Organizing Process Mining for Business Value

Dissertation
zur Erlangung des Grades eines Doktors der Wirtschaftswissenschaft
der Rechts- und Wirtschaftswissenschaftlichen Fakultät
der Universität Bayreuth

vorgelegt von
Laura Andrea Marcus
aus
München

Dekan:	*Prof. Dr. Claas Christian Germelmann*
Erstberichterstatter:	*Prof. Dr. Maximilian Röglinger*
Zweitberichterstatter:	*Prof. Dr. Jan vom Brocke*
Tag der mündlichen Prüfung:	*05. Juni 2025*

„A fool with a tool is still a fool.“

(Grady Booch)

Copyright Statement

The following sections are partly comprised of content from the research papers included in this thesis. To improve the readability of the text, I omit the standard labeling of these citations.

Abstract

In an increasingly complex business environment shaped by globalization, rising customer expectations, and evolving regulatory demands, organizations must continuously optimize their operations to remain competitive. At the same time, the exponential growth of data generated by enterprise systems and digital platforms has opened new avenues for data-driven performance improvement. Process mining has emerged as a key enabler of data-driven business process improvement by leveraging this event data to generate insights into process behavior, performance, and compliance. However, despite the rapid advancements in process mining technology, organizations continue to face challenges in realizing its full potential. Many struggle to scale process mining initiatives beyond pilot projects and to systematically translate process insights into sustained business value. Moreover, the increased transparency enabled by process mining can trigger employee resistance if not accompanied by structured stakeholder and change management.

While the technical foundations of process mining have progressed considerably, research and practice have only recently begun to explore the organizational and managerial conditions necessary for successful implementation and value realization. Yet, for process mining to deliver sustainable value, technical capabilities alone are insufficient — organizations must also establish governance structures, build methodological expertise, implement enablement mechanisms, and ensure strategic alignment. These organizational factors must be integrated with technological developments to transition from isolated analytical insights to sustained process improvements and measurable outcomes.

Building on these challenges, this dissertation addresses the overarching research question of *how to organize process mining to generate business value*. Following a cumulative research approach, it consists of seven research papers, each contributing to different dimensions of this challenge. At its core, the dissertation introduces a Value Management Capability Framework, which provides a structured foundation for value realization through process mining. Building on this framework, four interrelated research areas are examined.

Research article #1 presents the Value Management Capability Framework, which forms the conceptual foundation of this dissertation. The framework distinguishes between two interconnected layers of capabilities: *core capabilities*, which directly create business value by enabling process improvement through insights gained from applying PM to process data in individual PM value cases; and *supporting capabilities*, which provide the organizational, structural, and strategic conditions necessary to embed process mining within the enterprise.

Research articles #2 and #3 further explore the domain of core capabilities. Research article #2 introduces a structured approach to managing process-mining-enabled process improvement projects in a value-oriented manner, offering guidance on how to prioritize and execute initiatives systematically. Research article #3 complements this by presenting the FLAC method, which translates established process improvement patterns into programmable rulesets. This method facilitates the scalable and semi-

automated generation of improvement ideas, thereby addressing one of the most manual and expertise-intensive phases of process mining initiatives.

The focus then shifts to supporting capabilities. Research articles #4 and #5 investigate governance models for both process mining and business process management, underscoring the importance of institutionalized structures, clearly defined roles, and standardized methodologies. Article #6 examines the concept of behavioral visibility, offering a capability-based perspective on balancing transparency and employee engagement to foster adoption and mitigate resistance.

Finally, research article #7 contributes a methodological lens by analyzing qualitative research within the information systems field. It proposes an architecture for qualitative research outcomes, enhancing the interpretability, transparency, and rigor of qualitative contributions.

By integrating these contributions, this dissertation advances the discourse on value realization through process mining. It extends theoretical perspectives by building upon existing concepts and theories such as behavioral visibility, the business value of IT, and dynamic capabilities theory, while offering practical guidance for organizations seeking to leverage process mining as a strategic enabler of process optimization and organizational efficiency. The findings provide actionable insights for business leaders, process analysts, and IT managers, helping organizations to not only execute process mining projects effectively but also develop the necessary capabilities to institutionalize and scale process mining as a long-term driver of business value.

Table of Contents

List of Figures

List of Tables

Acronyms

BI&A	Business Intelligence and Analytics
BPI	Business Process Improvement
BPM	Business Process Management
BPM-G	Business Process Management Governance
C2E	Conceptual-to-Empirical
CAGR	Compound Annual Growth Rate
CoE	Center of Excellence
DO	Design Objective
DSR	Design Science Research
E2C	Empirical-to-Conceptual
IS	Information System(s)
IT	Information Technology
KPI	Key Performance Indicator
PM	Process Mining
PPM	Project Portfolio Management
ROI	Return on Investment
SME	Situational Method Engineering

I Introduction

I.1 Motivation

Organizations today operate in an increasingly complex environment shaped by globalization, digitalization, the exponential growth of data, and regulatory demands (Denner et al., 2018; Wessel et al., 2021). These developments intensify competition (Park et al., 2023), raise customer expectations (Kreuzer et al., 2020) and lead to evolving compliance requirements (Yoo, 2010) fundamentally altering how businesses function. To navigate these challenges, organizations must continuously optimize their operations to maintain long-term competitiveness (Malinova et al., 2022).

In this context, business processes are crucial, as research shows that value creation heavily depends on their effectiveness and the ability to manage process change (Fink et al., 2017; vom Brocke et al., 2014). Moreover, process efficiency has been established as a key driver of competitive advantage (Grisold, Janiesch, et al., 2024; Groß et al., 2024; Hammer, 2015). In turn, Business Process Management (BPM) has emerged as a foundational discipline for organizations aiming to improve performance and drive continuous improvement (Beverungen et al., 2021; Grisold et al., 2022; Recker & Mendling, 2016, 2016). BPM enables organizations to design, implement, analyze, and improve business processes, helping them to streamline operations and reduce costs (Kerpedzhiev et al., 2017; vom Brocke & Rosemann, 2015). However, as enterprises become increasingly data-driven, traditional BPM approaches – centered around process modeling, manual redesign, and compliance checking (Dumas et al., 2018) – have reached their limitations in capturing the full scope of process dynamics and real-time decision-making (van der Aalst, 2016; vom Brocke et al., 2016).

As a response, BPM has evolved into a data-driven discipline, leveraging digital capabilities for process analysis and improvement. This shift is exemplified by the rise of Process Mining (PM), a powerful business intelligence and analytics (BI&A) technology (Badakhshan et al., 2022; Chen et al., 2012). Positioned at the intersection of data science and process science, PM extracts operational process data from enterprise systems to provide real-time insights into actual process execution (van der Aalst, 2011, 2016). By uncovering bottlenecks, inefficiencies, and compliance violations, PM enables organizations to transition from intuition-based to evidence-based process management (Martin et al., 2021) and thereby enhances traditional BPM. These advantages have driven widespread adoption of PM, with the market projected to grow from $3.66 billion in 2025 to $42.69 billion by 2032, exhibiting a CAGR of 42% (Fortune Business Insights, 2025).

