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From zero to hero: ramp-up management as a new cross-cutting business process management capability

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Abstract

Changing business environments challenge and motivate organizations to transform. To remain competitive, organizations need to embrace these dynamics and make radical changes to how work is performed. Business process management (BPM) as a holistic management discipline offers mature methods and end-to-end management activities. However, it is subject to the tension between stability and change. While change through the improvement of existing business processes is well understood, the implementation and scaling of novel business processes have been neglected in BPM research. Hence, this paper proposes business process ramp-up management (BPRUM) as a new cross-cutting capability area for contemporary and future BPM and explores relevant sub-capabilities. Our work synthesizes insights from an exploratory interview study with 21 subject matter experts to advance the understanding of BPM as a corporate capability regarding the implementation and scaling of novel processes. As a result, this study illustrates how BPRUM adds to modern BPM and presents 40 action-oriented sub-capabilities that provide hands-on knowledge and practical guidance for effective BPRUM. Thereby, it serves as a foundation for further theorizing on process ramp-up and for structuring discussions among BPM practitioners.

Keywords Business process management · Capability development · Interview study · Organizational change · Process ramp-up

1 Introduction

The business world is currently facing a period of unprecedented change, with new technologies, market turbulence, and shifts in consumer behavior presenting challenges and opportunities for organizations of all sizes (Beverungen et al. 2021; van

Looy 2021). Exogenous shocks, e.g., through the COVID-19 pandemic and the Russia-Ukraine war, cause additional disruptions (Röglinger et al. 2022). In order to thrive in such an environment, organizations must be able to adapt to new circumstances quickly and effectively (Baiyere et al. 2020; Stelzl et al. 2020). They are forced to transform their business models, strategies, products, and services which often requires making radical changes to the way work is performed (Grisold et al. 2019; Gross et al. 2021). Hence, the successful implementation and scaling of novel business processes is crucial for organizations seeking to improve their operational efficiency and competitiveness (Grisold et al. 2021). The associated business process ramp-up, i.e., the operational implementation of novel processes following the process design as well as their quantitative and qualitative scaling, often involves radically rethinking existing systems and structures, which can be disruptive and difficult to manage (Gross et al. 2019).

Business Process Management (BPM) drives corporate success through effective and efficient business processes. As the organizational capability of overseeing how work is performed to ensure consistent outcomes and to take advantage of improvement opportunities (Dumas et al. 2018; van der Aalst 2013), BPM offers mature methods and tools for all phases of the BPM lifecycle (Recker and Mendling 2016). Typically, BPM practices focus on repetitive transactional process performance rather than rapid transformational change (Bandara et al. 2021; Rosemann 2014). In the light of the socio-technical changes brought about by digitalization, new approaches increasingly consider process change (Gross et al. 2019). In this context, BPM aims to drive intentional process change, e.g., through continuous process improvement or reengineering of existing processes (Hammer 2015) or rapid process redesign (Rosemann 2018), and seeks to support organizations in dealing with unintended process change, e.g., caused by disruption (Mendling et al. 2020; Röglinger et al. 2022), process deviance (König et al. 2019), or process drift (Pentland et al. 2020). These fields of research mainly focus on the improvement of existing processes and do not consider novel ones. This is also reflected by concepts such as process agility, i.e., flexibility by deviation, and process resilience, i.e., flexibility by design, which refer to existing process flows (Rosemann 2020; Schonenberg et al. 2008). Recent research on explorative BPM considers the design of novel business processes but neglects the act of implementation and scaling (Rosemann 2020; Grisold et al. 2019; Grisold et al. 2021).

The prevailing focus on existing processes and process design is also reflected by the pertinent literature structuring BPM through capability frameworks by identifying and categorizing the most relevant capability areas for the successful implementation of process orientation in organizations (de Bruin and Rosemann 2007; Kerpedzhiev et al. 2021; Poepelbuss et al. 2015; van Looy et al. 2022). Only recently, Kerpedzhiev et al. (2021) updated the well-established framework by de Bruin and Rosemann (2007) for future-oriented BPM in view of digitalization. It includes 30 capability areas structured along the six core elements of BPM (i.e., Strategic Alignment, Governance, Methods, Information Technology (IT), People, and Culture) (Rosemann and vom Brocke 2015). While this work newly considers agile and transformational process improvement, it falls short in considering the implementation of novel business processes. Against this backdrop, we presume that a new cross-cutting BPM

capability area dedicated to business process ramp-up management (BPRUM) and spanning all of the six core elements of BPM is needed to account for the omnipresent need for organizations to adapt to radical change. This capability area complements approaches based on agile BPM and dynamic capabilities in the BPM lifecycle, which are primarily concerned with the ongoing evolution of processes in dynamic environments (Badakhshan et al. 2019; Bernardo et al. 2017; Teece 2007). In line with recent research asking to challenge and update existing capability frameworks and their capability areas (Kerpedzhiev et al. 2021; Rosemann 2014; van der Aalst 2013), we pose our twofold research question as follows: *How does BPRUM add to modern BPM capability areas and what are its sub-capabilities?*

We answer this research question by performing an exploratory in-depth interview study (Schultze and Avital 2011), conducting 21 interviews with subject matter experts from different organizations of various sizes (i.e., from start-ups to international large-size enterprises) and industries (e.g., software, technology, and logistics). Drawing on our insights, we first elaborate on the nature of business process ramp-up and identify seven characteristics that distinguish it from established BPM phenomena. Our primary contribution is the introduction of BPRUM as a new capability area for contemporary and future BPM, accompanied by 40 action-oriented sub-capabilities that provide hands-on knowledge and practical tools for effective BPRUM. With our results, we advance the understanding of BPM as a corporate capability by including the perspective of ramping up novel business processes and stimulate further theorizing on business process ramp-up. In addition, we support BPM practitioners in structuring strategic discussions on BPRUM as well as in actively monitoring and managing current business process ramp-up initiatives.

The remainder of the paper is structured as follows: In Sect. 2 we provide the theoretical background on BPM and BPRUM. In Sect. 3 we describe our research design, before presenting our results in Sect. 4. In Sect. 5 we discuss our results and give theoretical as well as practical implications. We conclude our paper by pointing out limitations and avenues for future research in Sect. 6.

