2010) found that resource scarcity restricts the involvement of customers and, thus, BPM-related collaboration and innovation.

Environment-dimension

Environmental context factors include characteristics of the market and higher socio-cultural or political factors. Rapidly changing environments increase the need of an organization to purposefully create, extend, or modify its resource base (Helfat et al., 2009). In turbulent environments, traditional process management approaches are
not appropriate (Benner & Tushman, 2003; Borch & Batalden, 2015). Instead, it is important to build additional capacities and competencies such as broader cooperation and stakeholder management, to focus on improving change and risk management, to strengthen analytical or research capabilities, and to foster open innovation (Borch & Batalden, 2015). In BPM practice, more flexible, goal-oriented approaches should be applied, and processes should be organized around “what is to be achieved” rather than “what is to be done” (TIBCO, 2015; MACROnetics, 2015).

Organizations must also align their strategy and structure with the competitive environment (Rogers, Miller, & Judge, 1999). In time-sensitive and competitive industries, the implementation of information technology to support organizational processes is particularly helpful to reduce cycle time, improve inventory management, and increase customer satisfaction (Kraemer et al., 2000). Especially for core processes, environmental factors should be considered as they often offer differentiation opportunities in the market (Gibb et al., 2006).

**Using the BPM Context Framework in Practice: Two Steps**

Using the BPM Context Framework follows two steps: first, the context of a BPM project is described; then, the most suitable BPM approach is derived. We illustrate both steps next. For more details see vom Brocke et al. (2015).

**Step 1: Describing the context of a BPM project**

Before adapting BPM to the context in which an initiative takes place, it is crucial to understand and describe the BPM context. In this step, the BPM Context Framework can be used to structure the discussions between BPM project members, to identify relevant context factors, and to develop a comprehensive perspective of the BPM context.

As an example, we can think of a large, global corporation that provides technology and services for the engineering industry. The company may aim at standardizing their customer support process and related data structures supported by a global ERP solution. By using the BPM Context Framework, project members can classify the goal of the BPM initiative (exploitation) and specify the nature of the process that the project focuses on (e.g., repetitive, support process, with low knowledge-intensity, low creativity, low interdependence, and low variability). In addition, the BPM Context Framework also helps project members to think about organizational and environmental factors relevant to the BPM project. In this case, the organization looks at an intra-organizational process in the product and service industry. Additionally, the availability of resources for investment to globally standardize the process is quite high. When discussing the culture, the project team found that the organizational culture is non-supportive of BPM and requires special attention. In this example, the environment is classified as medium competitive with a medium level of uncertainty. The resulting description of the BPM context is displayed in table 2.
Table 2: Application of the BPM Context Framework: Describing the Context of a BPM Project

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Step 2: Deriving a suitable BPM approach

**Goal-dimension:** After the project team identifies and understands the context of the BPM project, it needs to derive an appropriate BPM approach. As the goal of the BPM initiative in our example focuses primarily on exploitation, traditional BPM
methods such as process analysis, re-design, and the development of a standardized data structure seem appropriate. If the goal were innovation and the implementation of a new technology, BPM methods for the process re-design phase such as design thinking would have been more appropriate than extensively measuring and analyzing the as-is process performance.

**Process-dimension:** From the process characteristics, we can derive further management recommendations. The BPM project in our example focuses on a structured, repetitive support process. This type of process does not need to be managed with high levels of flexibility. Instead, efficiency and standardization of the process execution are more important. Therefore, a global process with low levels of local deviation and with KPI’s that focus on efficiency measurements would suit the given context well. If the process were a knowledge-intensive core process (e.g. product development), the participation of many process stakeholders in the process design would have been particularly crucial (Davenport, 2015). Additionally, in such a case, we would have to ensure that process participants would have enough flexibility in executing the process, and we would have to enhance the information processing capabilities of process participants, e.g. through knowledge management systems. In the given case, however, process execution should be standardized and driven by KPIs focusing on customer satisfaction.

**Organization-dimension:** In the given example, the organization faces cultural challenges at the start of their BPM initiative, which is why the project team ought to focus on the development of the right corporate culture early in the project. Because of the large size of the organization, there is a need to discuss and define the segregation of duties and to create process documentations that can be sent out to all relevant stakeholders. While documenting the process is also important for smaller organizations, the amount of formalization and detail required in documentation can be smaller in these cases because small organizations have less organizational complexity and less resources.

**Environment-dimension:** In the exemplary BPM project, it is not critical to design processes that are easily adaptable because the environment is characterized by only medium uncertainty. In other cases, however, this might be more important and could be reached through the definition of flexible roles and authorization concepts. Higher flexibility would also be required if the environment were highly competitive. Then, it would be especially important to involve customers as much as possible into the process design to ensure process excellence and a process that is distinct from competitors.

The example illustrates how critical the consideration of context factors is in deriving an appropriate BPM approach. It also shows that prior contributions to the BPM body of knowledge implicitly focused on a specific context that was predominant when these methods were developed. We tend to struggle with the less conventional contexts of BPM because in these contexts there is a lack of methods that can be applied. In this regard, the BPM Context Framework can inform future research to develop new methods (and extend existing ones) suitable for new contexts. Potentially, more effective methods could be designed, for example, for exploration, management processes, non-repetitive processes, knowledge-intensive processes, and creative processes of high variability and interdependence.
Summing Up – Lessons Learned

For BPM to be effective, context factors need to be taken into consideration. A first step in every BPM initiative should therefore be the identification of the context in which BPM is to be applied. This analysis can be conducted with the help of the BPM Context Framework that we have presented in this note. The framework introduces contextual factors related to the goal of BPM, the characteristics of the process, the organization, and the environment and can help to structure discussions and the identification of critical contextual factors. Once the situation is understood, context-sensitive BPM practices should be selected and applied. While we present some examples for context-sensitive BPM practices, these examples should be enhanced through the development of more context-sensitive BPM practices.

In general, ignoring contextual factors is considered as one of the major reasons why many BPM initiatives today fail and why BPM is increasingly perceived as inappropriate in a number of contemporary business challenges. By further developing the BPM body of knowledge to account for a broader and more diverse set of application areas, we are confident that BPM can retain its position as a highly relevant field to help organizations leverage business value through information technology. This core contribution of BPM is more relevant than ever in today’s era of digital innovation and transformation. We hope that context-aware BPM can help extend existing BPM knowledge and contribute to contemporary, pressing challenges in business and society.

References


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