While PM adoption is accelerating, the rapid rise has also created a hype cycle, where organizations rush to adopt the technology but lack structured strategies for implementation and value realization (Reinkemeyer, 2022). To avoid this pitfall, PM must not be seen merely as a trend or a means to an end. Simply investing in the technology does not automatically translate into process improvements. Like other BI&A technologies, PM requires substantial investments – not only in software licenses but also in infrastructure, architectural integration, and skill development (Dechert et al., 2025). These

investments must be justified through actual efficiency gains and measurable business improvements (Eggers et al., 2023; Martin et al., 2021). Yet, many organizations struggle to bridge the gap between generating insights, implementing process improvements, and realizing business value, leading to underwhelming results (Eggers et al., 2023; Martin et al., 2021). A study by market leader Celonis indicates that while 73% of organizations use PM primarily for process transparency, far fewer successfully translate insights into concrete process improvements and measurable business value (Celonis, 2023).

A key reason for this gap is the predominant focus of research and practice on technical advancements of PM, neglecting the role of organizational factors, such as governance structures, change management, and process alignment (Eggers et al., 2023; Mamudu et al., 2024). PM vendors prioritize software development as their core business, while academic research – largely influenced by PM's roots in computer science – has concentrated on advancing algorithms, event log analysis, and visualization techniques (Carmona et al., 2018; van der Aalst, 2016). Yet, successful adoption and value creation requires both technological progress and organizational readiness. Only recently has research begun exploring structures, capabilities, and management practices necessary to ensure PM´s successful and sustainable integration within enterprises (Grisold et al., 2021; vom Brocke et al., 2021). For example, prior studies have explored various dimensions of PM adoption, including factors that drive successful adoption (Martin et al., 2021; Stein Dani et al., 2024), maturity models for assessing adoption levels (Mamudu et al., 2024), methods for selecting suitable PM use cases (Rott & Böhm, 2022), and approaches for assessing PM-enabled value creation (Badakhshan et al., 2022).

While these studies provide valuable insights, they remain fragmented and exploratory, leaving critical questions unanswered. In particular, organizations continue to struggle with scaling PM beyond pilot projects, as many firms fail to institutionalize PM due to a lack of governance models, standardized methodologies, and clearly defined roles (vom Brocke et al., 2021). Without structured governance, PM initiatives remain ad hoc and misaligned with broader strategic objectives. Additionally, organizations face difficulties in bridging the gap between PM-generated insights and actionable process improvements. Although PM tools provide detailed analytics, they do not autonomously generate improvement ideas, leaving organizations without systematic approaches to translate insights into tangible business value (Badakhshan et al., 2022). Another key challenge lies in managing stakeholder engagement and change management, as increased process transparency through PM can trigger employee resistance (Leonardi & Treem, 2020) especially when perceived as surveillance rather than an enabler of continuous improvement (Badakhshan et al., 2022). Finally, organizations often struggle to align PM adoption with their strategic business goals. Many firms lack structured value case methodologies to systematically assess the ROI of PM initiatives, making it difficult to justify investments and ensure that PM efforts contribute to long-term business value (Eggers et al., 2023). These challenges highlight the need for a holistic approach to PM – one that moves beyond the current

scope of technical considerations and incorporates strategic, organizational, and managerial perspectives.

I.2 Research Objectives

Based on the research needs identified above, this dissertation contributes to the overarching research question of *how to organize PM to generate business value.* To systematically address this research question, this dissertation follows two main approaches: First, it develops a comprehensive Value Management Capability Framework for PM, establishing a foundation for understanding the interplay between project-level and company-level enablers for value generation with PM. While a holistic framework is necessary to conceptualize PM adoption, the framework alone does not provide sufficient detail on how to address these critical organizational challenges in practice. Therefore, after introducing the framework, this thesis deep dives into selected key areas of the framework to address specific challenges. In particular, the thesis investigates four areas, each corresponding to a dedicated section of this dissertation:

First, in research article (RA) #1, the dissertation introduces the Value Management Capability Framework, which serves as the conceptual foundation of this thesis. The framework offers a comprehensive perspective on the capabilities required for sustainable PM value realization, addressing gaps in prior research that often focused solely on technical advancements or isolated organizational challenges. It distinguishes between two interconnected layers: core capabilities, which guide the structured execution of PM projects to turn insights into tangible improvements, and supporting capabilities, which enable long-term adoption by embedding PM into organizational structures, competencies, and strategic processes (Figure 1).

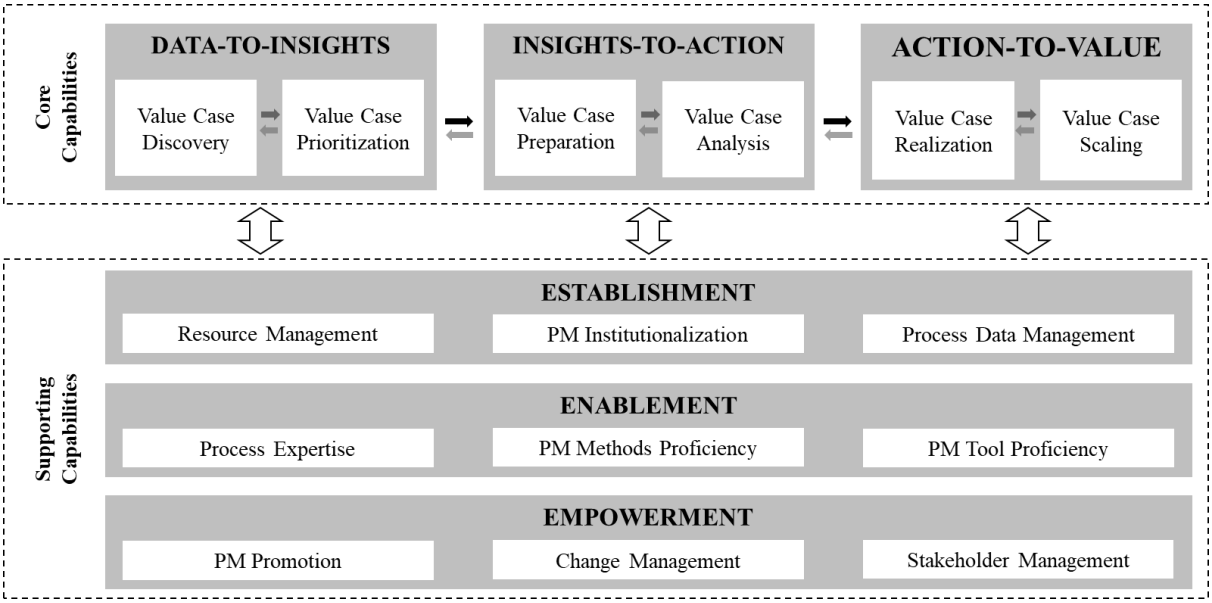


***Figure 1**.Value Management Capability Framework for Process Mining*

Following the introduction of the framework, the dissertation delves into core capabilities, the enablers of PM project execution that transform insights into business value. While PM provides transparency, organizations often struggle to bridge the gap between data-driven insights and concrete process improvements (Badakhshan et al., 2022; Eggers et al., 2023). This section addresses this challenge by developing structured approaches for managing PM-driven process improvement projects (RA #2) and providing semi-automated support for generating actionable process improvement ideas (RA #3).

