



# The BPM Goal Hexagon: an update to the Devil's Quadrangle

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## Abstract

Business process management has traditionally focused on time, cost, quality, and flexibility as goal dimensions, known as the Devil's Quadrangle. In light of novel emerging factors such as employee values, environmental, social, and governance requirements, as well as conscious business models, this paper investigates whether the traditional four goal dimensions of the Devil's Quadrangle remain suitable today. Based on an extensive analysis of recent business process redesign projects published in case studies, we offer a timely assessment of the adequacy of the Devil's Quadrangle in current times and suggest extensions to the concept, incorporating insights from a secondary study on robotic process automation. More specifically, we extend the Devil's Quadrangle to the BPM Goal Hexagon by retaining time, quality, and flexibility, but refocusing cost to a more balanced economics dimension and adding a people dimension as well as an environment dimension. The BPM Goal Hexagon offers scholars and practitioners a timely tool to revisit the real-world relevance and sufficiency of their business process management project goals, methods, and tools.

**Keywords** Business process management · BPM; Goals · Devil's Quadrangle · Meta-synthesis

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## 1 Introduction

As a recognized field in information systems, business process management (BPM) is considered a holistic management approach that helps align organizational processes with organizational goals (Rosemann and vom Brocke 2015; Schmiedel et al. 2014). To this end, BPM can be understood as “a body of principles, methods, and tools to discover, analyze, redesign, implement, and monitor business processes” (Dumas et al. 2018, p. 28) whose “purpose is to make business process[es] perform better” (Dumas et al. 2018, p. 303). Making a process “perform better” and monitoring performance relies heavily on understanding its specific goals (see e.g. Yan et al. 2015; Dumas et al. 2023). For the better part of the last 30 years, in BPM, “better performance” was commonly referred to as a quadrangle of measures relating to time, cost, quality, and flexibility, the so-called Devil’s Quadrangle (Dumas et al. 2018; Brand and van der Kolk 1995). While the discipline evolved in particular in terms of methods and technologies, it always focused strongly on these goal dimensions (van der Aalst et al. 2015).

However, novel factors like shifting employee values such as purpose at work, environmental, social, and governance (ESG) requirements, and concepts such as conscious business “have increased the pressure to create more than ‘transactional value’ from business processes” (Rosemann et al. 2023, p. 447). For organizations, this entails a shift in focus from automation- and efficiency-focused projects to projects also including aspects of social and ecological responsibility. Consequently, goal-setting in organizations has adapted accordingly (Muff 2024). For example, the Big Four accounting firms have reportedly employed BPM technology to relieve employees of peak loads rather than focusing on automation efficiency (Zhang et al. 2023). This change in mindsets and impact creation, however, is not reflected in the Devil’s Quadrangle in its original form.

Except for selective investigations in the related phenomena of green BPM (e.g., Couckuyt and van Looy 2020; Seidel et al. 2012), or general concepts like the triple bottom line (see Elkington 1999; Jamali 2006; Norman and MacDonald 2004), the BPM discipline has not revisited the Devil’s Quadrangle in a structured manner. This is despite its considerable relevance to BPM project goal setting and the many technological and societal changes outlined above that have affected us in our working and private lives. An update of the Devil’s Quadrangle would not only enable organizations to include novel, relevant goal-setting dimensions in a structured manner, but it would also spur scientists to scrutinize the effects systematically and devise novel methods and techniques to guide successful BPM projects that consider the requirements of today’s goal-setting. After all, “[...] *it is crucial that senior managers are clear what they mean by BPM and how they intend to use it*” (Pritchard and Armistead 1999, p. 19).

That is, in light of organizations focusing less on building local, technical workflows and more on inter-organizational, socio-technical collaborations, we suppose that the classic four dimensions of time, cost, quality, and flexibility may be insufficient to capture the complexity and diversity of goals of today’s intertwined network of process stakeholders. In response, we conducted two studies. In a pre-study, we analyzed goal setting in robotic process automation (RPA) as a comparably novel

phenomenon in the BPM domain. In our main study, we analyzed 54 recent BPM redesign projects documented in scholarly literature to verify the Devil's Quadrangle for BPM redesign projects or update it if deemed necessary. Based on this, we uncovered novel goals pursued in current BPM initiatives. We verified the resulting BPM Goal Hexagon based on a structured literature review.

The following research questions guided our research:

- *RQ1*: Which goals do organizations pursue in practice when (re)designing processes, and how can they be systematized in goal dimensions?
- *RQ2*: How can the results be conceptualized and operationalized to guide goal setting in future process (re)design projects?

Our results enable us to offer a timely assessment of the adequacy of the Devil's Quadrangle in current times and to suggest extensions or changes to the concept. This benefits scholars and practitioners by revisiting their aims and actions' real-world relevance and sufficiency, and offering them guidance for their BPM endeavors. We enable this by defining the dimensions from a practical perspective and providing examples for each dimension.

Our paper is structured as follows: First, we present a theoretical background on BPM and goal setting. Second, we detail our method. Third, we present the findings by introducing the BPM Goal Hexagon. Fourth, we discuss our findings and their implications. We close with a brief summary.

## 2 Theoretical background

### 2.1 Business process management initiatives and redesign projects

BPM developed from optimizing the production of goods and the administration of organizations through workflows. It “consolidates how to best manage the (re-) design of individual business processes and how to develop a foundational capability in organizations catering for a variety of purposes and contexts” (vom Brocke and Rosemann 2015, p. xiii). Nowadays, BPM is considered an organizational management capability alongside other management disciplines (Niehaves et al. 2014; Dumas et al. 2018; Rosemann and vom Brocke 2015). This implies that BPM is not applied as a singular project but as a continuous activity that builds upon various organizational factors (Weske 2019; vom Brocke et al. 2014; Rosemann and vom Brocke 2015). That is, BPM as a discipline sets the methodological frame for BPM initiatives and singular projects, as it paves the ground for acquiring relevant organizational capabilities necessary to succeed with redesign projects (Baiyere et al. 2020; van Looy et al. 2013).

Yet, individual process redesign projects remain at the core of any BPM-related initiative aimed at optimizing processes. Therefore, Dumas et al. (2018) differentiate between (1) BPM as an organizational capability reflecting the managerial discipline of BPM internalized by an organization and (2) singular BPM redesign projects reflecting the application of BPM methods for analyzing and (re)designing a particu-

lar process. While projects must abide by the bylaws of the superordinate BPM effort and its vision, they are self-contained in defining their scope and expectations within those confines. Most importantly for our research, specific goals will be set and tried to achieve in any project to redesign business processes.

## 2.2 Goals and goal setting

Goals formalize well-considered desired outcomes that entities plan to achieve. Goals are defined by two attributes: content (the result being sought) and intensity (the commitment to achieving a goal) (Locke and Latham 1990). Organizational goals reflect these on an individual, team, or organizational level, guiding a company's action and measuring its performance (Mohr 1973). Therefore, organizational goals direct a company's behavior by setting boundaries for further development (Kotlar et al. 2018). As organizational goals are dynamic, these boundaries can vary depending on changes within a company's internal and external context (Ansoff 2007). Organizational goals can be financial, like enhancing quality or reducing costs, or non-financial, such as improving flexibility, control, or employee well-being (Kotlar et al. 2018).

Goal setting is a thoughtful activity that establishes a desired future state (Locke and Latham 1990). As numerous studies have shown, setting the right goals improves performance in four ways: they serve a directive function, they have an energizing function, affect persistence, and arouse problem-solving strategies (for an overview, see Locke and Latham 2002). Goal-setting rules and taxonomies enable a concerted and careful definition of goal systems, which may contain complementary and competing goals in different dimensions.

## 2.3 Related work on goals in BPM

Today, textbook advice for goal setting in BPM redesign projects is mainly centered around the dimensions of time, cost, quality, and flexibility, building on the Devil's Quadrangle originally proposed by Brand and van der Kolk (1995) as the "duivelsvierkant" and further popularized by Dumas et al. (2018). The idea of the quadrangle is that all of its goal dimensions are interrelated, meaning, "in general, improving upon one dimension may have a weakening effect on another" (Reijers and Liman Mansar 2005) as the area of the quadrangle remains the same (Brand and van der Kolk 1995). It helps to highlight trade-offs underlying redesign measures. At the time, Jansen-Vullers et al. (2007) found that the Devil's Quadrangle was suitable for measuring workflow performance as it incorporates all relevant dimensions of all reviewed performance measurement systems. Subsequently, scholars applied the quadrangle for many purposes of process redesign for precisely these reasons: For example, Denner et al. (2018) describe the quadrangle as a suitable benchmark for the assessment of goals in the area of digitalization potential. Afflerbach et al. (2016) utilize the quadrangle's dimensions to assess the effects of business process standardization.

As the four dimensions of the quadrangle originate from the more technical perspective of workflows, they mostly build on the performance dimensions of a pro-

cess, reflecting predominantly an economic perspective on goals when setting up BPM redesign projects (Dumas et al. 2018). Therefore, these goals do not incorporate current societal developments towards increased sustainability, environmental goals, or the incorporation of social responsibility.

Individual research efforts have already dealt with individual aspects of these subjects. However, a joint systematization and common vocabulary appear to be missing. For example, several publications explicitly deal with environmental aspects of BPM. Couckuyt and van Looy (2020) have systematically analyzed research on green BPM, resulting in green approaches for the phases of the BPM lifecycle. Further, economic and ecological sustainability have been studied by Seidel et al. (2012). They already extended the Devil's Quadrangle with the dimension of sustainability in the context of green BPM based on the perceived societal need to increase sustainability in all matters. The social goals of BPM have been subject to research and academic discourse as well. Jamali (2006) discussed the importance of corporate learning and capability building for reaching goals posed by the triple bottom line. Vom Brocke et al. (2014) emphasized the importance of incorporating social aspects, along with methodological, strategic, and technological aspects, into a holistic understanding of BPM.

However, a current, overarching perspective of goals and goal dimensions for BPM redesign projects is missing, as existing considerations have neither been integrated nor translated into goal dimensions and specific goals of BPM redesign projects.