2 Theoretical background

Increasingly rapid, frequent, and radical changes of the business environment challenge organizations to respond in new ways (Li et al. 2022; Seetharaman 2020). To remain competitive in the face of such dynamics, organizations are often required to perform work in an entirely new form. For instance, the COVID-19 pandemic required public institutions and healthcare providers to quickly ramp-up drivethrough testing, contact tracing, and telemedicine processes. Businesses had to quickly react to collapsing supply chains, establish social distancing measures, and find new means for remote work and collaboration (Dwivedi et al. 2020; van Looy 2021). In a business world that is becoming increasingly volatile, uncertain, complex, ambiguous, and hyperconnected (Beverungen et al. 2021; World Economic Forum 2016), implementing novel processes as well as scaling them to steady-state operations become an important organizational quality to flexibly respond to change.

In the BPM literature, process change is differentiated in terms of intentionality (i.e., intentional or unintentional) and degree of change (i.e., incremental or radical) (Röglinger et al. 2022). BPM strives for efficient and effective execution and the continuous management of business processes as well as for the development of organizations' BPM capability (Kerpedzhiev et al. 2021; vom Brocke and Rosemann 2015). Thus, the majority of BPM approaches is primarily focused on stability and planned improvement of the status quo (Benner and Tushman 2003; Hammer 2015). This is in line with the analysis of Gross et al. (2019) highlighting a strong focus of BPM methods in the analytical-transactional quadrant of the redesign orbit (Dumas et al. 2018). A recent more creative-transformational method is for example the NESTT-method by Rosemann (2018). Hence, unintentional process change has only recently been brought into focus, inter alia, in the form of (incremental) process drift (Pentland et al. 2020) and as a (radical) consequence of exogenous shocks (Röglinger et al. 2022). In contrast, intentional process change can be traced back to the roots of BPM. As such, continuous process improvement (Davenport 1997) implies incremental change and business process reengineering deals with radical change (Hammer and Champy 1994). The literature on ambidextrous BPM acknowledges the dichotomy between radical and incremental process change, which are conceptualized as process exploration (i.e., radical and opportunity-driven) and exploitation (i.e., incremental and problem-driven) respectively (Grisold et al. 2019; Rosemann 2014; Stelzl et al. 2020). Explorative BPM considers that operational efficiency is no longer sufficient when disruptive forces can undermine the value proposition of entire processes. Consequently, explorative BPM involves identifying opportunities from business and technology trends and incorporating them into processes with novel value propositions (Grisold et al. 2021; Rosemann 2020). This also implies the identification and design of novel business processes. However, existing work on explorative BPM particularly focuses on methods and tools seeking new process designs (Grisold et al. 2021). The implementation and scaling of the intended business processes as well as novel processes in response to unintentional radical change have not yet been in the focus of research.

BPM has a strong link to capability development. BPM itself is an enterprise-level capability for ensuring effective and efficient business processes (de Bruin and Rosemann 2007). In this regard, it comprises the skills required to implement incremental and radical process change as well as to execute business processes (Poepelbuss et al. 2015). Capability frameworks have emerged as a valuable tool to identify and structure the capability areas that are most relevant for the successful implementation of process orientation in an organization (de Bruin and Rosemann 2007; Kerpedzhiev et al. 2021; Poepelbuss et al. 2015; Rosemann and vom Brocke 2015; van Looy 2020). One of the most frequently adopted BPM capability frameworks is that of de Bruin and Rosemann (2007), which groups 30 different capability areas according to the six core elements of BPM (i.e., Strategic Alignment, Governance, Methods, IT, People, and Culture). In the light of the challenges brought about by digitalization, Kerpedzhiev et al. (2021) recently presented an updated version of the BPM capability framework. This work specifically addresses the need for new capability areas related to process improvement and socio-technical change. The capability area *Change Centricity* pertaining to the core element Culture includes continuous

change by challenging established processes as well as by involving fast trial-and-error approaches for process design and improvement in the style of innovation management. Further, related to the core element Methods/IT, *Agile Process Improvement* describes fast and iterative improvement of business processes and data-based evaluation of new process designs. Likewise, *Transformational Process Improvement* includes the large-scale reengineering of business processes to leverage technological opportunities, including the realization of process changes (Kerpedzhiev et al. 2021). Considering the hitherto focus on the relation of change and process improvement, additional BPM capabilities are required to accommodate radical change through novel processes across all core elements (Röglinger et al. 2022).

Figure 1 illustrates the updated BPM capability framework based on the seminal works of de Bruin and Rosemann (2007) and Kerpedzhiev et al. (2021), with BPRUM as a new cross-cutting BPM capability area. BPRUM comprises the skills and practical tools needed for the integrated implementation and scaling of novel business processes across all core elements. It presents a starting point in modern BPM capability development to specifically account for entirely new conditions of tomorrow's BPM that may require a cross-cutting scope and may also partly take up on and newly orchestrate aspects of existing capability areas. This is the case for the implementation and scaling of novel processes in an environment characterized by the omnipresent need of organizations to manage (un)intentional radical change.

We define BPRUM as the integrated management of the implementation of novel processes from concept to reality and of their quantitative and qualitative scaling until the completed transition to steady-state operations. Depending on the context, quantitative scaling may be related to parameters such as the number of users, process instances per time unit, or the total number of process executions. The qualitative counterpart describes the extension of possible process paths and associated functionalities, either pre-planned, through trial-and-error, or through deviation (Akkermans et al. 2019; Glock and Grosse 2015; Surbier et al. 2014). Terms like

Strategic Alignment	Governance	Methods / Information Technology		People	Culture
Strategic BPM Alignment	Contextual BPM Governance	Process Context Management	Multi-purpose Process Design	BPM and Process Literacy	Process Centricity
Strategic Process Alignment	Contextual Process Governance	Process Compliance Management	Advanced Process Automation	Data Literacy	Evidence Centricity
Process Positioning	Process Architecture Governance	Process Architecture Management	Adaptive Process Execution	Innovation Literacy	Change Centricity
Process Customer and Stakeholder Alignment	Process Data Governance	Process Data Analytics	Agile Process Improvement	Customer Literacy	Customer Centricity
Process Portfolio Management	Roles and Responsibilities	BPM Platform Integration	Transformational Process Improvement	Digital Literacy	Employee Centricity
Business Process Ramp-Up Management					

Fig. 1 Updated BPM capability framework (based on de Bruin and Rosemann (2007) and Kerpedzhiev et al. (2021))

“start-up”, “launch”, “deployment”, and “roll-out” are sometimes used interchangeably for “ramp-up” to denote the same or related activities depending on the context (Akkermans et al. 2019; Surbier et al. 2014). The above notion goes beyond existing methods and tools that support and enable consistent activities along the BPM lifecycle (Dumas et al. 2018; Macedo de Morais et al. 2014). The lifecycle approach emphasizes the continuous management of existing processes, where activities such as process redesign tend to be understood in static terms (i.e., the design and specification of processes) and the implementation and enactment tend to be understood in technical terms (i.e., the technical realization and integration into configured execution systems) (Macedo de Morais et al. 2014). BPRUM brings the dynamic implementation and scaling of novel processes in terms of radical change onto the map of BPM literature, enhancing existing work on incorporating dynamic capabilities in the BPM lifecycle (Bernardo et al. 2017; Teece 2007).