Subsequently, the dissertation investigates supporting capabilities, which ensure that PM can scale beyond individual projects and become embedded within the organization. A key challenge in PM adoption lies in the absence of governance models, standardized methodologies, and stakeholder management strategies (Reinkemeyer, 2022; vom Brocke et al., 2021). This section examines governance structures for institutionalization at both the PM (RA #4) and BPM (RA #5) levels and explores how behavioral visibility can be managed to balance transparency and employee engagement (RA #6).

Fourth, the dissertation provides a methodological deep dive into qualitative research, which underpins multiple studies in this thesis (RA #7). Given that PM adoption involves strategic, managerial, and human-centric challenges, qualitative research plays a crucial role in understanding organizational dynamics and decision-making processes. The corresponding research article develops a classification framework that structures different forms of qualitative research outcomes, enhancing transparency and contributing to a more systematic discourse in IS research.

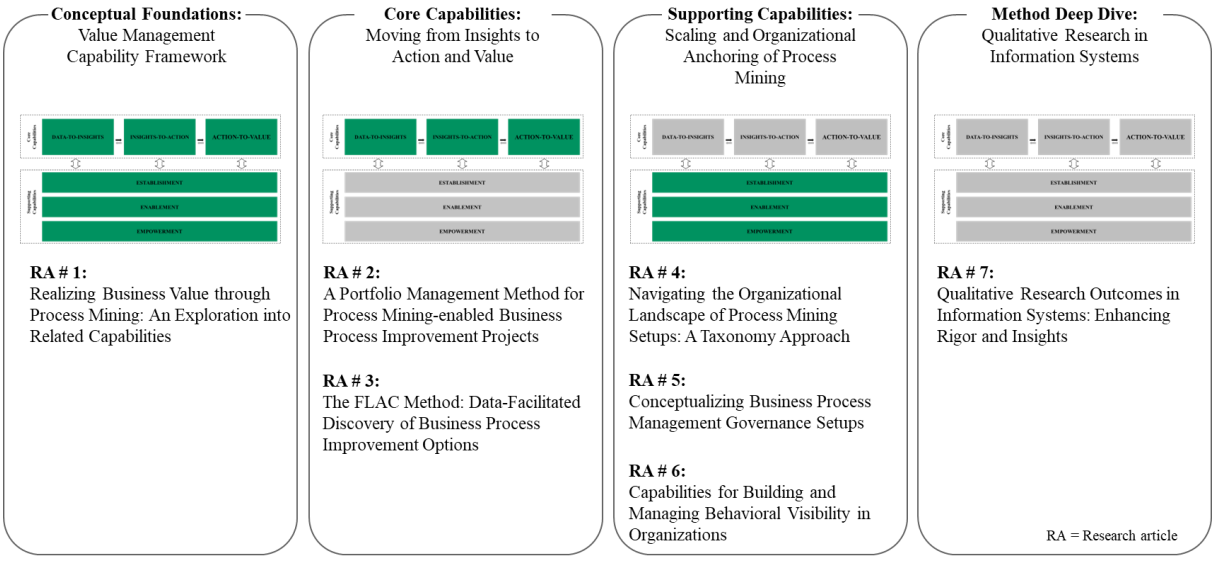


Figure 2. *Focal research areas in this thesis embedded in the Value Management Capability Framework*

Figure 2 displays the research areas embedded in the Value Management Capability Framework. In summary, this dissertation contributes to the research question of *how to organize PM for business value* by providing a structured approach to organizing PM for business value, integrating both conceptual and empirical insights. Methodologically, the thesis follows qualitative research methods, i.e., case study

methodology, and the design science research (DSR) paradigm. The outcomes of this thesis can be categorized as *predominantly social* as well as *social and technical as interactive to produce outcomes* (Grashoff & Recker, 2023; Sarker et al., 2019).

I.3 Structure of the Thesis and Embedding of the Research Papers

This dissertation follows a cumulative research approach, consisting of seven research articles that provide empirical, theoretical, and methodological insights into the organization of PM for business value realization. Table 1 provides an overview of the dissertation's structure, which is organized into the four research areas outlined in I.2, and provides an overview of how the research articles are embedded within these sections.

The dissertation is structured as follows: After establishing the scope and defining the research objectives in Section I, Section II (including RA #1) introduces the Value Management Capability Framework, which serves as the conceptual foundation for the dissertation. This section defines the core and supporting capabilities necessary for PM adoption and provides a structured framework for understanding how organizations can effectively organize PM initiatives to generate business value.

Section III (including RA #2 and #3) focuses on core capabilities, which enable organizations to translate insights into action and execute PM-driven process improvements. This section explores how organizations can systematically bridge the gap between process insights and improvement execution, including structured approaches for managing PM-driven process improvement projects and a semi-automated approach for generating business process improvement ideas by translating best practices into programmable rulesets.

Section IV (including RA #4, #5, and #6) addresses supporting capabilities, which are essential for scaling PM beyond individual projects and ensuring long-term integration into business operations. Specifically, this section investigates governance structures at both the PM and BPM levels, as well as behavioral visibility strategies that help organizations balance process transparency with employee engagement and change management.

Section V (including RA #7) provides a methodological deep dive into qualitative research in Information Systems (IS) by examining how research outcomes in qualitative IS studies are structured and presented. As a meta-level contribution, the study strengthens the methodological foundation of the dissertation by illustrating how qualitative research can rigorously capture the organizational and managerial dimensions of PM adoption.

Section VI concludes the dissertation by synthesizing key findings, discussing implications for research and practice, outlining limitations, and identifying avenues for future research.

Lastly, the appendix in Section VII provides an index of the research papers, the author’s individual contributions, and the complete versions of the research papers.