### 3 Method

To answer our research questions, we applied a research approach inspired by the circular approach of hermeneutics (Boell and Cecez-Kecmanovic 2014; Butler 1998). Hermeneutics and the related methods describe the process of convergence of understanding through iterative engagement with specific issues (Gadamer 1975). Hermeneutics is used in various research settings in business and information systems engineering and has become a vital research stream within the discipline (van der Aalst et al. 2018). The use of hermeneutics has been proven in various research designs (e.g., Lee and Dennis 2012; Marx et al. 2023; Njenga and Brown 2012). These applications show the diversity of hermeneutic procedures. They do not represent a stringent methodology but rather a school of thought that can be operationalized differently for different purposes (Honderich 2005).

We operationalized hermeneutics in a two-phased, multi-method research approach. In the first phase (pre-study), we combined our interpretative hermeneutic approach with a structured literature search and grounded theory (Strauss and Corbin 1997). In the second phase (main study), we conducted a qualitative meta-analysis of published case studies (Berente et al. 2019) and a structured literature search to validate our findings. Table 1 summarizes our methodology.

**Table 1** Applied two-phased research approach

Phase 1: Pre-study on RPA	Phase 2: Main study on process redesign projects
Step 1: Literature search Structured identification and acquisition of 118 relevant articles on RPA Step 2: Qualitative data collection Collection of qualitative interview data from 16 interviews with domain experts on the topic of RPA Step 3: Grounded-theory-based Data Analysis Iterative analysis of literature and interview data, applying multi-level axial coding of the data	Step 1: Identification of published reports of process redesign projects Identification and acquisition of 54 case studies of process redesign projects Step 2: Grounded-theory-based qualitative meta-analysis Iterative analysis of the published case reports, applying multi-level axial coding Step 3: Validation and Triangulation Structured literature review to validate the findings of steps 1 and 2.
<b>Result:</b> 28 distinct goals for using RPA organized in 5 goal dimensions	<b>Result:</b> 147 distinct goals, set by organizations for process redesign projects, further organized into 6 goal dimensions

### 3.1 Pre-study

In our pre-study (François et al. 2022), we focused on process redesign projects using RPA as a comparably novel technology in the domain of business process management. RPA projects can be understood as a type of lightweight process redesign project. Therefore, the goals of implementing RPA should relate to the goals of pursuing any general process redesign project. The focus on RPA allowed us to explore the feasibility of the research, eliminate initial unknowns, and provide initial insights into the analysis process (Venkatesh et al. 2013).

In this pre-study, we employed a systematic three-step approach to comprehensively explore the goals pursued when using RPA. Our first step involved a thorough literature review, following vom Brocke et al. (2015) and Webster and Watson (2002). We cast a broad net by using “robotic process automation” as the search term, and including multiple databases and outlets to cover the various aspects of the socio-technical phenomenon of BPM. These included the AIS library, the Business Process Management Journal, and the BPM conference proceedings. We also searched the AIS senior scholar’s basket of journals to cover high-quality articles from the general information systems domain and SSRN to include the most current preprints. This process yielded 227 relevant articles, complemented by a backward search resulting in 26 articles. We found 118 articles relevant after screening and eliminating duplicates and unrelated content. In the second step, we conducted ten semi-structured expert interviews (interviews 1–10), along with an additional six interviews (interviews 11–16) sourced from an openly accessible dataset base (Helm et al. 2021). Our approach to selecting interview participants adhered to the principles of purposeful sampling to maximize the diversity and richness of data obtained (Palinkas et al. 2015). To ensure a comprehensive exploration of RPA goals, we meticulously

crafted our original interviewee cohort (interviews 1–10). This involved recruiting companies from various industry sectors and sizes, thus capturing a broad spectrum of organizational contexts.

In a third step, we synthesized our findings by extracting RPA goals from the literature and interviews. This involved rigorous analysis using open coding techniques and multi-level axial coding (Strauss and Corbin 1997). We consolidated synonymous objectives and distilled them into distinct dimensions. Here, we followed hermeneutics and continuously moved from specific texts to the general understanding and back. The analysis resulted in 28 distinct goals for using RPA, which can be subsumed under five broader goal dimensions, in essence extending the Devil's Quadrangle for the context of RPA (Dumas et al. 2018). The approach taken in the first study is described in more detail in (François et al. 2022).

Since this proved the feasibility and relevance of our approach, we started the main study, expanding our focus from RPA as one specific type of process redesign project to process redesign projects in general.

### 3.2 Main study

We build the main study around the question of which goals organizations pursue in practice when (re)designing business processes. Thereby, we focused on process redesign projects in general and did not limit ourselves to focus only on a single technology, such as traditional BPM systems or RPA. To uncover relevant goals, we applied a qualitative meta-analysis on 54 case studies of such projects (Berente et al. 2019). With our meta-analyses, we aim to reinterpret published data to synthesize new insights and information. These insights must not necessarily emerge from applying the same research lens or focus as the original study (Noblit and Hare 1997). We followed three steps to execute our qualitative meta-analysis. First, we collected published reports on process redesign projects from the BPM cases books volume one and two (vom Brocke et al. 2021; vom Brocke and Mendling 2018) as they report the state-of-the-art of BPM at the intersection of academia and practice. The books depict an unbiased, open, and quality-reviewed dataset that enables comparability, as the published case reports are generally described similarly in structure and rely on analog ontologies. Using the books also eases the translation between the cases (Noblit and Hare 1997) as all share common basal framework (vom Brocke and Mendling 2018) and underlying ideas despite coming from diverse and rich settings.

Second, we manually reviewed all 54 cases and iteratively coded relevant sections and passages. More specifically, we performed open coding in line with grounded theory to uncover goals organizations pursue when conducting process redesign projects (Strauss and Corbin 1997). Three researchers coded the cases independently. Ten case studies were read and coded by three researchers to ensure coordination and a shared understanding of the key concepts and coding. After an agreement on the general level of detail, the researchers individually coded the remaining cases.

After the initial coding, we performed axial coding on the goals (Paré et al. 2015). All authors were involved in developing the axial codes. The final categories emerged from a rich and extensive discussion within the author team, which included the presentation of individual goals, iterative comparison with the developing list of

goals, cross-checking with the respective text passages, and finally, categorization in a hermeneutic fashion.

The dataset proved diverse yet consistent, confirming several of our pre-study aspirations for RPA in general BPM and extending them in a few areas. Consequently, we did not deem it necessary to extend the new dataset with additional case studies beyond the two book volumes we coded, as we experienced theoretical saturation and found our results to be well generalizable.

Instead, we returned to the scholarly BPM literature and, third, validated the developed goal dimensions via triangulation (Hayashi et al. 2019). For this purpose, we used the identified goal dimensions as starting points for a structured literature review. We conducted a search for each of the uncovered dimensions and their synonyms and BPM (e.g., (“BPM” OR “Business Process Management”) AND (“Time” OR “Speed” OR “Duration” OR “Timeliness”)). We applied these search terms in several outlets. To cover the top management literature, we searched the journals listed in the FT50 journal list. Moreover, we searched four journals with a strong focus on BPM (i.e., Business & Information Systems Engineering (BISE), Business Process Management Journal (BPMJ), Information Systems (IS), and Process Science (ProSci). To also incorporate recent developments, we searched the proceedings of the International Conference on Business Process Management (BPM Conf). Table 2 gives an overview of the search terms and the initial hits received from each outlet.

For each search term, one author then manually reviewed the ten newest and the ten most-cited publications. We chose this approach to cover both the newest and

**Table 2** Literature search initial hits

(“BPM” OR “Business Process Management”) AND...	FT50	BISE	BPMJ	IS	ProSci	BPM Conf	SUM
... (“Time” OR “Speed” OR “Duration” OR “Timeliness”)	3	11	58	200	18	167	457
... (“Economic” OR “Monetary” OR “Money” OR “Cost” OR “Costs” OR “Revenue” OR “Profit” OR “Profits” OR “Yield”)	3	5	34	150	11	86	289
... (“Quality” OR “Excellence” OR “Precision” OR “Compliance” OR “Defect” OR “Defects” OR “Error” OR “Errors”)	4	11	52	219	17	169	472
... (“Flexibility” OR “Flexible” OR “Adaptability” OR “Adaptable” OR “Agility” OR “Agile” OR “Responsiveness” OR “Responsive” OR “Versatility” OR “Versatile” OR “Scalability” OR “Scalable”)	0	5	43	178	14	176	416
... (“People” OR “Empowerment” OR “Empower” OR “Participation” OR “Participate” OR “Human-friendly” OR “Human friendly” OR “Human-Centric” OR “Human Centric” OR “Social” OR “Benevolent” OR “Responsible” OR “Responsibility”)	1	5	59	149	11	166	391
... (“Environment” OR “Sustainability” OR “Sustainable” OR “Green” OR “Eco-Friendly” OR “Eco Friendly” OR “Climate”)	0	5	56	199	3	156	419
SUM	11	42	302	1095	74	920	2444

the most impactful publications in the field. Duplicates were excluded. This process resulted in the inclusion of 95 manuscripts. The manuscripts were then coded by one author who had previously worked on the cases, and were used to contextualize and discuss our findings. We validated the existence of all our identified dimensions in the scholarly literature. However, as we did not find any major new insights on specific goals in the additional literature, we believe we again experienced saturation.

## 4 The BPM goal hexagon

Our detailed coding found 147 distinct goals companies pursue when conducting process redesign projects. Through axial coding, we generated six overarching dimensions: time, economics, quality, flexibility, people, and environment. In addition, we found a zeitgeist effect in which organizations employ certain BPM methods or technologies as a goal in itself because they are trending. We created a definition for the six goal dimensions. See Table 3 for an overview. Table 4 provides an extract of our coding structure with goal dimensions, exemplary goals, and related quotes from the analyzed data. A complete list of the identified goals is provided in Appendix. In the following sections, we describe the respective goal dimensions, provide exemplary low-level goals, and give practical examples for each. We will also discuss the relationship of our six dimensions to other goal categories.

### 4.1 Time

The *time* dimension includes goals that focus on reducing the time needed to complete processes or parts thereof. This can include the entire end-to-end process or specific elements of it (e.g., moving the moment of payment closer to the point of delivery; Pufahl et al. 2021). Such time-based goals can mean a traditional production time reduction (e.g., Schönig et al. 2021) or automating paper-based processes (e.g., Marek et al. 2021). Reisert et al. (2018), for example, describe altering the research and development process to increase the speed of innovation, while Kuhn et al. (2021) describe process redesign projects that enable quicker access to critical resources (medical specialists and specific treatments). Pufahl et al. (2021) describe shortening the time between the delivery of agricultural goods and issuing the payment, decreasing the financial burden on farms.