3 Research design

3.1 Data collection

We conducted an in-depth interview study to gain a profound understanding of BPRUM and its sub-capabilities as a novel concept in the context of BPM capabilities (Myers and Newman 2007). Specifically, we investigated how BPRUM adds to modern BPM capability areas and which sub-capabilities make for its integrated approach by synthesizing frontline industrial insights from subject matter experts. In doing so, we follow an established approach to BPM capability development (Baumbach et al. 2020; de Bruin and Rosemann 2007). We identified 21 interview partners (IPs) from 19 different companies, each with four or more years of professional experience, and a lead role in one or more specific business process ramp-up initiatives using purposive sampling (Etikan et al. 2016). The business process ramp-up cases investigated represent a wide range of different initiatives. For instance, we discussed the first implementation and ramp-up of a purchasing process in a medtech start-up (i.e., the initial implementation of any processual steps and the beginning of formalization in the organization with high ambiguities and gradual increase in the number of executions). In another case, we explored the ramp-up of a novel sales process of an international petroleum company for a completely new energy class. Accordingly, the IPs are considered subject matter experts from various organizational contexts (i.e., industries, company sizes, roles, and process types) which allowed us to accommodate the diversity of the BPM field as well as to explore BPRUM characteristics and sub-capabilities in different settings (please refer to the [Appendix](#) for more details). We closed the data collection after 21 interviews as no new subjects were added and the aspects mentioned were increasingly repetitive (Nelson 2016).

We followed a semi-structured interview format (Myers and Newman 2007; Schultze and Avital 2011) consisting of three parts: First, we created a shared understanding of business process ramp-up on the basis of which we determined and specified exemplary business process ramp-up initiatives from the IP’s experience. Second, we asked the interviewees to openly elaborate on the respective business process ramp-

up initiatives' approach and objectives, characteristics, overall challenges, specific obstacles, and possible solutions. Third, we systematically discussed the constantly evolving characteristics and subcapabilities of BPRUM triangulated from related literature and previous interviews in terms of understandability, completeness, consistency, level of detail, and applicability (Sonnenberg and vom Broeke 2012). To generate rich data and account for the explorative nature of our study, we mainly posed open-ended questions and encouraged the IPs to share open thoughts and provide feedback from personal practical experience and specific use cases (Myers and Newman 2007; Schultze and Avital 2011). The interviews were conducted over a 12-week period and lasted approximately 60 min each which resulted in 1107 min of interview material that was recorded, transcribed, and subsequently analyzed.

3.2 Data analysis

For data analysis, we started with transcribing all interviews before using MAXQDA for coding. We adopted a well-established three-step coding and analysis process based on grounded theory analysis techniques (i.e., open, axial, and selective coding) (Corbin and Strauss 1990) to iteratively synthesize our observations and develop the results. Figure 2 summarizes our research approach.

First, one co-author started with (I) *open coding* and assigned descriptive codes to interview statements without imposing predefined categories from theory (Saldaña 2013). This coding round resulted in 687 codes and five broad categories related to business process ramp-up characteristics and practices. We added explanatory comments where necessary to make complex codes comprehensible. Second, we used (II) *axial coding* to identify interrelations between (sub-)categories, aggregate existing concepts, and substantiate their properties. In four face-to-face coding workshops, the author team discussed emerging links and aligned newly formed insights with the theoretical considerations from pertinent literature. This step led to a collection of distinguishing characteristics of business process ramp-up and an initial set of 164 indicators of subcapabilities of BPRUM. We drew on the six core elements of

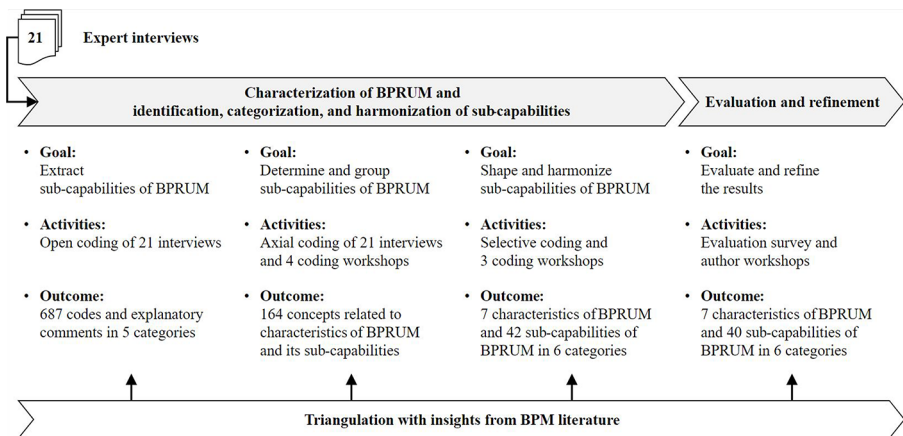


Fig. 2 Research approach

BPM (i.e., Strategic Alignment, Governance, Methods, IT, People, and Culture) as structuring element for the sub-capabilities during this stage to cross-reference our thoughts with established BPM concepts (Kerpedzhiev et al. 2021; Rosemann and vom Brocke 2015). Third, we used *(III) selective coding* to shape and refine the sub-capabilities by continuously linking and comparing the (sub-)categories and their underlying statements in three workshops of the author team. During the process, we repeatedly reconsidered our results to consolidate, eliminate, or shift sub-capabilities, and refine their names and explanations where necessary. This step yielded seven distinct characteristics of business process ramp-up and a set of 42 sub-capabilities of BPRUM as a basis for validation structured along the six core elements of BPM.

Finally, two co-authors independently mapped the sub-capabilities to the characteristic of business process ramp-up they addressed most prominently. The comparison of assignments resulted in a Cohens-Kappa of 0.634, indicating substantial agreement (Cohen 1960; Landis and Koch 1977). In a joint workshop of the author team, remaining ambiguities and disagreements were discussed and resolved with one co-author taking on the role of an intellectual adversary (i.e., devil's advocate) and deliberately challenging the results which encourages a multi-perspective view and counteracts one sided discussions within the author team (Schweiger et al. 1986). The selective coding resulted in 42 subcapabilities for BPRUM structured along six management areas and each mapped to the most-affected characteristic of business process ramp-up. An exemplary coding scheme for one specific sub-capability can be found in the [Appendix](#).