I	**Introduction**
II	**Conceptual Foundation: Value Management Capability Framework**
	Research Article 1 Realizing Business Value through Process Mining: An Exploration into Related Capabilities Dechert F, Marcus L, Röglinger M
III	**Core Capabilities: Moving from Insights to Action and Value**
	Research Article 2 A Portfolio Management Method for Process Mining-enabled Business Process Improvement Projects Fischer DA, Marcus L, Röglinger M
	Research Article 3 The FLAC Method: Data-Facilitated Discovery of Business Process Improvement Options Fehrer T, Marcus L, Röglinger M, Smalei U, Zetzsche F
IV	**Supporting Capabilities: Scaling and Organizational Anchoring of Process Mining**
	Research Article 4 Navigating the Organizational Landscape of Process Mining Setups: A Taxonomy Approach Marcus L, Schmid S, Friedrich F, Röglinger M, Grindemann P
	Research Article 5 Conceptualizing Business Process Management Governance Setups Dechert F, Friedrich F, Kreuzer T, Marcus L, Röglinger M
	Research Article 6 Capabilities for Building and Managing Behavioral Visibility in Organizations Franzoi S, Kipping G, Marcus L, Schmid S, Grisold T, Mendling J, Röglinger M, vom Brocke, J
V	**Method Deep Dive: Qualitative Research in Information Systems**
	Research Article 7 Qualitative Research Outcomes in Information Systems: Enhancing Rigor and Insights Marcus L, Kreuzer T, Moder L, Röglinger M
VI	**Conclusion**
VII	**References**
VIII	**Appendix**

Table 1. *Structure of this thesis and embedding of the research papers*

II Conceptual Foundation: Value Management Capability Framework

Despite the growing popularity and widespread adoption of PM, many organizations continue to experience challenges in effectively scaling PM beyond isolated pilot projects and in systematically translating PM insights into sustained, measurable business value (Eggers et al., 2023; Martin et al., 2021). While PM technology offers powerful capabilities for visualizing and analyzing business processes, it does not inherently lead to improvement or impact. Prior research has identified various enablers of PM adoption, such as PM use case selection (Rott & Böhm, 2022), return-on-investment assessment (Eggers et al., 2023), or governance models (Reinkemeyer, 2020) — but these studies typically focus on specific levers or implementation contexts. A holistic perspective that integrates both organizational and technical dimensions and considers PM not merely as a tool but as an evolving capability remains underdeveloped. To address this gap, RA #1 investigates the following research question:

What capabilities are needed for creating business value through process mining?

To answer this question, the study develops a structured Value Management Capability Framework (Figure 3). This framework captures the necessary capabilities for translating process insights into tangible business value and serves as the conceptual foundation for the subsequent chapters of this dissertation, which explore in greater depth how specific capabilities can be developed and institutionalized. The research follows an exploratory single-case study design at a global pharmaceuticals and chemicals company listed in the DAX. The case company provided a unique research setting due to its significant investments in PM and the establishment of a global PM Center of Excellence (CoE). A single-case study was chosen due to the complexity and richness of PM integration within this company, allowing for in-depth exploration of organizational and managerial dimensions difficult to capture through broader, multi-case approaches.

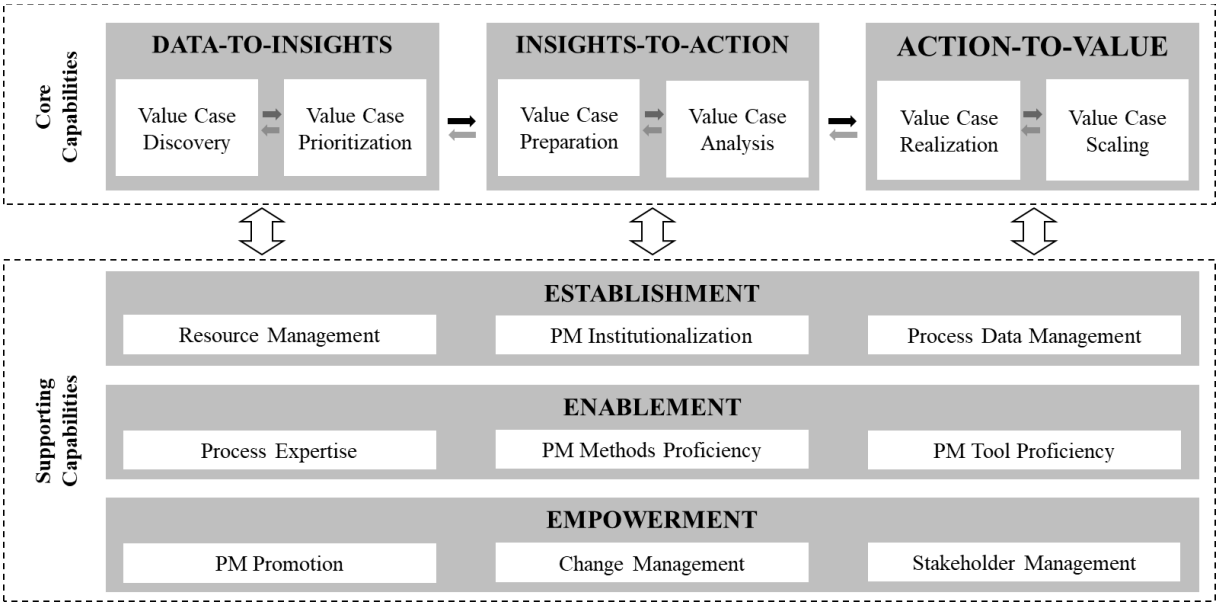


Figure 3. *Value Management Capability Framework for Process Mining*

Data was collected over 14 months through 48 in-depth interviews with PM leaders, business and IT representatives, extensive document analyses, and participant observations. To ensure methodological rigor and systematic analysis of the extensive qualitative data, the Gioia methodology (Gioia et al., 2013) was applied, allowing for the structured identification of capabilities and their interactions. Validity was ensured through triangulation across multiple data sources, iterative feedback with key informants, and regular interim presentations of emerging findings to PM experts within the case organization.

The study finds that organizations require various capabilities to bridge the gap between process transparency and value realization and to ensure that PM efforts produce sustainable, measurable outcomes. This framework consists of two interconnected layers: core capabilities and supporting capabilities. Core capabilities facilitate the structured transformation of process insights into business value, following a three-stage logic:

- **Data-to-insights** capabilities ensure that organizations identify relevant PM value cases and evaluate their feasibility and potential.
- **Insights-to-action** capabilities focus on preparing and analyzing process data to derive actionable improvement opportunities.
- **Action-to-value** capabilities ensure the implementation and scaling of these improvements to achieve measurable and sustained business value.

A structured overview of all core capabilities and their definitions is provided in Table 2.

Data-to-Insights	
Value case discovery	**Value case prioritization**
Identifying potential PM value cases involving the comprehensive understanding of business team needs to ensure alignment and fulfillment of requirements.	Assessing the feasibility and value potential of PM value cases and prioritizing them using established methods and tools
Insight-to-Action	
Value case preparation	**Value case analysis**
Verifying the suitability of identified PM value cases for implementation while establishing connections with source systems and data lakes, extracting data, and constructing data models for PM use.	Designing dashboards and visualizations for effective communication of PM insights, and pinpointing improvement opportunities within those PM value cases.
Action-to-Value	
Value case realization	**Value case scaling**
Taking actionable steps to address improvement opportunities within PM value cases, eliminating pain points, and achieving value for the organization.	Expanding PM value cases to encompass additional functions and areas within the organization, ensuring sustained value creation, continuous improvement, and learning.