The time dimension is included in the original quadrangle: Dumas et al. (2018) describe reducing the average or maximal cycle time, processing time (the time during which resources are utilized), waiting time (e.g., waiting on input from another process), or variation in process times. We found similar goals in the cases and, thus, have verified the continuing importance of this dimension.

### 4.2 Economics

The *economics* dimension encompasses any uncovered goals that aim to directly reduce cost on the one hand or increase income and access new revenue streams on the other hand. Thus, we refer to economic goals, maximizing the output of a process

**Table 3** Goal dimensions and their definitions

Goal dimension	Definition
Time	The time dimension encompasses all goals related to improving the overall process execution speed, e.g., cycle time, processing time, and waiting time (see Dumas et al. 2018).
Economics	The economics dimension encompasses all goals that improve the overall financial performance of the process(es), e.g., an increase in revenue or lowering cost and economically relevant resource usage.
Quality	The quality dimension encompasses all goals that align with making a process fulfill or exceed the requirements of process stakeholders (ISO 9000:2015(en)). ‘Success’ in this dimension is, therefore, dependent on the extent to which a stakeholder feels that both the process and the resulting end product are of high quality. Examples include improving quality to meet or exceed competitors’ standards or the general reduction of errors in the process.
Flexibility	The flexibility dimension encompasses all goals related to increasing the ability to react to changes (Dumas et al. 2018) in the organization’s environment, the wishes of process participants, or customers. Examples include the ability to flexibly scale processes up and down or react to resource shortages.
People	The people dimension encompasses any goals that benefit the general well-being of humans and society in general, extending from process participants and process customers to the general public. Examples include the reduction of psychological stress endured by employees or the improvement of social inclusiveness in service processes.
Environment	The environment dimension encompasses goals related to reducing the negative impact an organization and its operation have on the environment or creating a positive impact. Examples include the reduction of pollution or the reduction of resource depletion.

and/or minimizing the input. While the investigated cases often mention goals such as reducing cost (e.g., Gabryelczyk et al. 2021; Buijs et al. 2021) or understanding the reasons for high cost (Andrews et al. 2018b), other cases instead focus on generating value, such as generating value from technology (Marek et al. 2021). Further, some focus on a combination of the two, as seen in the goals of increasing productivity (e.g., Metzger et al. 2021; Bandara et al. 2021), increasing the return on investment (e.g., Vitharanage et al. 2021; Ludacka et al. 2021), or increasing efficiency to catch up with competitors (Alibabaei 2021). A motivation to aspire to economic goals can stem from organizational goals or from outside the organization. Buijs et al. (2021), for example, describe the need to increase productivity due to constant cost pressure. Kovačič et al. (2018) describe that the case company pursued the goal of maintain-

**Table 4** Data structure derived through open and axial coding

Goal Dimension	Goal (examples)	Quote (examples)
Time	Increasing process speed	“Its purchase department spent a lot of time entering incoming purchase order confirmations from its vendors into its SAP system. This process had to be automated with the most suitable technology to make it more time- and cost-efficient.” (Schindlbeck and Kleinschmidt 2018)
	Reducing stop times	“Based on these issues, the project’s goals were (i) to increase operators’ productivity in terms of reduced stop times and increased production speed, [...]” (Schönig et al. 2021)
Economics	Adding value to services	“However, as the project progressed, the objectives evolved from the automation of forms to adding value to services, reducing risk, and improving overall quality and the user’s experience.” (Vitharanage et al. 2021)
	Reducing cost	“Pension funds and their customers, the participants in the funds, face the problems of reduced pension value, so there is ongoing pressure to lower execution costs to minimize these reductions while at the same time increasing customer satisfaction” (Buijs et al. 2021)
Quality	Standardizing processes	“The goal of the new BPM policy was to increase effectiveness and efficiency across all of the company’s business processes while standardizing them and aligning them with its goals.” (Woliński and Bala 2018)
	Reducing process failure cases	“Quality is a key factor for the company, and its goal of “zero defects” can be achieved only through advanced planning and the consistent implementation of all necessary measures to be described later on in the paper.” (Blasini et al. 2018)
Flexibility	Dealing more flexibly with customer requirements	“Our approach combines automatically executed business compliance rules with process redesign to provide the flexibility that is essential for insurance processes.” (Kim et al. 2018)
	Staying successful during changing market conditions	“To master this situation and act in accordance with its motto, ‘Smart solutions, wise management,’ the System Group decided to strengthen and improve its business processes, which can influence operations, services, and performance, by implementing BPM in such a way as to increase customer satisfaction and the organization’s agility and continue its success in the market.” (Alibabaei 2021)
People	Improving employee satisfaction	“In addition to the economic component, the company sought to strengthen employee satisfaction by fitting jobs and work activities for the future through digitization and all aspects of work 4.0.” (Ludacka et al. 2021)
	Removing unpleasant process steps	“To retrieve the amount of excess [(unemployment)] support from a customer is difficult, time-consuming, and, often unsuccessful — not to mention upsetting for the customer, who may not have the necessary funds, given his or her joblessness.” (Dees et al. 2021)
Environment	Increase (environmental) safety and compliance	“The petroleum industry is characterized by increased focus [sic] on safety and compliance with regulations, in addition to efficient operations.” (Krogstie et al. 2018)
	Reducing energy demand	“The project seeks to manage building projects with sustainable processes where (1) the evolution of KPIs related to energy demand and consumption can be optimized throughout the building project and (2) the impact of decisions made in this regard can be tracked between the parties involved.” (Fernández et al. 2021)

ing a competitive advantage through BPM, in essence, trying to keep up with market pressure. As an example of internal motivation, van Looy and Rotthier (2018) describe the goal of increasing the return on digital investments. They achieve this by using BPM methods to reuse these assets within several business processes.

The original Devil's Quadrangle included cost instead of economics. Nevertheless, Dumas et al. (2018) already then stated: "While we refer to cost here, it would also have been possible to put the emphasis on turnover, yield, or revenue. [...]. However, process redesign is more often associated with reducing cost." (Dumas et al. 2018, p. 60). As an example, Dumas et al. (2018) describe the goals of reducing fixed and variable costs through activity-based costing of infrastructure and maintenance cost and measuring operational cost per execution, such as labor cost or (software) service cost. We did not find this same intense focus on cost in the case reports we analyzed. While many cases focused on reducing cost, others similarly focused on overarching yield goals (see above). Therefore, we argue to broaden the understanding of this dimension to include the more proactive and innovation-oriented aspects of economics instead of solely focusing on the rather negative perspective of reducing cost.

### 4.3 Quality

In the *quality* dimension, we subsume goals that aim to meet or exceed process stakeholders' expectations. The goals associated with specific process improvements ideally stem from the organization's overall goals. These organizational goals could include, for example, providing customers with the best possible service (Bandara et al. 2021; Bolboli et al. 2021), enhancing patient care in a hospital setting (Bandara et al. 2018), "offer an 'A-star' experience" (Viaene and van den Bergh 2018), or simply by reducing errors and rework cycles. The expectations associated with processes can stem from internal stakeholders (such as management or employees) or external stakeholders (like customers, governments, or associated organizations) (Cee et al. 2021; Marek et al. 2021).

Building on this, the quality dimension also relates to documenting and prescribing specific ways of doing things. This can, for example, refer to quality management certifications (e.g., Krogstie et al. 2018; Bandara et al. 2021) or using BPM to align staff members with the company's vision and strategy of seeking high quality (Viaene and van den Bergh 2018).

This dimension is included in the original Devil's Quadrangle as well. Dumas et al. (2018) argue that it is often measured using metrics such as churn rate or net promoter score. These cover the external satisfaction with the process and the product (i.e., the result of the process). Internal quality relates to process quality as perceived by internal participants (e.g., the level of variation). Both internal and external process quality relate to the extent to which a stakeholder feels that the process and the end product are of high quality. As such, the quality dimension does not include the effects of the process on stakeholders or the broader environment. We cover these aspects in the people and environment dimensions.

#### 4.4 Flexibility

*Flexibility* encompasses goals along the capability to change and adapt processes according to varying environmental conditions or changing organizational goals. The flexibility of business processes is recognized as an important factor in organizational success (e.g., Beverungen et al. 2021; Baiyere et al. 2020).

In the examined cases, flexibility-related goals were often used as a means to obtain or maintain a competitive advantage in changing market conditions (e.g., Czarnecki 2018; Vitharanage et al. 2021), to enable innovation in processes (Bolboli et al. 2021), or to flexibly react to resource shortages (e.g., Canjels et al. 2021). Kim et al. (2018) use compliance rules to standardize processes while allowing for flexibility in knowledge-intensive processes. Duelli et al. (2018) investigate the flexibility requirements of business processes to design adequately flexible information systems. Czarnecki (2018) describes a rigid organization starting process redesign projects to adapt to changed market conditions and customer expectations.

In their original introduction of the flexibility dimension, Dumas et al. (2018) defined flexibility as the “extent to which the performance of a process is maintained under changing or abnormal conditions, for example, when a works engineer resigns suddenly or when a supplier goes bankrupt” (Dumas et al. 2018, p. 17). They distinguish run-time and build-time flexibility and cite metrics such as the ability to execute varying types of tasks, varying workloads, and changing rulesets. Further, we found that organizations employ flexibility goals that enable them to scale process capacity according to organizational decisions, give degrees of freedom to knowledge-intensive processes, or allow for bottom-up process innovation.

#### 4.5 People

*People* goals consider the impact of processes on individuals' well-being both in the direct vicinity of the process and in the larger social context. This includes the well-being of internal or external process participants and the effects experienced by people and groups not directly involved or affected by the process. Kuhn et al. (2021); Andrews et al. (2018a) describe using process redesign projects to provide better medical procedures for citizens. Dees et al. (2021) describe how suboptimal process design in social services can not only lead to paying out too many unemployment benefits—burdening taxpayers—but also endangering the recipient's welfare due to chargebacks. Similarly, Pufahl et al. (2021) describe introducing distributed ledger technology to build trust among business process participants and give security to farmers in case a payment falls through. Moreover, technologies can automate processes, relieve workers of boring and unattractive tasks, and thus increase employee satisfaction (François et al. 2022). An interviewee stated that they used RPA so that a worker would not have to manually skim obituaries in the newspaper to identify deceased customers, as this was emotionally draining (Interviewee 10 from François et al. 2022<sup>1</sup>). As another example, Alves et al. (2018) describe using BPM to engrain

<sup>1</sup> The quote was not included in the original publication due to length restrictions: “At one bank, there was a situation where an employee had to check the death notices every morning and then close people's

ethical values in financial audit processes to increase the public's trust in these processes, improving the perceived dependability regarding these services.