3.3 Evaluation

To evaluate our results, we conducted an *(IV) evaluation survey* featuring quantitative and qualitative elements in line with established recommendations on the ex-post evaluation of naturalistic research artifacts (Venable et al. 2012). This way, we received in-depth feedback from 10 IPs via an online survey tool (i.e., a response rate of 45.45%). The survey covered three evaluation layers: individual sub-capabilities, sub-capabilities grouped per core elements of BPM, and the overall BPRUM capability area including all sub-capabilities. Each layer comprised a mandatory evaluation of appropriateness on a 5-point Likert scale addressing the evaluation criteria of comprehensiveness, consistency, and problem adequacy (Sonnenberg and vom Brocke 2012) and included an opportunity for qualitative comments.

As for the overall compilation of sub-capabilities and for the sub-capabilities grouped per core elements of BPM, the participants gave constantly high approval ratings (i.e., an overall rating of 4.6 with no rating lower than 4.3 on a scale of 5 for very high agreement to 1 for very low agreement). The feedback on the individual sub-capabilities was more distinctive (i.e., overall ratings between 3.1 and 4.7 with six sub-capabilities being evaluated as appropriate by all participants). An overview of the results of the quantitative survey can be found in the [Appendix](#). According to the practitioners' qualitative feedback, the results altogether present a comprehensive, yet pragmatic and understandable, picture of BPRUM as a modern BPM capability area. Further, in their opinion, it could improve their handling of current business process ramp-up initiatives and may serve as a valid starting point for outlining orga-

nizationspecific roadmaps. They also particularly appreciated the sub-capabilities action-oriented nature and modular arrangement along the well-respected core elements of BPM.

We discussed the evaluation results with fellow scholars from our research group to structure the feedback and draw the right conclusions for refining our results. During this session, we incorporated the quantitative results and qualitative feedback from the survey by adapting, reassigning, and removing sub-capabilities. As a result, two sub-capabilities with a disapproval rating of 30% or higher were discarded, three sub-capabilities were assigned to a different management area based on the qualitative comments, and several sub-capabilities were adapted based on explicit feedback or a noticeable wide evaluation spread. This ultimate refinement resulted in a total of 40 sub-capabilities of BPRUM. Finally, we critically reflected our case for BPRUM as a new BPM capability within the author team by reviewing the novelty of our results compared to previous capability areas of BPM, evaluating the positioning across all core elements, and assessing central design decisions (e.g., adopting the capability framework of de Bruin and Rosemann (2007)).

4 Results

4.1 Characteristics of business process ramp-ups

The results of our interview study first provide profound insights into the nature of business process ramp-up. The distinct characteristics of business process ramp-up as shown in Fig. 3 represent particular challenges of BPRUM compared to the continuous management of business processes in their steady state. The results substantiate the presumption that the implementation and scaling of novel processes require distinct BPM capabilities across all core elements of BPM. We explain the charac-

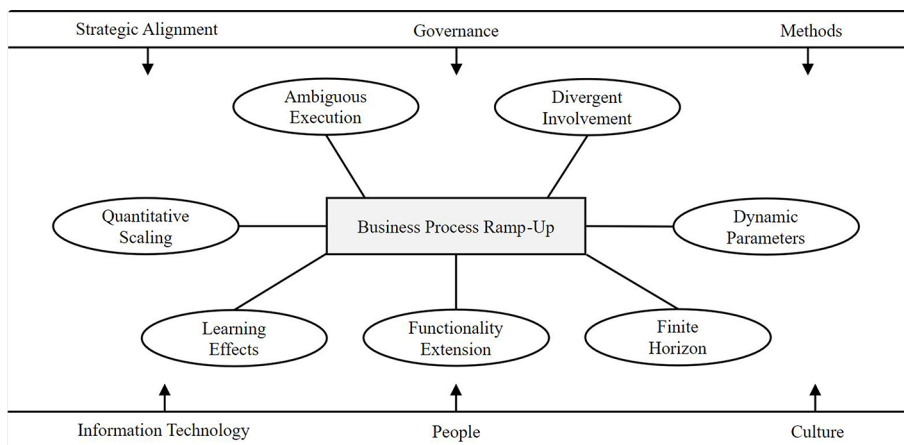


Fig. 3 Overview of business process ramp-up characteristics and management areas

teristics of business process ramp-up below and substantiate them with exemplary quotations from our interviews.

Ambiguous Execution of the initial process design may lead to conflicting activities, interruptions, and errors during the business process ramp-up. Accordingly, practices and tools must account for the initially increased diversity of execution options and susceptibility to error.

“This target state was defined quite loosely. It was always changing, and people had very different understandings of how it should look. However, it was not initially reflected in the outcome until two people worked on the same product toward the same goal and then realized they were doing things differently.” (IP9), in a start-up ramping up their core software development process.

The business process ramp-up leads to resistance, euphoria, or indifference among the stakeholders. *Divergent Involvement* typically occurs at the beginning of a new initiative, as stakeholders are usually exposed to a new situation that is not always immediately perceived as beneficial. Thus, human concerns need to be addressed at this point in order to get the stakeholders on track and help them participate successfully in the business process ramp-up.

“One-third thinks it’s great what you’re doing, one-third doesn’t care, and one-third is against it. Of course, it is difficult to harmonize [...] if one team is motivated to change things, but the next department is not.” (IP7), in a large insurance company ramping up a novel management process for innovation financing.

Many (planning) parameters are uncertain and strongly dependent on contextual factors during business process ramp-up (e.g., required capacities and skills). The vast number of *Dynamic Parameters* that need to be considered for the comprehensive planning of the business process ramp-up frequently change in the course of the business process ramp-up and create significant uncertainties compared to the management of a business process in its steady state.

“There will always be situations where something comes up that you haven’t thought about before. [...] This also means that the empowerment of the team has been incredibly difficult because it has changed daily, and new tasks were constantly added.” (IP4), in a dynamic scale-up ramping up a novel recruiting process.

The business process ramp-up is subject to time restrictions resulting in a *Finite Horizon*. However, the transition to the steady state may be seamless and not rigidly defined. This means that a business process ramp-up must be concluded by definition, which distinguishes it from the continuous management of business processes. However, in organizational practice, a specific point in time is often not defined. This implies that the transition from BPRUM to the continuous management of the business process has to be purposefully determined and initiated during the ramp-up.

“I think the ramp-up was successful primarily because of its speed - I don’t think it took us longer than four or five weeks. We then just got into a steady state. And from then on, it was a piece of cake.” (IP13), in a large insurance company ramping up a novel loan booking process.