***Table 2**. Overview of core capabilities*

While core capabilities ensure that PM insights translate into measurable improvements, supporting capabilities establish the structural, managerial, and cultural foundations needed for sustainable PM adoption at scale. These capabilities are categorized into three overarching layers:

- **Establishment capabilities** provide structural foundations, including PM institutionalization, governance structures, and resource allocation.
- **Enablement capabilities** equip the organization with the necessary expertise, methodological knowledge, and tool proficiency, ensuring that employees are capable of utilizing PM.
- **Empowerment capabilities** address stakeholder engagement, change management, and strategic alignment to foster organizational buy-in and ensure cultural adoption of PM.

A structured overview of all supporting capabilities and their definitions is provided in Table 3.

Establishment		
Resource management	**PM institutionalization**	**Process data management**
Optimizing human and financial resource allocation for successful execution of PM implementation.	Establishing a structured organization for PM, defining its direction, structure, and governance.	Ensuring data availability, preparation, maintenance, quality, and security within the organization for PM use.
Enablement		
Process expertise	**PM methods proficiency**	**PM tools proficiency**
Understanding business processes and identifying opportunities for process improvements.	Leading the implementation of PM by effectively understanding and utilizing PM technology.	Gaining a comprehensive understanding of the functionalities of the PM tool.
Empowerment		
PM Promotion	**Change management**	**Stakeholder management**
Advocating the value and functionalities of PM technology and tools within the organization.	Equipping the organization to proficiently manage and adapt to changes prompted by PM implementation.	Fostering strong relationships and effective communication for PM between stakeholders and projects.

Table 3. *Overview of supporting capabilities*

Integrating both capability layers, the resulting Value Management Capability Framework (Figure 3) provides organizations with a structured approach for transitioning from experimental PM initiatives toward enterprise-wide integration, enabling consistent translation of PM insights into sustainable business value. The study emphasizes that realizing business value through PM is not a one-off initiative, but a continuous capability-building journey that requires alignment, learning, and iteration. Organizations that successfully generate long-term value do so by developing the capacity to repeatedly and reliably translate process transparency into improvement.

RA #1 advances the discourse on PM value realization by reframing PM adoption as a capability-building challenge rather than a purely technological or operational task. Building on and extending existing work on adoption and capability development (Grisold et al., 2021; Mamudu et al., 2024), the study shifts attention from isolated project success toward the development of repeatable, scalable organizational capabilities that support sustained value realization. It introduces a structured distinction

between core capabilities, which drive the translation of process insights into action and value, and supporting capabilities, which establish the organizational foundations needed to embed and scale PM across the enterprise. Beyond its immediate findings, the developed framework lays the conceptual groundwork for the subsequent chapters, which explore how specific capabilities can be cultivated, institutionalized, and orchestrated to enable value creation.

At the same time, the study acknowledges several limitations. The findings stem from an exploratory single-case study conducted at a large, mature organization with a centralized PM Center of Excellence. While offering rich insights, the results reflect the perspective of an experienced PM adopter and may not fully generalize to less mature organizations, different industries, or alternative governance structures. The study also focuses primarily on internal organizational capabilities, without systematically considering external factors or broader ecosystem dynamics. Future research could address these limitations by applying multiple-case study designs, conducting confirmatory research such as large-scale surveys, and examining how capability development pathways vary across industries, company sizes, and process types. Moreover, further studies could explore the micro-foundations of capabilities and develop design-oriented methods to support the systematic institutionalization of PM-related capabilities.

Overall, RA #1 provides the conceptual foundation for understanding the capabilities that enable value creation through PM. It introduces the core-supporting capability distinction that structures this dissertation and informs the more detailed investigations of individual capabilities in the chapters that follow.

III Core Capabilities: Moving from Insights to Action and Value

Building on the Value Management Capability Framework, this chapter dives deeper into core capabilities, exploring structured methodologies and practical mechanisms that enable organizations to systematically execute and realize value from PM projects. Specifically, RA #2 (Section III.1) introduces a portfolio management method that guides organizations in identifying, evaluating, and prioritizing PM-driven process improvement projects in alignment with strategic objectives. Complementing this, RA #3 (Section III.2) introduces the FLAC method, which supports organizations in generating process improvement ideas by transforming best practices into programmable rule sets. Together, these studies offer complementary perspectives on how to prioritize, manage, and operationalize PM-driven improvements, providing actionable guidance on bridging the critical gap between PM-generated insights and the realization of business value.

III.1 A Portfolio Management Method for Process Mining-enabled Business Process Improvement Projects

As organizations scale their use of PM, they face the challenge of moving beyond isolated projects toward systematic, organization-wide value realization. Despite the high technological maturity of PM tools, many organizations struggle to manage growing numbers of PM initiatives and to ensure that these

projects are aligned with strategic objectives and deliver measurable business outcomes (Martin et al., 2021). A critical yet unresolved issue remains the systematic identification, selection, and management of valuable processes and use cases suitable for PM applications (Grisold et al., 2021; Thiede et al., 2018). When establishing PM, it is often difficult for organizations to know which use cases to start with or how to prioritize them (Rozinat, 2021). While the existing PM literature offers initial guidance on selecting suitable processes for PM pilot projects (Rott & Böhm, 2022) and a methodology for end-to-end execution of individual PM projects (van Eck et al., 2015), comprehensive guidance on how to systematically manage PM initiatives as a coordinated portfolio beyond the pilot stages remains lacking (Reinkemeyer et al., 2022). To address this challenge, RA #2 investigates the following research question:

How can organizations manage process mining project portfolios?

To address this question, RA #2 proposes a structured method for systematically managing portfolios of PM-enabled business process improvement (BPI) projects, referred to as PM value cases. The method formalizes key decision points and activities involved in planning, prioritizing, and coordinating PM value cases across the enterprise. It was developed using a Design Science Research (DSR) approach, combined with principles of Situational Method Engineering (SME) (Hevner et al., 2004; Peffers et al., 2007; Ralyté et al., 2019). It draws on established knowledge from project portfolio management and the literature on PM value realization. The method is guided by three central design objectives: (1) structured guidance for users, (2) consideration of contextual and process-specific factors, and (3) comparability of PM value cases. The primary goal of the method is to enable organizations to manage their portfolios of PM projects in a systematic way, thereby supporting measurable and repeatable value creation through data-driven process improvement. A prototypical instantiation of the method was developed to support its practical application.

The resulting method, named MAPPER (*Method for mAnaging Portfolios of Process mining-Enabled business PRocess improvement projects*), provides structured guidance for managing PM value cases at scale. It is designed to support organizations in making informed, repeatable decisions about the prioritization, coordination, and execution of PM initiatives. The method consists of five iterative activities — each defined by specific techniques, roles, tools, and outputs — that collectively support the end-to-end management of PM initiatives (Figure 4). These activities were derived from foundational literature (Archer & Ghasemzadeh, 1999; Dumas et al., 2018; Stettina & Hörz, 2015; van Eck et al., 2015) and were refined through extensive collaboration with a panel of twelve experts from research and practice.