Usually, the organizations in the cases link success in this dimension with employee satisfaction (e.g., Marek et al. 2021; Geiger et al. 2021; Buijs et al. 2021). Other relevant factors, such as perceived stress (Andrews et al. 2018a) or adherence to ethical considerations (Alves et al. 2018)—while important—are more challenging to quantify and describe.

Even though, according to Dumas et al. (2018), the quality dimension somewhat accounts for the well-being of direct process participants such as employees and customers, organizations nowadays also motivate process redesign projects with considerations from a broader sociological standpoint. This can include other (voluntary or involuntary) direct process participants (e.g., state pension recipients as in Buijs et al. 2021) or even society at large (e.g., digitalization of public services as in van Looy and Rotthier 2018). Given the importance of this topic in current times, as well as the understanding that “pulling” the people vertex of the hexagon could reduce the external quality of the process, we consider the people dimension distinct from the overall quality of the process.

The distinctness of people goals can, for example, be seen in the case by Dees et al. (2021). Here, an artificial intelligence (AI) system was developed that identifies the unemployment benefit claimants who most likely made an error in filling out the benefit form. Only when the AI suspected errors were present were the cases manually checked. This was considered “the approach least likely to irritate or over-communicate with customers who were unlikely to make errors.” (Dees et al. 2021). The aim to not irritate customers stands in direct competition with the quality dimension; a strict focus on quality would demand a process identifying and correcting all faulty claims. Another example of conflict between the people and quality dimension is relieving employees in customer service of grinding tasks: Removing these tasks will benefit the people dimension (i.e., employee satisfaction) but may reduce the perceived quality of the process, for example, if customer service tasks become self-service.

## 4.6 Environment

Lastly, we identified the goal dimension *environment*. This dimension includes all goals aiming to reduce the ecological impact of individual processes. It was previously covered in the literature stream of green BPM, which develops approaches using BPM to reduce CO2 emissions and the subsequent harmful effects on the environment (e.g., Couckuyt and van Looy 2020; Ghose et al. 2010; Seidel et al. 2012). For example, Fernández et al. (2021), describe using process redesign projects to lower the overall energy consumption. Sometimes, these goals are also motivated by cost-saving goals (and, as such, goals from the economics dimension). Meanwhile, Krogstie et al. (2018) describe the use of process redesign projects to improve safety in the oil industry and thus reducing the chance of environmental hazards through, for

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accounts. There was no worthwhile business case for this [altering the process], but it had to be automated out of humanity.”

example, oil spills. Rau et al. (2018) describe the use of an adapted process management software to improve the process of compensating for environmental damages.

Similar to the people dimension, this dimension was not discussed in the original Devil's Quadrangle. Yet, Seidel et al. (2012) already proposed a variant of it as the emergent dimension of sustainability, which has remained relevant since. By itself, it provides a distinct dimension of BPM redesign goals that genuinely competes with the other goal dimensions. Prior research has often used the umbrella term sustainability to cover this goal. However, this view of sustainability encompasses more than environmental sustainability. It also includes economic and social sustainability (Elkington 1999; Norman and MacDonald 2004), aspects that are covered in the economics and people dimension. While Seidel et al. (2012) have not formulated concrete metrics for their novel dimension, we consider, for example, fixed and variable CO<sub>2</sub> emissions, energy consumption, water use, and waste reduction as suitable metrics. Further process-related metrics can be derived from indices such as the Environmental Performance Index (see Wolf et al. 2022).

## 5 Discussion and future research agenda

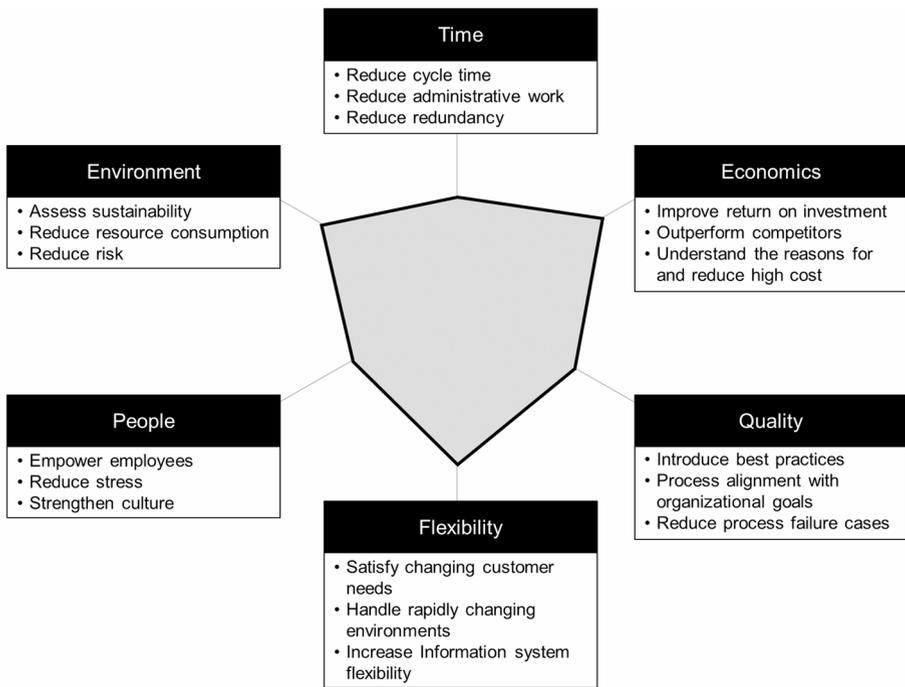
### 5.1 The BPM goal hexagon and its implications

Our research was motivated by the observation that the majority of contemporary BPM research builds upon the Devil's Quadrangle when discussing the goals of process redesign projects. This is in stark contrast to the changes in organizational strategies as prominently emphasized in ESG reporting or the discussions around a triple bottom line (i.e., people, planet, profit) of organizations (Elkington 1999). Naturally, the goals pursued in BPM projects must affect the methods designed to achieve them (Schmiedel et al. 2020; Fischer et al. 2020a), and an understanding of the goals pursued is necessary as a context for understanding processes (Segatto et al. 2013). As such, we set out to identify and systemize the goals organizations pursue when redesigning processes today.

To this end, we conducted a two-phase research project and identified and systematized 147 distinct goals into six goal categories: time, economics, quality, flexibility, people, and environment. Based on our systematization of the six goal dimensions, we propose to update the Devil's Quadrangle to a BPM Goal Hexagon (see Fig. 1), which serves as a conceptualization to guide goal setting in contemporary process redesign projects.

Our BPM Goal Hexagon differs from the Devil's Quadrangle in two important aspects with implications for research and practice: It includes two additional dimensions, and it has reconceptualized cost as economics to remove the negative notion of cost reduction and instead put an emphasis on economic gains achieved through BPM as an additional dimension.

First, in an evolution from the Devil's Quadrangle, we reconceptualized the cost dimension. While the original literature focused chiefly on cost (Brand and van der Kolk 1995; Dumas et al. 2018), our insights suggest that organizations have already extended this notion and rather pursue economic goals in general. The dimension of



**Fig. 1** The BPM goal hexagon with exemplary and conflicting goals

economics naturally contains cost-related goals but extends them with an explicit focus on goals related to the top-line, that is, increasing returns or income. As such, it is appropriate to take a positive perspective on the economic dimension rather than a negatively connotated stance and focus only on cutting costs.

Second, our study showed that organizations, in fact, pursue process redesign projects not only to optimize costs, quality, time, or flexibility but also to achieve goals regarding people and environment and broader economic goals. This focus on aspects of social and environmental sustainability is comparably new and not broadly covered in BPM research (Nurkasanah and van Looy 2026; Djurica et al. 2026). Elkington (1999) argued for the conscious analysis of the social and environmental goals next to pure profit goals. In 2004, the United Nations published a report, “who cares wins,” which called for incorporating environmental, social, and governance factors when creating stock market analyses. Similarly, in the information systems domain, Sarker et al. (2019) analyzed articles published in MIS Quarterly and Information Systems Research between 2000 and 2016. They noted that while “the majority of the reviewed studies (91%) have focused exclusively on instrumental goals”, for example, efficiency or productivity, and subsequently called for more research that also accounts for the humanistic outcomes, such as the well-being of people. Similarly, Potoczek et al. (2026, p. 61) found that 3,09% of studied organizations implemented ESG practices. Benevolent business processes (Rosemann et al. 2023) are a first attempt to conceptualize this growing aspiration. This focus on profit orientation, in contrast to more humanistic goals, was already noted by Nordsieck (1955). With the

growing importance of social and environmental sustainability on the one hand and the empirical observation that organizations pursue related targets with their process redesign projects, it is not only timely but also relevant to include the dimensions of people and environment into the BPM Goal Hexagon.

This further distinction may leave the particular question: When is a goal a people goal and when is a goal a quality goal? While we think that this will be intuitively clear for most cases, assigning goals to these dimensions can depend on the context, for example, in terms of the organizational culture. We encourage companies to not only consider objectifiable factors as quality, and the more relative perception of people as people, but also make the distinction based on the intent of improving the product or service itself, or making it more enjoyable or humane for the participants.

Due to the increased multiplicity of goal dimensions, their relationship has become more complex. However, we believe that, as a conceptualization, the rationale of the original Devil's Quadrangle is still true. It suggests that improving a process in one dimension may well weaken the process in another (or all others). Dumas et al. (2018) described this vexing relationship as: "If you were to move one vertex of the quadrangle, it may set another one in motion in an undesirable direction." One classic example is that an organization could hire more employees to speed up the process (time dimension). This would, however, result in extra costs and, as such, reduce the financial performance (economics dimension).