Additional process paths unfold during the business process ramp-up and extend the functionality to be managed. This *Functionality Extension* shapes the nature of the business process ramp-up by the fact that the business process can cover new demands that may have been defined at the beginning or that arise during ongoing operation. Accordingly, management must be aware of how to plan business process extensions in advance and, at the same time, be flexible when it comes to adapting to new requirements as they arise.

“The process must be capable of constantly adopting new functionalities when new requirements arise, for instance, due to internal or regulatory demands.” (IP5), in a small health care provider ramping up a novel enterprise resource planning process.

Learning Effects during the business process ramp-up lead to qualitative improvements in process performance and outcome. Organizational learning is an essential part of business process ramp-up since many activities are being carried out for the first time. It is crucial to create strategies and practices to leverage learning effects systematically and to develop overall organizational learning.

“The learning curve was extreme at the beginning because we milled our way through all these details. And then, at some point, it flattened out completely. Then it was just a matter of testing and, let’s say, adapting to some exceptional cases. So, at the beginning, it went relatively steeply upwards, and then there were still a few little steps – mostly during testing.” (IP11), in a large software company ramping up a novel fulfilment process.

The process demand (i.e., the number of process instances per time unit) increases during the business process ramp-up, potentially exceeding the steady-state level before stabilizing. In addition to functionality adjustments, the *Quantitative Scaling* of the business process requires deliberate management to control the necessary resources and/or demands.

“We definitely saw the support requests explode. The more sites we added, the more support requests came in at once, often about the same problems. Only in some cases, new problems emerged. So, at the very beginning, the resolution quality was still okay. Then it dropped extremely – simply from overload – because the process was executed so frequently. [...] Then after a while, learning effects set in and it got better again.” (IP1), in a large logistics company ramping up a novel laptop support process.

4.2 Sub-capabilities of business process ramp-up management

Our interview study resulted in a set of 40 action-oriented sub-capabilities of BPRUM as our primary contribution. Table 1 provides an overview of the sub-capabilities, which, according to our interview experts, make for the integrated approach to BPRUM. Structured according to the core elements of BPM, every sub-capability includes a description, a unique ID (e.g., Str. Alig-1, Gov-1, Method-1, IT-1, People-1, Culture-1), specific references to the IPs, and is also assigned to the business process ramp-up characteristic it mainly addresses.

Overall, we identified the most sub-capabilities for Governance (25%) and the least for Culture (10%). Strategic Alignment, Methods, and Information Technology account for 17.5% and People for 12.5% of the sub-capabilities. This broad coverage supports the positioning of the BPRUM capability area across all core elements of BPM (Fig. 1). With regard to the distinct challenges of BPRUs, the subcapabilities most prominently address Divergent Involvement and Learning Effects with 22.5% each and are less often directed at Finite Horizon and Functionality Extension with 5% each. Further, comparing the present sub-capabilities of BPRUM with the scope of previous BPM capability areas illustrates that the implementation and scaling of

Table 1 Overview of the BPRUM sub-capabilities

	ID	Description	References	Main Characteristic
Strategic Alignment	Str. Alig-1	Develop and promote a collective process vision to create organizational support for the business process ramp-up.	IP3, IP4, IP15, IP16, IP17, IP21	Divergent Involvement
	Str. Alig-2	Set an ambitious timeline and clear goals for the business process ramp-up in line with the organizational strategy.	IP1, IP2, IP4, IP5, IP6, IP13, IP15, IP16, IP17, IP21	Finite Horizon
	Str. Alig-3	Weigh strategic trade-offs during the business process ramp-up (e.g., simplicity and security) to make conscious design decisions.	IP2, IP3, IP12	Dynamic Parameters
	Str. Alig-4	Ensure management attention to allocate sufficient resources during the business process ramp-up.	IP1, IP3, IP11, IP16	Quantitative Scaling
	Str. Alig-5	Define the initial business process version to be simple and close to proven practices to facilitate stakeholder adoption.	IP3, IP4, IP8, IP9, IP19	Divergent Involvement
	Str. Alig-6	Specify the temporal and functional go-live strategy of the new business process (e.g., smooth or abrupt) to prevent unintentional parallelisms.	IP5, IP12, IP13, IP17	Finite Horizon
	Str. Alig-7	Develop mitigation strategies for potential problems that may arise during the business process ramp-up to handle non-desirable deviations and exceptions.	IP12, IP13, IP15, IP16	Ambiguous Execution

Table 1 (continued)

	ID	Description	References	Main Characteristic
Governance	Gov-1	Establish clear management responsibilities to facilitate fast decision-making during the business process ramp-up.	IP1, IP10, IP18, IP19	Dynamic Parameters
	Gov-2	Repeatedly align organizational structures and process requirements to ensure distinct interfaces during the business process ramp-up.	IP5, IP6, IP8, IP9, IP18, IP20	Ambiguous Execution
	Gov-3	Define clear (non-)financial performance indicators to control goal achievement during the business process ramp-up.	IP1, IP5, IP18	Ambiguous Execution
	Gov-4	Link goal achievement during the business process ramp-up to stakeholder incentives to motivate the completion of nonjoyful tasks.	IP5, IP12, IP20	Divergent Involvement
	Gov-5	Manage dependencies to other processes to prevent costly readjustments during the business process ramp-up.	IP2, IP4, IP10, IP15, IP17, IP19, IP21	Dynamic Parameters
	Gov-6	Empower stakeholders to change process roles and responsibilities to gain cross-functional insights during the business process ramp-up.	IP1, IP5, IP9	Learning Effects
	Gov-7	Leverage insights from prior business process ramp-ups (e.g., by involving experienced stakeholders) to anticipate potential pitfalls and adopt good practices.	IP6, IP14, IP21	Learning Effects
	Gov-8	Develop escalation mechanisms to respond to unexpected events during the business process ramp-up.	IP7, IP11, IP12, IP16	Dynamic Parameters
	Gov-9	Leverage workforce flexibility to respond to demand volatility during the business process ramp-up.	IP6, IP21, IP19	Quantitative Scaling
	Gov-10	Assess the behavior of frequent and crucial cases during the business process ramp-up to efficiently manage significant process deviations.	IP1, IP2, IP5, IP12, IP13	Functionality Extension

Table 1 (continued)