The five core activities of MAPPER are:

1. **Strategize** – Establishes foundational criteria, ensures strategic alignment, and allocates resources to enable informed subsequent decision-making.
2. **Identify** – Involves collecting and describing potential PM projects and screening them based on minimal feasibility criteria.
3. **Select** – Evaluates candidate projects using predefined criteria, prioritizes them, and composes an optimized portfolio.
4. **Implement** – Covers the execution of selected PM projects in two phases: first generating actionable PM insights (Insight phase) and translating them into process improvements (Action phase).
5. **Monitor** – Entails continuous tracking and evaluation of implemented projects to ensure that value is realized and to feeding insights back into future strategic planning.

While the method is highly structured, it does not aim to replace managerial judgment. Rather, it is designed to support informed decision-making while explicitly allowing for human evaluation at key points.

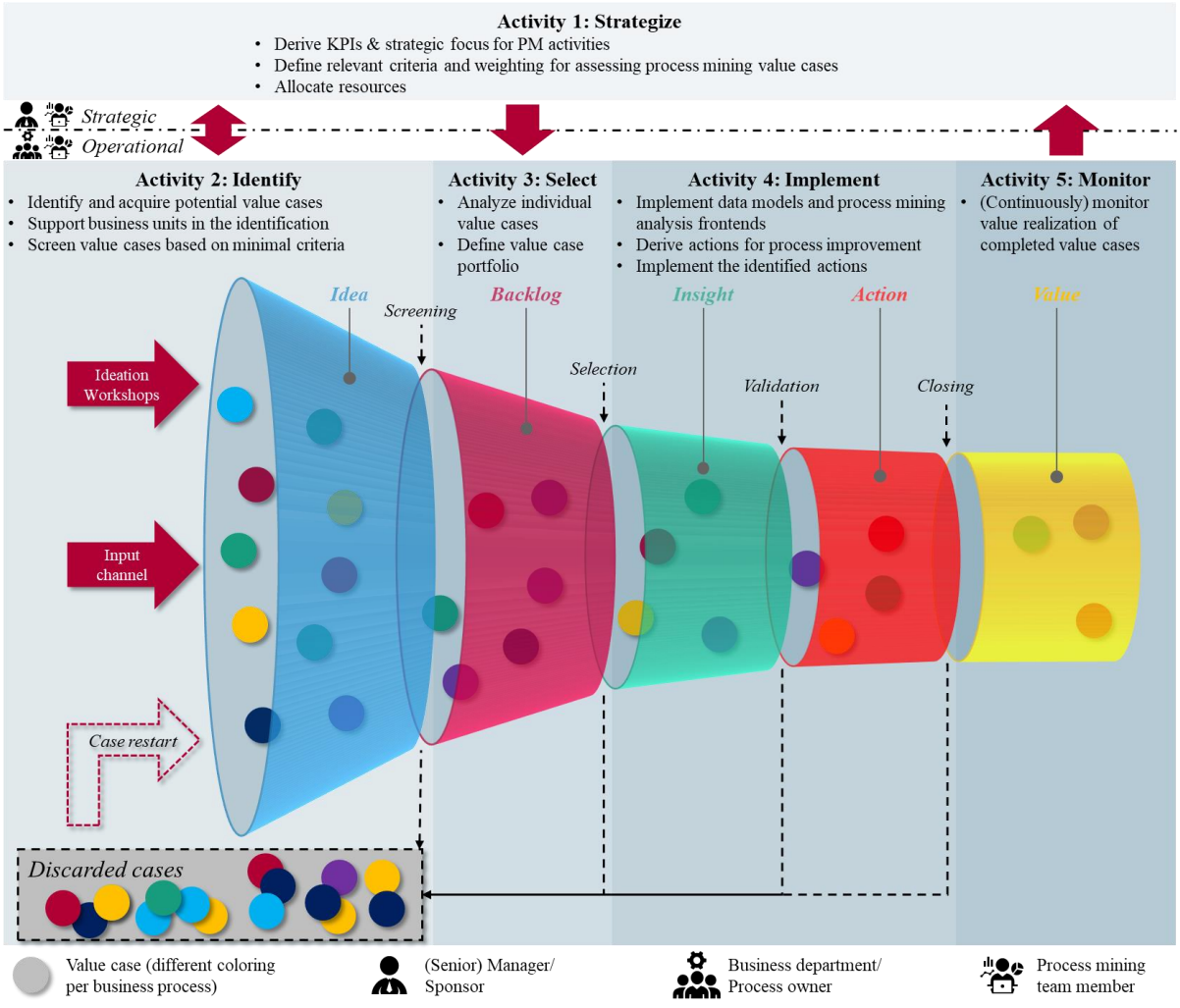


Figure 4. *Overview of the method for managing PM project portfolios*

MAPPER explicitly fulfills key attributes of method artifacts (Denner et al., 2018). It demonstrates (1) goal orientation by guiding organizations in the systematic selection and execution of PM-enabled BPI projects; (2) a systematic approach through clearly defined activities, roles, tools, and outputs; (3) principles orientation by addressing core design objectives such as scalability, contextual adaptability, and alignment with strategic goals; and (4) repeatability through its modular structure and applicability across different organizational settings and maturity levels.

The method was evaluated through a three-stage evaluation process based on guidelines by (Venable et al., 2016) and (Sonnenberg & vom Brocke, 2012): First, an ex-ante evaluation involved a survey with 28 experts to assess the relevance of the problem and the completeness of design objectives. Second, a mid-term evaluation gathered expert feedback to refine the method structure and usability of the prototype and lastly, an ex-post evaluation was conducted through a naturalistic case study at Infineon Technologies, a global semiconductor manufacturer with a mature PM landscape. The case study demonstrated how MAPPER improves decision-making transparency, prioritization of value cases, and alignment between PM initiatives and business objectives.

RA #2 makes three main contributions. First, it responds to the growing need for prescriptive guidance on how to manage portfolios of PM projects by providing a structured and reusable method tailored to this purpose. Unlike traditional project portfolio management (PPM) approaches, the method explicitly accounts for the iterative, data-driven nature of PM initiatives. By integrating data throughout the PM value case lifecycle, it supports continuous validation of project relevance and business value. Second, the method introduces a funnel-like structure supported by an iterative prioritization mechanism, enabling organizations to regularly reassess and adapt PM value cases. Existing PPM approaches lack this ongoing, data-driven decision logic and often overlook the exploratory nature of PM. In contrast, MAPPER emphasizes structured monitoring as a central activity — highlighted by expert feedback as essential for impact assessment, value communication, and ongoing management support. Third, the study shows that an agile, iterative method structure aligns with current PM adoption practices. This design ensures adaptability across contexts while supporting the dynamic and insight-driven character of PM. The method's instantiation in a software prototype enhances its practical utility, providing structured guidance throughout the PM value case lifecycle.

The study also identifies several limitations. The method was evaluated in depth at a single organization, and while broad expert input was gathered, generalizability to other industries and less mature PM environments requires further testing. Additionally, the current version of the prototype does not interface directly with PM tools, limiting integration with existing analytics platforms. Future research could extend the MAPPER method by integrating automated value case assessment logic, linking it to real-time PM data sources, or adapting it for inter-organizational process improvement initiatives. Empirical studies could also explore how MAPPER supports capability development and value realization across different organizational contexts.