As an extension, we propose that the relationship between the dimensions is more complex. While some goals in one dimension hurt the performance in another, other goals can have a positive influence on other dimensions as a windfall effect. Automating a process for economic gains can also help alleviate the need for employees to perform tedious steps or reduce process execution time. Goals can be complementary or conflicting, depending on the measures of the specific process improvement project. This entails that goal dimensions are not strictly mutually exclusive, as process improvement projects can pursue goals from multiple dimensions simultaneously or even benefit from windfall effects in other dimensions while mainly pursuing a specific goal. However, as with the existing conceptualization of the Devil's Quadrangle, the increase in those dimensions may entail a reduction in all other dimensions to the extent that—obviously—not all dimensions can be maximized at the same time. For example, organizations might aim to achieve improved economics and time in their processes while reducing environmental impact as a windfall effect at the expense of the people, quality, and flexibility dimensions.

Building on this, practitioners need to take a broader viewpoint from the more technical considerations of the original Devil's Quadrangle towards a socio-technical view and consider the entire BPM Goal Hexagon: When planning any process redesign project, the impact of changes along the six goal dimensions and their complex relationship must be taken into consideration.

Further, scholars need to account for the multitude of goals uncovered when conducting both design-oriented and behavioral BPM research. With regard to design-oriented research, the suitability of existing process improvement methods and heuristics regarding the additional and changed goal dimensions need to be evaluated. When designing new BPM methods (or improving existing ones), it is no longer enough to cater to the technical perspective of the Devil's Quadrangle. From

**Table 5** Research agenda overview

Area	Topic
Goal relations	Interrelation between goals Prioritization of goals Deriving BPM objectives from corporate objectives
Goals in BPM	Goals of BPM at the project, program, and enterprise capability level Goals of individual actors BPM goals and methods
Goal operationalization	Operationalizing goals Measuring goal operationalization
Goals over time	Goal drift BPM goal proliferation
Zeitgeist	Zeitgeist

a behavioral perspective, insights and theories become necessary that advance our understanding of how organizations use BPM regarding all goal dimensions.

Lastly, in addition to the six goal dimensions, we noticed a zeitgeist effect, where companies would sometimes conduct process redesign projects since they deem process redesign itself, or the methods and technologies used, as trending and want to dabble with them. Zeitgeist is not a proper goal in itself, but it motivates organizations to conduct corresponding projects and can even be an enabler for digitalization (Vitzethum et al. 2024) and contribute to a learning strategy if managed properly (Fischer et al. 2020b). For example, in the case described by Czarnecki (2018), “[t]he project began with the vague objective of improving how business processes are managed and executed. At this early stage, the concrete scope and objectives were not defined yet” (Czarnecki 2018, p. 61). In a similar approach, Gabryelczyk et al. (2021) describe that in their project, the entire BPM lifecycle was to be implemented as an end in itself. We found similar effects in the pre-study, where RPA was introduced as a “hot” technology without any additional motivation apart from using the technology (François et al. 2022). This effect appears similar to the bandwagon effect (Rohlfis 2003; Rikkers 2002), where people or organizations will follow new, trending technologies or methods. In this light, the zeitgeist effect does not constitute a goal in the sense of goal-setting. Instead, it is an effect related to non-rational decision-making behavior.

## 5.2 Future research agenda

During the evaluation of the cases and subsequent analysis of the scientific literature, several potential areas for future research emerged. In the following, we outline them as a research agenda. Table 5 provides an overview of the areas and associated topics.

**Interrelation between goals** The Devil’s Quadrangle (Dumas et al. 2018) stresses an adverse relationship between goals. Here, focusing on improving one goal dimension takes away from one or more other dimensions. However, in multiple case studies, we saw organizations achieve improvements in one major goal dimension and additional improvements in other goal dimensions as windfall profit (see e.g. Schönig

et al. 2021; Gabryelczyk et al. 2021). This behavior was also included in the BPM literature (see, e.g., Chandrasiri et al. 2026; Rosemann et al. 2023). Future research should, therefore, be conducted on which goals negatively impact one another (goal competition), which do not affect one another (goal neutrality), and which are supportive of one another (goal complementarity). Future research should also uncover how these interrelations can be harnessed or, if negative, mitigated.

**Prioritization of goals** As already noted by Dumas et al. (2018), organizations often simultaneously follow multiple goals in BPM initiatives. As the goals pursued may positively or negatively influence each other, future research should examine how the prioritization of one goal over another can affect the overall outcomes of BPM initiatives. Future research should also uncover which goals are commonly ranked as more important in specific settings, to better understand BPM initiatives in their context and aid those goals.

**Deriving BPM objectives from corporate objectives** As the goals for conducting BPM initiatives have shifted, we may need to revisit the question of strategic alignment for BPM. Research should examine how this shift is motivated by a change in the organization's overall goals. Furthermore, research should shed light on how organizational goals can more directly influence the goals in BPM programs and individual projects.

**Goals of BPM at the project, program, and enterprise capability levels** Another area for future research is the interaction among goals pursued at these levels. Future research should uncover which goals influence organizations' building (or neglecting) BPM capabilities. Future research should also find out how the goals of individual BPM projects change when they are transitioned into a company-wide BPM effort.

**Goals of individual actors** In addition, further research should be carried out on how specific goals of process participants (see e.g. Yan et al. 2015) interact with the uncovered organizational goals. Kern et al. (2024) describe that individual actors are often concerned with "operational processes, strongly emphasizing values such as freedom, human health, and justice," while they found the organisational perspective to be more aligned with the classic BPM goals. The alignment or misalignment of organizational and individual BPM goals could lead to unexpected outcomes in BPM projects.

**BPM goals and methods** Schmiedel et al. (2020) have pointed out that using BPM methods without properly understanding their purpose and the goals they support can hinder their performance. Future research should therefore examine which BPM methods and technologies support or hinder which goals. Dumas et al. (2018) describe process redesign heuristics and respective process mining techniques for each of the Devil's Quadrangle's dimensions. Future research should therefore focus on techniques that support the new goal dimensions. In addition, future research should be done to ensure the existing BPM methods are aligned with all organizational BPM goals.

**Operationalizing goals** In line with the last point, future research should identify how specific characteristics of BPM initiatives and projects, as well as BPM methods, aid or hamper the operationalization of specific goals in the BPM project. This can help practitioners to conduct BPM more successfully.

**Measuring goal operationalization** The shift of goal priorities and emergence of new goal dimensions, as well as the positive and negative interrelations, lead to the question of how the operationalization of goals can be meaningfully measured across all affected business processes. While research and practice have found measures for a variety of goals from the classic goal dimensions, goals for the new dimensions remain underdeveloped (Potoczek et al. 2026).

**Goal drift** Research should also find out how goals undergo change as BPM initiatives or individual projects mature. Some cases (e.g., Czarnecki 2018; Gabryelczyk et al. 2021) hinted that the goals they pursued drifted during the course of a BPM project. This seems to be the case when BPM projects do not lead to the expected results, but instead yield other (similarly desirable) outcomes. Similarly, the importance of individual goals could change over time. Future research should therefore find the reasons for this shift in goals and for the failure to meet the original goals. Moreover, research should evaluate whether this shift in goals is a beneficial behavior. Again, insights into how goal drift can be averted (or accelerated) are needed as well.

**BPM goal proliferation** In addition to goal drift, the goals pursued may also change when additional goals are added by stakeholders (e.g., upper management). Future research should uncover which consequences such a “goal feature creep” can have on BPM success and how a more complete set of goals can be determined at the onset of BPM projects.

**Zeitgeist** Future research should further evaluate the observed zeitgeist effect in BPM. Studies should uncover in more detail when and why organizations incorporate “hot and trendy” technologies into their business processes, not because of traditional rational goals, but for the sake of following the pack. It should also be uncovered under which circumstances such behavior can lead to beneficial outcomes.

### 5.3 Limitations

While we have conducted our research carefully using multiple sources of insights, we are still limited as we only focus on process redesign projects. We acknowledge that understanding BPM as an organizational capability means that it is more than just a collection of single projects—it is a continuous way of overseeing how work is performed in organizations. As such, it is conceivable that BPM as an organizational capability may have goals that differ from the BPM Goal Hexagon presented—an aspect we consciously excluded from our study. In addition, we acknowledge that using cases published in the book series could limit our findings (e.g., through selection bias). However, we believe the editors have carefully selected the cases, and focusing on interesting case outcomes does not skew the view of the goals that ini-

tially drove the companies to pursue BPM initiatives, especially since some cases did not meet their initial goals. Finally, we used a limited set of BPM publications to validate our overall findings. Since we experienced saturation before and after the structured literature review, and used both the newest and most cited research, we believe this to be somewhat mitigated.

## 6 Conclusion

In this research, we set out to identify and systemize goals organizations pursue when conducting process redesign projects and thereby confirm or revise the state-of-the-art. Through a multi-phase and multi-method study, we were able to identify and conceptualize the six distinct goal dimensions of time, economics, quality, flexibility, people, and environment, which in parts reconfirmed but also extended the Devil's Quadrangle for business process management project goal conceptualization. Based on these dimensions, we proposed the BPM Goal Hexagon and discussed the multifaceted and complex relationship of the different goal dimensions. The BPM Goal Hexagon can inform both BPM practice and research. In research, it serves as a new and extended framework that broadens the horizon of its users and can both guide the development of BPM methods and the analysis of BPM practices in organizations. In practice, it serves as a means to set goals more consciously and meticulously discuss the impact of process redesign projects beyond technical consideration.

## Appendix: List of identified goals and associated dimensions

The following table contains a coding tree of the 147 distinct goals we identified in our research. During coding, we added higher-level (meta) goals not explicitly mentioned in the BPM cases. They emerged from thematically grouping other goals. These goals are not numbered and are marked in a grey background and uppercase lettering. The table contains goals for traditional BPM as well as RPA.