	ID	Description	References	Main Characteristic
Methods	Method-1	Initiate early and continuous process improvement to detect and overcome challenges during the business process ramp-up.	IP8, IP15, IP19	Learning Effects
	Method-2	Benchmark the process regularly during the business process ramp-up.	IP5, IP14, IP15	Learning Effects
	Method-3	Share good practices during the business process ramp-up to promote organizational learning and meta-learning.	IP1, IP6, IP15, IP19	Learning Effects
	Method-4	Employ regular performance dialogs, peer reviews, and retrospectives during the business process ramp-up to strengthen personal learning effects.	IP2, IP4, IP7, IP9, IP12, IP15, IP19, IP21	Learning Effects
	Method-5	Test the process hands-on and end-to-end using real cases to ensure viability.	IP1, IP6, IP8, IP11, IP13, IP20	Ambiguous Execution
	Method-6	Start with standard cases of the process to quickly leverage learning curve effects during the business process ramp-up.	IP11, IP12, IP13	Learning Effects
	Method-7	React to problems quickly during the process ramp-up and solve them pragmatically to build trust in the process.	IP1, IP12, IP20	Divergent Involvement
Information Technology	IT-1	Adopt suitable lightweight process technology and digital platforms to support scalability.	IP2, IP5, IP8, IP17	Quantitative Scaling
	IT-2	Align the process technology with existing (IT) infrastructure and interfaces.	IP1, IP2, IP5, IP8, IP21	Quantitative Scaling
	IT-3	Test technical systems early and rigorously during the business process ramp-up to ensure basic functionality.	IP5, IP8, IP11, IP20	Dynamic Parameters
	IT-4	Increase technological capacities to respond to demand volatility during the business process ramp-up.	IP1, IP19, IP21	Quantitative Scaling
	IT-5	Model and monitor the process early during the business process ramp-up to increase its binding character.	IP12, IP14, IP18	Ambiguous Execution
	IT-6	Establish a profound understanding of the process technology among the involved stakeholders to reduce external dependencies during the business process ramp-up.	IP1, IP3, IP12, IP15	Dynamic Parameters
	IT-7	Pre-structure the data generated by the process to identify usage potential and ensure to keep sensitive information private during the business process ramp-up.	IP1, IP6, IP9	Learning Effects

Table 1 (continued)

	ID	Description	References	Main Characteristic
People	People-1	Identify and cover all skills relevant to the process during the business process ramp-up and map them to process steps.	IP13, IP14, IP15	Dynamic Parameters
	People-2	Involve relevant stakeholders early in the business process ramp-up to include multiple perspectives and increase mutual understanding.	IP8, IP12, IP17	Learning Effects
	People-3	Align the communication of the business process ramp-up with its target audience and intended purpose (e.g., channels, language, and level of detail).	IP1, IP3, IP4, IP5, IP10, IP11, IP13, IP19	Divergent Involvement
	People-4	Cultivate the network of all involved stakeholders to create a positive working environment and foster cooperation during the business process ramp-up.	IP9, IP11, IP12, IP15, IP18, IP19	Divergent Involvement
	People-5	Identify, respect, and mitigate personal concerns during the business process ramp-up to overcome mental barriers.	IP7, IP15, IP19	Divergent Involvement
Culture	Culture-1	Strengthen process-oriented thinking and create a culture responsive to process change to facilitate the adoption of new business processes.	IP1, IP7, IP8, IP12, IP15, IP18	Functionality Extension
	Culture-2	Establish a collective process mission and emphasize common goals to create a team spirit during the business process ramp-up.	IP2, IP5, IP8, IP21	Divergent Involvement
	Culture-3	Establish a strong solution mindset and a positive error culture to accelerate error handling during the business process ramp-up.	IP2, IP8, IP9, IP15	Ambiguous Execution
	Culture-4	Break down (mental) silos by applying inclusive leadership to facilitate process-oriented collaboration during the business process ramp-up.	IP8, IP15, IP20	Divergent Involvement

novel processes needs so be approached significantly differently compared to the continuous management and improvement of business processes in their steady state (Kerpedzhiev et al. 2021). Below, we provide in-depth insights into our results by explaining and linking sub-capabilities, presenting overarching observations, and accentuating specific remarks from the interviews as well as from the evaluation phase.

4.2.1 Strategic alignment

Sub-capabilities related to Strategic Alignment focus on establishing a link between strategic organizational priorities and the business process. The compilation of seven

sub-capabilities addresses four different business process ramp-up characteristics, i.e., Divergent Involvement, Finite Horizon, Dynamic Parameters, and Quantitative Scaling. The core of this management area constitutes a shared process vision as described in *Str. Alig-1*, which aligns the corporate vision with the specific process initiative. It is supposed to ensure a common purpose and a shared understanding of the process goal as well as organizational support. One interviewee, in particular, highlighted:

“For me, it is incredibly important to do this onboarding and to communicate well. Every employee, even if they work only 15 hours a week, has to know why we’re doing this.” (IP21).

Overall, we observed different approaches to dealing with the novel process’s temporal and functional go-live strategy (cf. *Str. Alig-6*). For instance, one interviewee emphasized that it was highly relevant to transition the process unambiguously and to cut off old practices. In contrast, others deliberately parallelized previous practices and the novel business process to avoid problems when handling complex instances. It follows that the transition and go-live can proceed in various ways. Still, organizations should always deliberately manage this aspect with a clear, underlying rationale that is determined, e.g., by the type of process, the value of the process, or the scope of change. In addition, the inherent errorproneness due to ambiguous execution of process steps during the business process ramp-up requires sophisticated strategies on how to deal with problematic cases and how to respond to them in principle. In this regard, organizations should strive for strategies at different organizational levels. For instance, IP15 emphasizes that strategies and plans for dealing with process deviations are also needed for local units:

“Okay, we need a mitigation plan: What do we do when the delivery vehicle stops? And this is just one example where I say that you deliberately have to become active on-site yourself.” (IP15).

4.2.2 Governance

Sub-capabilities related to Governance ensure transparent accountability and appropriate organizational structures during the business process ramp-up. It is the most extensive core element in terms of sub-capabilities and characteristics addressed, which is also reflected by the wide scope of the sub-capabilities. *Gov-1* highlights that vital responsibilities need to be defined for efficiently managing the ramp-up, while *Gov-2* emphasizes that organizational structures must be continuously questioned and adapted to dynamically changing process requirements.

“We played a lot with the organizational structure to improve the integration of our teams and improve their information interfaces – on the organizational structure level, not so much on the technical level.” (IP6).

According to the evaluation results, the monitoring of the ramp-up through specific performance indicators is particularly relevant, cf. Gov-3. On the one hand, performance indicators help organizations manage the ramp-up properly and address ambiguous business process executions. On the other hand, they also provide a quantitative basis for pointing out learning effects.