In the broader context of this dissertation, RA #2 contributes a structured, practical operationalization of core PM capabilities, offering concrete guidance for treating PM not as a set of isolated initiatives but as a strategically governed and continuously managed portfolio of improvement efforts.

III.2 The FLAC Method: Data-Facilitated Discovery of Business Process Improvement Options

While RA #2 focused on managing portfolios of PM projects across all core capability stages (data-to-insights, insights-to-action, and action-to-value), RA #3 focuses specifically on the insights-to-action capability, addressing how organizations can bridge the gap between process insights and the implementation of meaningful improvements.

A key challenge for organizations lies in operationalizing process improvement at scale. Many existing approaches rely on best-practice patterns — generalized recommendations derived from field experience, such as task elimination or parallelization — to guide BPI initiatives (Reijers & Liman Mansar, 2005). While these patterns are valuable for stimulating ideas, they are typically described in abstract, textual form. Translating these patterns into concrete improvement measures and applying them in an organizational context requires BPM expertise and situational understanding — capabilities that are often scarce in practice (Beerepoot et al., 2023; Zellner, 2013). This limits their potential for reuse and automation across projects and contexts (Fehrer et al., 2022; Reijers & Liman Mansar, 2005). As a result, many organizations struggle to systematically apply existing improvement knowledge, leading to inefficiencies and missed opportunities for value creation.

PM, in turn, offers precise, data-driven visibility into actual process behavior and holds significant potential to inform improvement efforts. Yet, current methods rarely bridge the gap between these insights and the application of BPI patterns. Existing tools tend to rely on static models or semi-automated techniques, leaving the full potential of event log data untapped. To address this disconnect, RA #3 investigates the following research question:

How can BPI patterns be transformed into programmed rulesets that might facilitate the automated development of redesign options in a BPI project?

To answer this question, the study develops the FLAC method — a structured approach that translates abstract BPI patterns into programmable rulesets which can be applied to event log data. The method builds on the premise that the interpretation and application of BPI knowledge can be decoupled: once patterns are formalized into data-compatible rulesets, they can be repeatedly applied to support process improvement across different projects and organizations. For example, the “Parallelism” pattern, defined as “consider whether tasks may be executed in parallel” (Reijers & Liman Mansar, 2005, p. 298), is operationalized in FLAC by identifying sequential activity pairs that lack ordering or resource dependencies and assessing their potential for parallel execution. This enables the automated detection of improvement opportunities directly from event data, supporting scalable and data-driven process optimization.

The method was developed using a Design Science Research (DSR) approach (Bucher et al., 2007; Gregor & Hevner, 2013; Peffers et al., 2007) complemented by SME principles. Based on a literature review and six expert interviews, three design objectives were defined: (1) reducing the expertise required for BPI execution, (2) enabling reuse of BPI patterns across contexts, and (3) embedding process execution data into the improvement recommendation process. The method was instantiated in a software prototype and evaluated through expert feedback and application to real event logs.

At its core, FLAC consists of a four-step procedure that systematically transforms a textual BPI pattern into a reusable, programmable ruleset (Table 4). This structure is composed of four rule types:

- **Fitness rules**, which determine whether the pattern is generally applicable to the log;
- **Location rules**, which identify candidate areas within the process where the pattern could be applied;
- **Attribute rules**, which rank these candidates by relevance;
- **Constraint rules**, which check for potential conflicts or feasibility barriers.

Once derived, these rules are implemented in a modular code structure and stored for future use. This enables organizations to separate the expert-driven transformation phase from the automated application phase, making improvement suggestions both repeatable and scalable. Rulesets can be programmed in suitable PM environments (e.g., Celonis EMS, PM4Py) and applied directly to event logs, systematically leveraging empirical process data to identify improvement opportunities.

In practice, these programmed rulesets are applied through a structured five-step procedure (Figure 5) that begins with selecting a suitable, data-rich process and identifying a relevant pattern from a curated collection. After customizing the pattern to the specific context and data structure, an algorithm automatically detects and ranks improvement opportunities. These suggestions are then reviewed by domain experts to assess feasibility and guide implementation. By combining automation with human judgment, FLAC enables scalable, repeatable, and context-sensitive process improvement. Its effectiveness, however, relies on the availability of clean, well-structured event log data.

The FLAC method explicitly fulfills key attributes of method artifacts (Denner et al., 2018). Specifically, FLAC demonstrates (1) goal orientation by systematically transforming BPI patterns into executable rulesets; (2) systematic approach through clearly defined activities, structured instructions, tools, roles, and outputs; (3) principles orientation by explicitly addressing three design objectives from BPM literature (democratizing BPI expertise, enabling scalable application of BPI patterns, and explicitly integrating empirical PM insights); and (4) repeatability through its modular, structured, and explicit guidance applicable across different organizational contexts.

Activities *tasks of the method*	**Techniques** *detailed instructions on how to execute activities*	**Tools** *means supporting the execution of activities*	**Roles** *users executing activities*	**Outputs** *results of activities*
Derive FLAC rules	• Find specific rules that are hidden behind the vague description of the BPI pattern • Possible formats: brainstorming, brainwriting, case studies, etc. • Guidance and facilitation: Purpose, Guiding question, Possible answers	• BPI pattern catalogues with natural language descriptions of best practices • BPI case study reports	• Senior BPM expert (method expertise) • Process owner (subject matter expertise) • BPM researcher	**A programmable ruleset** that corresponds to the specific BPI pattern
1. Fitness perspective	**Purpose:** Understand whether applying this BPI pattern is relevant or has already been sufficiently explored. **Guiding question:** Which **process-level indicators** show if the BPI pattern is already sufficiently applied? **Possible answers:** process-level nominal values (e.g., number of gateways), process-level ratios (e.g., level of idle time).			
2. Location perspective	**Purpose:** Understand in which areas of the process it makes sense to apply this BPI pattern. **Guiding question: Where precisely** within the process can the BPI pattern be applied? **Possible answers:** specific activity (e.g., every activity that gets input from two others), sequence of activities (e.g., two consecutive gateways), process variant (e.g., process variants that include more than ten activities), resource.			
3. Attribute perspective	**Purpose:** Understand which attributes define whether applying the BPI pattern at a specific location is reasonable. **Guiding question:** Which **specific attributes** show how sensible the application of the BPI pattern at the specific location is? **Possible answers:** attributes of activities (e.g., duration of an activity), relations between activities (e.g., the same set of resources executes both activities), attributes of instances (e.g., the average number of resources involved in one instance).			
4. Constraint perspective	**Purpose:** Understand which constraints should be considered when applying this BPI pattern. **Guiding question:** Which **constraints and possible limitations** should be considered before/during applying the BPI pattern? **Possible answers:** DOs during redesign (e.g., DO consider required merging time), DON'Ts during redesign (e.g., DO NOT violate data dependencies).			
Program ruleset	Implement and test the ruleset using the modular structure (each rule as a function, method, etc.)	PM tools and libraries (e.g., PM4Py,Celonis PQL query language)	• Software engineer • Process owner	**A programmed ruleset** that corresponds to the specific BPI pattern