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
	Increase Economics							
1	Optimization	x	x	x	x	x	x	
2	Improve/continue market success	x						
3	Maintain/improve competitiveness	x						

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist	
4	Increase effectiveness/efficiency	x							
5	Increase productivity	x							
6	Improve ROI	x							
8	Aid automation and IT implementation	x	x		x				
9	Ensure operation outside of business hours	x	x						
10	Identify automation candidates	x							
11	Increase reuse of digital investments	x	x						
12	Reduce cost	x							
13	Stick to a planned budget	x							
14	Headcount reduction	x							
15	Counter rising resource cost	x							
16	Lower costs to conduct and maintain IT projects	x							
	<i>Understand Cost/Revenue Streams</i>								
17	Identify reasons for high cost	x							

The BPM Goal Hexagon: an update to the Devil's Quadrangle

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
18	Understand process cost	x						
19	Prove reasonable and cost-effective spending <i>Increase Value</i>	x			x			
20	Ensure that business processes deliver maximum value	x			x			
21	Focus on value creation	x						
22	Focus on value-added activities	x						
23	Add value to services	x			x			
24	Support implementation of processes	x						
25	Reduce risk	x					x	
26	Notice emerging risks	x					x	
27	Improve public image	x						
28	Build trust	x			x			
29	Achieve buy-in from higher authorities	x				x		
30	Be seen as a market leader	x						
31	Improve time <i>Reduce Process Execution Time</i>		x					

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
32	Find the reasons for delay and long runtime		x					
33	Lead time reduction		x					
34	Reduce execution times		x					
35	increase production speed		x					
36	Reduce delays/ waiting time		x					
37	Faster case decisions		x		x			
38	Get the payment closer to the point of delivery		x			x		
39	Parallelization		x					
40	Time-effectiveness		x					
41	Deal with high transaction volume	x	x					
42	Time-efficiency		x					
43	Reduce administrative work	x	x					
44	Reduce redundancy	x	x					
45	Improve flexibility			x				
46	Identify flexibility potentials			x				

The BPM Goal Hexagon: an update to the Devil's Quadrangle

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist	
47	Information system flexibility			x					
48	Business process flexibility			x					
49	Flexibility at runtime			x					
50	Handle rapidly changing environments			x					
51	Deal with globalization			x					
52	Increase agility			x					
53	Handle agile processes			x					
54	Improve quality				x				
	<i>Improve Internal Quality</i>								
55	Improve usability				x	x			
56	Improve data integration				x				
57	Improve Business/IT alignment				x				
58	Avoid shadow IT				x				
59	Improve customer/user experience				x				
60	Offer an 'A-star' experience				x				
61	Improve patient care				x	x			
62	Reduce customer churn	x			x				

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
63	Increase customer satisfaction				x			
64	Reduce customer churn	x			x			
65	Fulfill customers' desire for certified processes	x			x			
66	Improve customers' access to service				x			
67	Increase innovation	x	x	x	x	x	x	x
68	Trigger the development of new products	x			x			
69	Increase process maturity				x			
<i>Improve BPM</i>								
70	Improve the process design, implementation, and monitoring phase				x			
71	Improve processes and their management				x			
72	Have the full BPM life cycle implemented				x			
<i>Improve Process Quality</i>								

The BPM Goal Hexagon: an update to the Devil's Quadrangle

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
73	Clarify/ improve/ document decision- making processes				x	x		
74	Introduce best practices				x			
75	Increase security	x			x			
76	Develop process blueprints				x			
77	Align processes and staff with the com- pany's vision and strategy				x			
78	Imple- ment/ improve gover- nance				x			
79	Reduce process failure cases	x			x	x		
80	Prevent problems before they arise		x		x			
81	Product/ service quality				x			
82	Customer- orienta- tion				x			
83	Simplify process	x			x			
84	Enable/ improve process mining				x			
85	Ensure consistent positive process outcomes				x			

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
86	Increase standardization				x			
87	Ensure employees stick to formal processes				x			
88	Reduce process variants				x			
89	Clarify/document processes				x			
90	Ensure consensus about process concepts and procedures				x			
91	Norm procedures across partners to enable collaboration				x			
92	Improve process control				x			
	<i>Measure and Manage Quality</i>							
93	Enhance process transparency				x			
94	Implement/influence performance measures				x			
95	Improve project management				x			
96	Foster process analysis				x			

The BPM Goal Hexagon: an update to the Devil's Quadrangle

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
97	Improve understandability				x	x		
98	Improve traceability				x			
99	Identify causes of issues	x			x			
100	Find the reasons for variation	x			x			
101	Increase quality of process models				x			
102	Improve process innovation	x	x	x	x	x	x	
104	Ensure compliance				x			
105	Ensure regularly compliance				x			
106	Keep and maintain certifications (e.g., ISO 9001)				x			
	<i>Improve External Quality Satisfy and Keep Customers</i>							
107	Better understand customers				x			
108	Improve healthcare provision				x	x		
109	Reduce the financial burden on customers					x		
110	Improve customer value				x	x		
111	Customer inclusion in BPM				x	x		

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
<i>Build Process Mindset and Capabilities</i>								
112	Build process awareness				x	x		
113	Process centricity			x	x			
114	Strengthen culture				x	x		
115	Change mindsets				x	x		
116	Define responsibilities				x	x		
117	Aid knowledge management and protect knowledge		x	x	x	x		
118	Make process data accessible for non-experts				x			
119	Training of employees				x	x		
120	Develop capabilities					x		
<i>People</i>								
121	Stakeholder identification				x	x		
122	Improve internal people benefits					x		
<i>Networks and Communication</i>								
123	Increase communication and coordination				x	x		
124	Reduce silos and foster networking			x	x	x		

The BPM Goal Hexagon: an update to the Devil's Quadrangle

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
125	Reduce unnecessary meetings	x				x		
126	Reduce inquiries by phone	x				x		
<i>Employee Wellbeing</i>								
127	Reduce the number of boring, difficult or unattractive tasks					x		
128	Reduce stress					x		
129	Increase work safety					x		
130	Empowerment of employees					x		
131	Enhance staff support					x		
132	Improve employee satisfaction					x		
133	Improve onboarding				x	x		
134	Improve horizontal and vertical cooperation and communication			x	x	x		
135	People-centric organizational change					x		

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
136	Let business users decide which tasks aid their business goals			x		x		
137	Make workers feel involved in processes					x		
138	Increase employee engagement					x		
139	Mitigate open positions/missing workers	x				x		
140	Mitigate the impact of demographic change				x	x		
	<i>Environment</i>							
141	Assess sustainability						x	
142	Manage compensation obligations						x	
143	Reduce resource consumption/waste	x					x	
	<i>Zeitgeist</i>							
144	Modernize processes							x
145	“Better” management of business processes							x

#	Goals of BPM	Economics	Time	Flexibility	Quality	People	Environment	Zeitgeist
146	Use technology because it is a “trend”							x
147	Improve “something”							x

**Author contributions** All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Peter A. François, Vincent Borghoff and Alexander Mayr. All authors contributed equally to the first draft of the manuscript. Peter A. François, Vincent Borghoff, Ralf Plattfaut and Christian Janiesch further refined the manuscript. All authors read and approved the final manuscript.

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**Data availability** This study heavily relies on published manuscripts (especially vom Brocke and Mendling (2018) and vom Brocke et al. (2021) which are available from their respective publishers. The interviewees from the pre-study did not consent to publishing the interviews, in addition, we used some publicly available interviews (Helm et al. 2021).

## Declarations

**Conflict of interest** We are not aware of any competing interests. Paxray GmbH was not involved with the paper and had no say in its development.

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## References

- Afflerbach P, Bolsinger M, Röglinger M (2016) An economic decision model for determining the appropriate level of business process standardization. *Bus Res* 9(2):335–375. <https://doi.org/10.1007/s40685-016-0035-6>
- Alibabaei A (2021) On the role of BPM governance at system group: the BPM Journey of an Iranian Software Solution Provider. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases vol. 2*. Springer, Berlin, Heidelberg, pp 207–220

- Alves C, Jatobá I, Valença G, Fraga Glória (2018) Exploring the influence of organizational culture on BPM success: the experience of the pernambuco court of accounts. In: vom Brocke J, Mendling J (Eds) Business process management cases. Springer International Publishing, Cham, pp 593–610
- Andrews R, Suriadi S, Wynn M, Hofstede AHM, Rothwell S (2018a) Improving patient flows at St. Andrew's War Memorial Hospital's emergency department through process mining. In: vom Brocke J, Mendling J (eds) Business process management cases. Springer International Publishing, Cham, pp 311–333
- Andrews R, Wynn M, Hofstede AHM, Xu J, Horton K, Taylor P, Plunkett-Cole S (2018b) Exposing Impediments to insurance claims processing. In: vom Brocke J, Mendling J (eds) Business process management cases. Springer International Publishing, Cham, pp 275–290
- Ansoff HI (2007) Strategic Management. Basingstoke: Palgrave Macmillan Ltd. Available online at <http://gbv.eblib.com/patron/FullRecord.aspx?p=736069>
- Baiyere A, Salmela H, Tapanainen T (2020) Digital transformation and the new logics of business process management. *Eur J Inf Syst (Eur J Inform Syst)* 29(3):238–259. <https://doi.org/10.1080/0960085X.2020.1718007>
- Bandara W, Syed R, Ranathunga B, Kulathilaka KB, Sampath (2018) People-centric, ICT-Enabled process innovations via community, public and private sector partnership, and e-leadership: the case of the Dompe eHospital in Sri Lanka. In: vom Brocke J, Mendling J (Eds) Business process management cases. Springer International Publishing, Cham, pp 125–148
- Bandara W, Merideth JC, Techatassanasoontorn AA, Mathiesen P, O'Neill D (2021) Successful BPM Governance: insights from Commonwealth Bank of Australia. In: vom Brocke J, Mendling J, Rosemann M (eds) Business process management cases, vol 2. Springer, Berlin, Heidelberg, pp 195–206
- Berente N, Lyytinen K, Yoo Y, Maurer C (2019) Institutional logics and pluralistic responses to enterprise system implementation: a qualitative meta-analysis. *Manag Inf Syst Q (MIS Quarterly)* 43(3):873–902. <https://doi.org/10.25300/MISQ/2019/14214>
- Beverungen D, Buijs JCAM, Becker Jörg, Di Ciccio C, van der Aalst WMP, Bartelheimer C et al (2021) Seven paradoxes of business process management in a hyper-connected world. *Bus Inf Syst Eng* 63(2):145–156. <https://doi.org/10.1007/s12599-020-00646-z>
- Blasini J, Leist S, Merkl W (2018) Developing and implementing a process-performance management system: experiences from S-Y systems technologies Europe GmbH—A Global Automotive Supplier. In: vom Brocke J, Mendling J (eds) Business process management cases. Springer International Publishing, Cham, pp 37–54
- Boell SK, Cecez-Keemanovic D (2014) A hermeneutic approach for conducting literature reviews and literature searches. *Commun Assoc Inf Syst* 34(12)
- Bolboli SA, Hasenauer L, Cabanillas C (2021) BPM Adoption at the Industrial Services Provider Bilfinger. In: vom Brocke J, Mendling J, Rosemann M (eds) Business process management cases, vol 2. Springer, Berlin, Heidelberg, pp 235–248
- Brand N, van der Kolk H (1995) Werkstroomanalyse en -ontwerp. Het logistiek vriendelijk ontwerpen van informatiesystemen. Kluwer Bedrijfswetenschappen (Moret-reeks), Deventer. Available online at <https://permalink.obvsg.at/AC15286182>
- Buijs JCAM, Bergmans RFM, El Hasnaoui R (2021) Analysis of the customer journey at the pension provider APG using self-service and data hub concepts. In: vom Brocke J, Mendling J, Rosemann M (eds) Business process management cases, vol 2. Springer, Berlin, Heidelberg
- Butler T (1998) Towards a hermeneutic method for interpretive research in information systems. *J Inf Technol* 13(4):285–300. <https://doi.org/10.1057/jit.1998.7>
- Canjels KF, Imkamp MSV, Boymans TAEJ, Vanwersch RJB (2021) Improving the arthrosis care process at maastricht UMC+: unraveling complex and noncomplex cases by data and process mining. In: vom Brocke J, Mendling J, Rosemann M (eds) Business process management cases, vol 2. Springer, Berlin, Heidelberg, pp 139–152
- Cee K, Bruns I, Schachermeier A, Kaiser, Lena F (2021) Adoption of globally unified process standards: the case of the production company Marabu. In: vom Brocke J, Mendling J, Rosemann M (eds) Business process management cases, vol 2. Springer, Berlin, Heidelberg, pp 249–259
- Chandrasiri T, Bandara W, Rosemann M, Ostern N, Voss M (2026) Designing business processes for good: a canvas-based framework for routinized benevolence. In: Mahendrawathi ER, Avigdor Gal T, Grisold F, Santoro M, Weske, Remco M, Dijkman et al (eds) Business process management: responsible BPM forum, process technology forum, educators forum, vol 565. Lecture Notes in Business Information Processing. Springer Nature Switzerland, Cham, pp 87–101