“I think performance metrics are extremely useful - of course, it's very much related to the fact that nowadays almost every process has a large digital component, but the actual tracking of numbers or some other form of traceability is extremely important for that learning effect.” (IP1).

Furthermore, it can be beneficial that some process stakeholders swap their roles, cf. Gov-6, in order to improve the understanding of the overall process and thus enhance the process vision of the stakeholders involved. In addition, understanding the work of other stakeholders in the business process intensifies learning effects and promotes cooperation. “We then switched to having one of the data scientists actually act as data engineer, just to have a feel for it. Simply, they are hands-on with the data and know what is going on, and don't just have a completely random dataset in front of them. This also promotes collaboration.” (IP9).

Gov-10 indicates that a novel business process should be able to handle 80% of potential cases as quick as possible to have good coverage of frequent and critical cases. If necessary, the rest of the cases can initially be handled by special treatment as direct full coverage of all imaginable cases would not be feasible in terms of time and resources. This rule of thumb in the sense of the Pareto principle (Craft and Leake 2002) was brought up both in multiple interviews and in comments during the evaluation.

“We try to approach things in such a way that 80% of the cases must be optimally covered, and 20% are perhaps not yet perfect. So, we always define these 80% and 20%. Even if we aim for complete standardization of a process, [...] we first define a standard that fits 80% – and for the remaining 20% of the cases: we somehow take care of them separately.” (IP12).

4.2.3 Methods

Sub-capabilities related to Methods include the tools and techniques that enable goaloriented operational actions during the business process ramp-up. Methods includes seven sub-capabilities and addresses three different characteristics with a particular focus on facilitate personal or organizational Learning Effects (five out of seven). *Method-2* concerns the regular benchmarking of novel business processes. Based on the expert comments during the evaluation, this specifically includes internal benchmarking against existing, similar business processes (i.e., for incumbents and large enterprises) as well as external benchmarking (i.e., for start-ups and small enterprises).

“Then we visited a company not in competition with us that was already relatively advanced in this respect and very innovative. We went there with 10 employees from various departments and were allowed to spend a day there so that the employees could see the software in the ongoing process and also look at what process flows or lines they have and how it works in their environment.” (IP5).

Method-7 differs from the rest of the sub-capabilities in this management area by primarily addressing Divergent Involvement. Its focus lies on quick, pragmatic problem solving to establish trust in the process. In case of problems that may occur during the business process ramp-up, organizations should find rapid solutions focusing on fast practicability instead of on universal precision of fit.

“After it didn’t work with the first customer, we sat down with the relevant colleagues and analyzed what didn’t work and why it didn’t work. And then, we also worked out where additional staff was needed and solved that. In retrospect, I have to say that even though this ramp-up process was not ideal at first, mainly because of a lack of focus and interest, we were at least able to manage the firefighting very successfully and very professionally” (IP20).

4.2.4 Information technology

Information Technology includes all sub-capabilities that focus on technological solutions during the business process ramp-up. In total, four different characteristics are addressed by the sub-capabilities in Information Technology, whereby Quantitative Scaling is in the focus. Technical systems and workflows should be addressed at an early stage during the business process ramp-up and tested extensively (cf. *IT-3*). Relying on appropriate test environments for the initial trials is advisable. However, tests also need to be performed in the operational system in later phases of the business process ramp-up in order to validate the actual usability and minimize the susceptibility to errors in active use.

“Of course, we also have a multi-lane system landscape and have tested – and are still testing – these things in the test system and also in the operational system.” (IP11).

Furthermore, *IT-5* addresses the technical modeling and monitoring of the process. Rapid technical underpinning and institutionalization of novel business processes is necessary to discourage active avoidance of the process and to increase the likelihood of sustainable long-term process adoption. In the case of IP18, the business process ramp-up was jeopardized due to a lack of technical underpinning, manifesting in slow adoption of the supposedly beneficial business process by the organization.

“Synchronization of the IT base underneath, measuring systems for delays – all this was postponed to a later phase. This later phase did not happen. Talking

about processes on paper is all good. But you have to get down to the nitty-gritty and be able to technically track things early on.” (IP18).

IT-7 addresses the data level and highlights the importance of planning and pre-structuring data collection in terms of mode, format, and points in the process directly at the beginning of the business process ramp-up to leverage opportunities such as data-driven process models. However, it is important to note that employee privacy and protection are critical considerations that must be incorporated into the process data strategy, as violations may lead to significant delays or complications, particularly within large enterprises with works councils.

“The most critical factor was data collection, but interestingly in terms of employee protection. What information do you have to record that can be traced back to individual employees? How are the processes structured so that you cannot track their performance? (IP6)

4.2.5 People

Sub-capabilities related to People consider the human skills and knowledge that directly affect the success of the business process ramp-up. The group of five sub-capabilities addresses three different characteristics with Divergent Involvement being the most prominent one. Identifying required skills for various process steps (*People-1*) and the early involvement of relevant stakeholders for multi-perspectivity during the business process ramp-up (*People-2*) is crucial. Further, eight IPs indicated that broad and purposeful communication using a range of different channels, appropriate language for the target group, and a appropriate level of detail, is of utmost relevance to manage the social component of every business process ramp-up (*People-3*). At the operational level, multiple IPs suggested creative and low-threshold ways of establishing communication platforms such as creating business process ramp-up information boards and FAQs (IP4, IP19) or organizing process management brunches (IP3).

“Of course, we used different levels of granularity when communicating our process to different recipients. It was sufficient for the executive steering committee to say: It works as planned! [...] And for other circles, it looked a bit different. We always adapted the communication to suit the audience.” (IP11).

Since business process ramp-up often implicate radical changes in peoples' daily routines as well as to established power structures, identifying, respecting, and reducing personal concerns are also major issues in BPRUM (cf. *People-6*). In this regard, the interviewed practitioners emphasized the positive effect of early identifying and openly discussing existing concerns on an individual level.

“The important thing about the ramp-up of a management process? Focusing on the people as well as on the process - because personal frictions about influ-

ence, about who gets to decide what will come automatically if you don't have a lot of these discussions beforehand.” (IP7).

4.2.6 Culture

Culture includes all sub-capabilities involving the collective values of an organization that influence the business process ramp-up. This management area summarizes four sub-capabilities considering three different characteristics. *Culture-1* addresses the idea of a process-oriented mindset that is open to change. With respect to this sub-capability, it can be observed that companies start at very different stages of maturity depending on their context. For instance, an insurance company may already exhibit high process orientation which facilitates BPRUM (IP7). IP15 described their culture as an “every day is day one” attitude, which conveys constant openness to change. In addition, both *Culture-2* and *Culture-4* emphasize the relevance of a common mission and of breaking down mental silos regarding functional roles or departments, e.g., through inclusive leadership (*Culture-4*).