- Couckuyt D, van Looy A (2020) A systematic review of green business process management. *Buis Process Manag J* 26(2):421–446. <https://doi.org/10.1108/BPMJ-03-2019-0106>
- Czarnecki C (2018) Establishment of a central process governance organization combined with operational process improvements. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 57–67
- Dees M, Leoni Mde, van der Aalst WMP, Reijers HA (2021) Accurate predictions, invalid recommendations: lessons learned at the dutch social security institute UWV. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 165–178
- Denner M-S, Püschel LC, Röglinger M (2018) How to exploit the digitalization potential of business processes. *Bus Inf Syst Eng* 60(4):331–349. <https://doi.org/10.1007/s12599-017-0509-x>
- Djurica D, Franzoi S, Spiekermann-Hoff S (2026) Operationalizing responsible BPM: a method for value-based process redesign. In: Mahendrawathi ER, Avigdor Gal T, Grisold F, Santoro M, Weske, Remco M, Dijkman et al (eds) *Business process management: responsible BPM forum, process technology forum, educators forum, vol 565*, Lecture Notes in Business Information Processing. Springer Nature Switzerland, Cham, pp 72–86
- Duelli C, Keller R, Manderscheid J, Manntz A, Röglinger M, Schmidt M (2018) Enabling flexible laboratory processes: designing the laboratory information system of the future. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 361–379
- Dumas M, La Rosa M, Mendling J, Reijers HA (2018) *Fundamentals of business process management, 2nd Edn*. Springer Berlin Heidelberg, Berlin, Heidelberg
- Dumas M, Fournier F, Limonad L, Marrella A, Montali M, Rehse J-R et al (2023) AI-augmented business process management systems: a research manifesto. *ACM Trans Manag Inf Syst* 14(1):1–19. <https://doi.org/10.1145/3576047>
- Elkington J (1999) Cannibals with forks: the triple bottom line of 21st century business. *Altern Soc Transform Hum Gov* 25(4)
- Fernández AMG, van Rijswijk F, Ruhsam C, Kogler K, Shadrina A, Zucker G (2021) Tracking energy efficiency performance at clean energy solutions. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 69–80
- Fischer M, Imgrund F, Janiesch C, Winkelmann A (2020a) Strategy archetypes for digital transformation: defining meta objectives using business process management. *Inf Manag* 57(5):103262. <https://doi.org/10.1016/j.im.2019.103262>
- Fischer M, Imgrund F, Janiesch C, Winkelmann A (2020b) Strategy archetypes for digital transformation: defining meta objectives using business process management. *Inf Manag* 57(5):103262. <https://doi.org/10.1016/j.im.2019.103262>
- Gabryelczyk R, Grygorowicz A, Bitkowska Agnieszka (2021) Developing business process architecture at poland's ministry of finance. an uneasy journey toward BPM. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 289–315
- Gadamer H-G (1975) Hermeneutics and social science. *Cult Hermeneut* 2(4):307–316. <https://doi.org/10.1177/019145377500200402>
- Geiger J, Jablonski S, Petter S, Püschel L, Röglinger M (2021) Managing agile business processes at N-DECT. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 93–108
- Ghose A, Hoesch-Klohe K, Hinsche L, Le L-S (2010) Green business process management: a research agenda. *Australas J Inf Syst* 16(2). <https://doi.org/10.3127/ajis.v16i2.597>
- Hayashi P, Abib G, Hoppen N (2019) Validity in qualitative research: a processual approach. *Qual Rep*. <https://doi.org/10.46743/2160-3715/2019.3443>
- Helm A, Herm L-V, Imgrund F, Janiesch C (2021) Interview guideline, transcriptions, and coding for a consolidated framework for implementing robotic process automation projects. Available online at <https://b2share.eudat.eu/records/402d2d1544124d24902182652d1bc77a>, checked on 5/26/2022.
- Honderich T (2005) *The Oxford companion to philosophy*. 2. ed., new ed. Oxford University Press, Oxford
- ISO 9000 2015(en), 09.2015: ISO 9000:2015 Quality management systems - Fundamentals and vocabulary
- Jamali D (2006) Insights into triple bottom line integration from a learning organization perspective. *Buis Process Manag J* 12(6):809–821. <https://doi.org/10.1108/14637150610710945>
- Jansen-Vullers MH, Looschilder MWNC, Kleingeld PAM, Reijers HA (eds) (2007) Performance measures to evaluate the impact of best practices. Engineering (CAiSE'07). In: *Proceedings of workshops and doctoral consortium of CAiSE'07 (BPMDS workshop)*. Trondheim: Tapir Academic Press (19th International Conference on Advanced Information Systems Engineering (CAiSE 2007))

- Kern CJ, Poss L, Kroenung J, Schönig S (2024) Navigating the moral maze: a literature review of ethical values in business process management. *Bus Process Manage J* 30(8):343–370. <https://doi.org/10.1108/BPMJ-06-2024-0504>
- Kim TTT, Weiss E, Ruhsam C, Czepa C, Tran H, Zdun U (2018) Enabling flexibility of business processes using compliance rules: the case of mobiliar. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 91–109
- Kotlar J, Massis Ade, Wright M, Frattini F (2018) Organizational goals: antecedents, formation processes and implications for firm behavior and performance. *Int J Manag Rev* 20(S1). <https://doi.org/10.1111/ijmr.12170>
- Kovačić A, Hauc G, Buh B, Štemberger MI (2018) BPM adoption and business transformation at snaga, a public company: critical success factors for five stages of BPM. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 77–89
- Krogstie J, Heggset M, Wessenberg H (2018) Business Process Modeling of a Quality System in a Petroleum Industry Company. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 557–375
- Kuhn T, Bruhin J, Hill T (2021) Making processes patient-centric: process standardization and automation in the healthcare sector at hirslanden AG. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 221–234
- Lee AS, Dennis AR (2012) A hermeneutic interpretation of a controlled laboratory experiment: a case study of decision-making with a group support system. *Inf Syst J* 22(1):3–27. <https://doi.org/10.1111/j.1365-2575.2010.00365.x>
- Locke EA, Latham GP (1990) *A theory of goal setting & task performance*. Prentice-Hall, Inc (A theory of goal setting & task performance, Englewood Cliffs, NJ, US
- Locke EA, Latham GP (2002) Building a practically useful theory of goal setting and task motivation. A 35-year odyssey. *Am Psychol* 57(9):705–717. <https://doi.org/10.1037/0003-066X.57.9.705>
- Ludacka F, Duell J, Waibel P (2021) Digital Transformation of global accounting at Deutsche Bahn Group: the case of the TIM BPM suite. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 57–68
- Marek J, Blümlein K, Wehking C (2021) Process automation at generali CEE holding: a journey to digitalization. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 19–28
- Marx J, Stieglitz S, Brünker F, Mirbabaie M (2023) Home (Office) is where your Heart is. *Bus Inf Syst Eng* 65(3):293–308. <https://doi.org/10.1007/s12599-023-00807-w>
- Metzger A, Franke J, Jansen T (2021) Ensemble deep learning for proactive terminal process management at the port of Duisburg Duisport. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases, vol 2*. Springer, Berlin, Heidelberg, pp 153–164
- Mohr LB (1973) The concept of organizational goal. *Am Polit Sci Rev* 67(2):470–481. <https://doi.org/10.2307/1958777>
- Muff K (2024) From ESG management to positive impact creation. (Ed.): *The handbook of climate change leadership in organisations*. Routledge, Abingdon, pp 21–37. Doug MacKie
- Niehaves B, Poepelbuss J, Plattfaut R, Becker J (2014) BPM capability development – a matter of contingencies. *Bus Process Manag J* 20(1):90–106. <https://doi.org/10.1108/BPMJ-07-2012-0068>
- Njenga K, Brown I (2012) Conceptualising improvisation in information systems security. *Eur J Inf Syst* 21(6):592–607. <https://doi.org/10.1057/ejis.2012.3>
- Noblit GW, Hare RD (1997) *Meta-ethnography. synthesizing qualitative studies*. 3rd edn. Newbury Park, Calif, Sage (A Sage university paper, 11)
- Nordsieck F (1955) *Rationalisierung der Betriebsorganisation: Poeschel*. Available online at [https://books.google.de/books?id=\\_HjiMgEACAAJ](https://books.google.de/books?id=_HjiMgEACAAJ)
- Norman W, MacDonald C (2004) Getting to the bottom of triple bottom line. *Bus Ethics Q* 14(2):243–262. <https://doi.org/10.5840/beq200414211>
- Nurkasanah I, van Looy A (2026) Bridging BPM and sustainability journeys in navigating sustainability paradoxical tensions. In: Mahendrawathi ER, Avigdor Gal T, Grisold F, Santoro M, Weske, Remco M, Dijkman et al (eds) *Business process management: responsible BPM forum, process technology forum, educators forum*. Lecture Notes in Business Information Processing, vol 565. Springer Nature Switzerland, Cham, pp 66–71
- Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K (2015) Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Health* 42(5):533–544. <https://doi.org/10.1007/s10488-013-0528-y>

- Paré G, Trudel M-C, Jaana M, Kitsiou S (2015) Synthesizing information systems knowledge: a typology of literature reviews. *Inf Manag* 52(2):183–199. <https://doi.org/10.1016/j.im.2014.08.008>
- Potoczek NR, Paliwoda-Matiolańska A, Homoncik KB, Łapczyński M (2026) Anchoring ESG goals in business processes: engagement patterns in polish organizations. In: Mahendrawathi ER, Avigdor Gal T, Grisold F, Santoro M, Weske, Remco M, Dijkman et al (eds) *Business process management: responsible BPM forum, process technology forum, educators forum*, vol 565. Lecture Notes in Business Information Processing. Springer Nature Switzerland, Cham, pp 51–65
- Pritchard J-P, Armistead C (1999) Business process management – lessons from European business. *Bus Process Manag J* 5(1):10–35. <https://doi.org/10.1108/14637159910249144>
- Pufahl L, Ohlsson B, Weber I, Harper; Garrett, Weston E (2021) Enabling financing in agricultural supply chains through blockchain. *interorganizational process innovation through blockchain*. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases*, vol 2. Springer, Berlin, Heidelberg, pp 41–56
- Rau I, Rabener I, Neumann Jürgen, Bloching S (2018) Managing environmental protection processes via BPM at Deutsche Bahn. FINK: the information system for nature conservation and compensation. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 381–396
- Reijers HA, Liman Mansar S (2005) Best practices in business process redesign: an overview and qualitative evaluation of successful redesign heuristics. *Omega* 33(4):283–306. <https://doi.org/10.1016/j.omega.2004.04.012>
- Reisert C, Zelt S, Wacker J (2018) How to move from paper to impact in business process management: the journey of SAP. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 21–36
- Rikkers LF (2002) The bandwagon effect. *J Gastrointest Surg* 6(6):787–794. [https://doi.org/10.1016/S1091-255X\(02\)00054-9](https://doi.org/10.1016/S1091-255X(02)00054-9)
- Rohlf's JH (2003) Bandwagon effects. In *high tech industries*. The MIT Press, First MIT Press paperback edition
- Rosemann M, vom Brocke J (2015) The six core elements of business process management. In: vom Brocke J, Rosemann M (eds) *Handbook on business process management 1. Introduction, Methods, and Information Systems*. 2nd Edition. Springer, Berlin, Heidelberg, pp 105–122
- Rosemann M, Ostern N, Voss M, Bandara W (2023) Benevolent business processes - design guidelines beyond transactional value. In: Chiara Di Francescomarino, Andrea Burattin, Christian Janiesch, Shazia Sadiq (eds) *Business process management, Lecture notes in Computer Science*, vol 14159. Springer Nature Switzerland, Cham, pp 447–464
- Sarker S, Chatterjee S, Xiao X, Elbanna A (2019) The sociotechnical axis of cohesion for the IS discipline: its historical legacy and its continued relevance. *Manag Inf Syst Q* 43(3):695–719. <https://doi.org/10.25300/MISQ/2019/13747>
- Schindlbeck B, Kleinschmidt P (2018) Integrate your partners into your business processes using interactive forms: the case of automotive industry company HEYCO. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 485–501
- Schmiedel T, vom Brocke J, Recker J (2014) Development and validation of an instrument to measure organizational cultures' support of business process management. *Inf Manag* 51(1):43–56. <https://doi.org/10.1016/j.im.2013.08.005>
- Schmiedel T, Recker J, vom Brocke J (2020) The relation between BPM culture, BPM methods, and process performance: evidence from quantitative field studies. *Inf Manag* 57(2):103175. <https://doi.org/10.1016/j.im.2019.103175>
- Schönig S, Ermer A, Jablonski S (2021) Sensor-Enabled Wearable Process Support in the Production Industry. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases vol 2*. Springer, Berlin, Heidelberg, pp 29–40
- Segatto M; Inés Dallavalle de Pádua, Pinheiro S, Martinelli D (2013) Business process management: A systemic approach?. *Bus Process Manag J* 19(4):698–714. <https://doi.org/10.1108/BPMJ-Jun-2012-0064>
- Seidel S, Recker J, vom Brocke J (2012) Green business process management. *Towards the Sustainable Enterprise*. Springer, Berlin, Heidelberg, pp 3–13. Available online at [https://link.springer.com/chapter/https://doi.org/10.1007/978-3-642-27488-6\\_1](https://link.springer.com/chapter/https://doi.org/10.1007/978-3-642-27488-6_1).
- Strauss AL, Corbin JM (eds) (1997) *Grounded theory in practice*. Thousand Oaks, Calif.: Sage Publ. Available online at <http://www.loc.gov/catdir/enhancements/fy0655/96045918-d.html>

- François PA, Borghoff V, Plattfaut R, Janiesch C (2022). Why Companies Use RPA: A Critical Reflection of Goals. In: Di Ciccio, C, Dijkman R, del Río Ortega A, Rinderle-Ma S. (eds) *Business Process Management. BPM 2022. Lecture Notes in Computer Science*, vol 13420. Springer, [https://doi.org/10.1007/978-3-031-16103-2\\_26](https://doi.org/10.1007/978-3-031-16103-2_26)These
- van der Aalst WMP, Zhao JL, Wang HJ (2015) Editorial: Business process intelligence: connecting data and processes. *ACM Trans Manage Inf Syst* 5(4):1–7. <https://doi.org/10.1145/2685352>
- van der Aalst WMP, Becker Jörg, Bichler M, Buhl HU, Dibbern J, Frank U et al (2018) Views on the past, present, and future of business and information systems engineering. *Bus Inf Syst Eng* 60(6):443–477. <https://doi.org/10.1007/s12599-018-0561-1>
- van Looy A, Rotthier S (2018) Kiss the documents! how the city of ghent digitizes its service processes. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 187–204
- van Looy A, Backer Mde, Poels G, Snoeck M (2013) Choosing the right business process maturity model. *Inf Manag* 50(7):466–488. <https://doi.org/10.1016/j.im.2013.06.002>
- Venkatesh V, Brown SA, Bala H (2013) Bridging the qualitative-quantitative divide: guidelines for conducting mixed methods research in information systems. *Manag Inf Syst Q* 37(1):21–54. <https://doi.org/10.25300/MISQ/2013/37.1.02>
- Viaene S, van den Bergh J (2018) Fast fish eat slow fish: business transformation at autogrill. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 149–166
- Vitharanage ID, Toman D, Bandara W, Syed R (2021) Realizing the benefits of process improvement: the case of Queensland University of Technology. In: vom Brocke J, Mendling J, Rosemann M (eds) *Business process management cases*, vol 2. Springer, Berlin, Heidelberg, pp 179–191
- Vitzethum M, Mayr A, Janiesch C (2024) Categories of business value of robotic process automation: a study of benefits and challenges. In: Andrea Marrella, Manuel Resinas, Mieke Jans, Michael Rosemann (eds.) *Business process management*, vol 14940. Springer Nature Switzerland (Lect. Notes Comput. Sci.), Cham, pp 421–438
- vom Brocke J, Rosemann M (eds) (2015) *Handbook on business process management 1. Introduction, methods, and information systems*. 2nd Edn. Springer, Berlin, Heidelberg
- vom Brocke J, Mendling J (eds) (2018) *Business Process management cases*. Springer International Publishing, Cham
- vom Brocke J, Schmiedel T, Recker J, Trkman P, Mertens W, Viaene S (2014) Ten principles of good business process management. *Bus Process Mgmt J* 20(4):530–548. <https://doi.org/10.1108/BPMJ-06-2013-0074>
- vom Brocke J, Simons A, Riemer K, Niehaves Björn, Plattfaut R, Cleven A (2015) Standing on the Shoulders of Giants: Challenges and Recommendations of Literature Search in Information Systems Research. *Commun Assoc Inf Syst (Communications Association Inform Systems)* 37. <https://doi.org/10.17705/ICAIS.03709>
- vom Brocke J, Mendling J, Rosemann M (eds) (2021) *Business Process Management Cases*, vol 2. Springer, Berlin, Heidelberg
- vom Brocke J, Mendling J (2018) Frameworks for business process management: a taxonomy for business process management cases. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 1–17
- Webster J, Watson RT (2002) Analyzing the past to prepare for the future: writing a literature review. *Manag Inf Syst Q* 26(2):xiii–xxiii
- Weske M (2019) *Business Process Management*. Springer Berlin Heidelberg, Berlin, Heidelberg
- Wolf MJ, Emerson JW, Esty DC, de Sherbinin A, Wendling ZA et al (2022) *Environmental Performance Index 2022. Ranking country performance on sustainability issues*. Yale Center for Environmental Law & Policy, New Haven
- Woliński B, Bala S (2018) Comprehensive business process management at siemens: implementing business process excellence. In: vom Brocke J, Mendling J (eds) *Business process management cases*. Springer International Publishing, Cham, pp 111–124
- Yan J, Hu D, Liao SS, Wang H (2015) Mining agents' goals in agent-oriented business processes. *ACM Trans Manage Inf Syst* 5(4):1–22. <https://doi.org/10.1145/2629448>
- Zhang C, Issa H, Rozario A, Soegaard JS (2023) Robotic process automation (RPA) implementation case studies in accounting: a beginning to end perspective. *Acc Horizons* 37(1):193–217. <https://doi.org/10.2308/HORIZONS-2021-084>

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