“Perhaps our corporate management culture, which can be described as inclusive leadership, that is, the inclusion of all those who should be included, is also essential. And of course, that helps to avoid the creation of silos.” (IP20).

5 Discussion

5.1 Theoretical implications

First, our work contributes to a comprehensive picture of modern BPM capabilities. It introduces BPRUM as a new capability area to the updated BPM capability framework and thereby enhances the previous research of de Bruin and Rosemann (2007) and Kerpedzhiev et al. (2021). In line with this work that is breaking down the overall enterprise-level BPM capability and adds to the descriptive knowledge at the intersection of BPM and capability development, our results advance the understanding of BPM as a corporate capability by including the new perspective of ramping up novel processes. In doing so, our work further picks up and consolidates the assumption that an opportunity-rich and disruption-prone business environment requires new BPM capability areas (Kerpedzhiev et al. 2021; Rosemann 2014; van der Aalst 2013). In addition, we particularly respond to the call of Röglinger et al. (2022) that BPM research should explore specific shock-related capabilities. From a theoretical perspective, the presented case for BPRUM as a new BPM capability also implies that permanent further development is required for BPM to drive corporate success in view of the challenges and opportunities brought about by a business world shaped by change.

Second, our results facilitate further theorizing on the implementation and scaling of novel business processes. We lay the grounds for further exploring effective BPRUM by identifying 40 action-oriented sub-capabilities structured according to the core elements of BPM (Rosemann and vom Brocke 2015). Thereby, we present specific categories to be considered to deepen the academic understanding of the implementation of novel business processes and open the perspective to a wider range of strategic directives in BPM. In a broader sense, the case for the novel capability area of BPRUM stimulates future research and a community-wide discussion on the new conditions and capabilities that matter in a new era of BPM. Specifically, our research substantiates the argument that BPM should strive to provide indepth, hands-on knowledge and practical tools to quickly respond to business changes (Klun and Trkman 2018).

5.2 Managerial implications

First, BPM practitioners should leverage our results to structure strategic discussions on how to further develop their organization's BPM capability in terms of ramping up new business processes. While the established BPM capability framework focuses on the improvement of existing processes, our results add the component of novel processes. In doing so, they address the current challenge of BPM practitioners who are confronted with managing large-scale process change initiatives that increasingly include establishing new processes in response to or in anticipation of socio-technical changes such as brought about by novel technologies or market disruptions. Specifically, the action-oriented sub-capabilities provide low-threshold access to the components and managerial tools of effective BPRUM. Although the novel capability area still needs to be transferred to existing guides for capability development (e.g., maturity models), its hands-on sub-capabilities can be used as guidance for organizations aiming to develop competence in BPRUM. In this connection, extending the BPM capability framework and building on the core elements of BPM (Rosemann and vom Brocke 2015) that are well-established for structuring capability areas, allows practitioners to quickly create a link to their mental model of BPM capabilities and practices.

Second, our work supports BPM practitioners in assessing and actively monitoring the extent to which current business process ramp-up initiatives cover the components of effective BPRUM. In this context, the presented subcapabilities can build a foundation for fit-gap analyses in active business process ramp-up initiatives as a first step toward maturity model development. Identified gaps can then be addressed by purposefully adopting BPRUM practices of the respective management area or by intensifying the cross-functional cooperation with other corporate functions and teams. Against the background of the wide spectrum of different process types and contexts in practice (vom Brocke et al. 2016), the sub-capabilities of BPRUM enable practitioners to extract suitable practices for their particular initiative as well as to lay their focus on certain management areas. Overall, the presented results contribute to keeping the challenges that BPM practitioners are facing in their daily business in focus and ensure that the latest advancements in these areas can be adopted in practice.

6 Conclusion

In this study, we present BPRUM as a new capability area of BPM. Changing business environments such as brought about by digitalization present organizations with both challenges and incentives to evolve. Staying competitive requires them to embrace these dynamics and make radical changes to how work is performed. Thus, modern BPM strives to provide methods and end-to-end management activities for both stability and change. While change through the improvement of existing business processes is well understood, the implementation and scaling of novel business processes have been neglected in BPM research. Thus, we triangulated insights from an exploratory in-depth interview study with 21 subject matter experts to elaborate the nature of business process ramp-up and to explore BPRUM as a new cross-cutting BPM capability area. We present 40 action-oriented sub-capabilities that provide hands-on theoretical knowledge and practical tools for effective BPRUM.

Like any other work, the present study is beset with limitations. First, the presented results were derived from the individual input of a limited number of BPM practitioners recruited from diverse backgrounds. As typical for our research approach, we cannot formally claim completeness of our results. However, it follows the common standards and guidelines for conducting qualitative research and the positive feedback of the experts during the evaluation makes us confident about the validity of our results. Second, BPRUM as an additional cross-functional capability area in the updated capability framework of Kerpedzhiev et al. (2021) presents one possible way of bringing the implementation and management of novel processes to the BPM table. Hence, this exploratory research can only be a starting point for a community-wide discussion about the further development of BPRUM and its sub-capabilities in BPM research. Third, while we argue that BPRUM is relevant to diverse organizational contexts, we acknowledge that the relevance and feasibility of individual sub-capabilities may vary depending on the scope and context of the process initiative at hand. Thereby, it is important to emphasize that capability frameworks do not directly generate benefits, but rather serve as a foundation for creating custom capability development plans and initiatives.

Both the results of our study and its limitations stimulate future research. First, we recommend complementing the explorative nature of our study with confirmative methods. This should include analyzing which sub-capabilities or combinations of sub-capabilities drive the success of business process ramp-up initiatives in different contexts (e.g., using a multiple-case study approach). Doing so may help identify specific BPRUM sub-capability configurations for different organizational environments in line with configurational theory (Meyer et al. 1993; van Looy et al. 2022). Second, further research is required to determine assessment criteria and tools to evaluate the extent to which an organization already has the sub-capabilities identified in this study. In this regard, our results may present a starting point for the integration of BPRUM into existing BPM maturity models. In light of the presented case for BPRUM as a new BPM capability area, we call for more applications-oriented research as well as for theory development (Gregor 2006) on the implementation and scaling of novel business processes to complement the understanding of change-related BPM capabilities. We expect this work to only be the start of identifying

and understanding entirely new capabilities, or new sets of action that orchestrate established capabilities in new ways, and their implications for the future of BPM.

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