Table 4. *The FLAC method for transformation of BPI patterns into programmed rulesets*

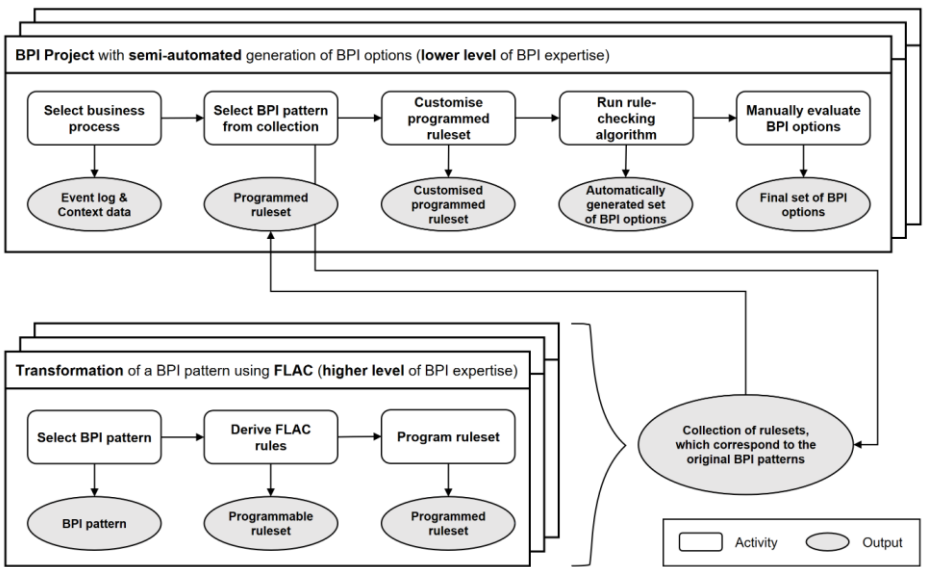


Figure 5. *Schematic overview of the transformation projects and BPI projects*

To evaluate the method's applicability and usefulness, five expert workshops were conducted with seven BPM professionals from academia and industry. As part of these workshops, FLAC was applied to a real-world purchase-to-pay (P2P) process using the Celonis Execution Management System. Four BPI patterns — parallelism, case assignment, resource empowerment, and activity automation — were translated into executable rulesets and applied to the process event log. The system generated structured and ranked improvement suggestions, which were reviewed and discussed by the experts to assess feasibility and relevance. The evaluation focused on usefulness, understandability, and ease of use, with participants rating the method and prototype outputs highly (average score of 8.0 out of 10). Experts emphasized FLAC's potential to accelerate time-to-insight and scale BPI logic, while also appreciating the method's structured approach to translating abstract patterns into actionable recommendations. Suggestions for refinement included improving user guidance and integrating richer contextual information, such as process visualizations.

RA #3 advances prescriptive BPI knowledge by providing a systematic method for transforming abstract improvement patterns into executable, data-driven rulesets. A distinguishing feature of FLAC is its explicit integration of PM-generated insights into the automation process, thereby addressing limitations of prior approaches that relied on static models or manual application. By formalizing and automating the use of BPI patterns, the method enhances scalability, improves efficiency, and broadens access to improvement expertise. Importantly, FLAC directly operationalizes the insights-to-action capability identified in this dissertation, closing the gap between analytical insights from PM and the implementation of concrete, measurable process improvements.

While the method demonstrates practical utility, the study acknowledges several limitations. The evaluation was conducted using a limited number of patterns and expert participants, and the prototype implementation remains at an early stage. Future research could extend the rule repository to include additional BPI patterns, enhance the user interface for broader adoption, and investigate how FLAC could be integrated into real-time PM platforms. Further studies may also explore how organizations govern, maintain, and evolve internal ruleset collections to support continuous and scalable improvement efforts.

In the broader context of this dissertation, RA #3 thus explicitly advances the insights-to-action capability, providing methodological support for systematically leveraging PM insights to realize sustained organizational improvements.

In summary, this section has presented two methodological contributions to operationalize core PM capabilities. First, RA #2 developed a structured approach for managing portfolios of PM projects. Second, RA #3 introduced a systematic method for transforming PM-generated insights into actionable business improvements. Together, these studies provide robust methodological guidance and practical tools, enabling organizations to advance systematically from generating insights to tangible business outcomes. Having examined the core capabilities that support this progression, the next chapter turns to

the supporting capabilities required to embed these methods sustainably into organizational contexts, ensuring long-term adoption and continuous value realization.

IV Supporting Capabilities: Scaling and Organizational Anchoring of PM

While core capabilities focus on executing PM projects and turning insights into value, long-term success requires an organizational foundation that enables sustainable adoption at scale. Thus, this section examines key supporting capabilities that facilitate the integration of PM into enterprise structures and practices, including the ability to manage organizational setups, governance mechanisms, and the behavioral implications of increased transparency. RA #4 (Section IV.1) develops a taxonomy of PM setups, identifying different ways organizations institutionalize PM and structure its organizational anchoring. RA #5 (Section IV.2) extends this perspective conceptualizing BPM governance and developing a taxonomy of governance setups, providing a structured lens to understand how BPM is organized across different contexts. RA #6 (Section IV.3) explores behavioral visibility as a capability-driven, socio-technical phenomenon, examining how organizations can leverage transparency in digital processes while managing the associated cultural, managerial, and ethical challenges. Together, these studies provide insights into how organizations can systematically embed PM and navigate the socio-technical challenges, ensuring that PM is not just a project-level tool, but a strategic capability embedded into the fabric of an organization's operations.

IV.1 Navigating the Organizational Landscape of Process Mining Setups: A Taxonomy Approach

RA #4 addresses a key challenge in scaling PM: the lack of structured guidance on how to institutionalize PM within organizations. Despite significant technological advancements in PM, unclear governance and anchoring structures remain a critical barrier to successful adoption (Martin et al., 2021; vom Brocke et al., 2021). Companies struggle with fundamental questions, such as where PM should be anchored within the organization, who should own PM-related activities, and how governance responsibilities should be distributed. These challenges are intensified by varying organizational characteristics and contextual factors that shape how PM is adopted and embedded. While previous studies have explored PM in the context of individual use cases (Yang & Su, 2014), single organizations (Reinkemeyer, 2020), or specific industries such as healthcare (Rojas et al., 2016), a holistic understanding of PM governance across diverse organizational contexts is still missing. This lack of a comprehensive perspective leaves many organizations struggling to determine an appropriate PM setup, ultimately preventing them from fully capitalizing on the technology's potential. To address this gap, RA #4 investigates the following research question:

What are the characteristics of organizational PM setups?

To answer this question, the study develops a multi-layer taxonomy for organizational PM setups that categorizes the key dimensions shaping how PM is governed, structured, and embedded within organizations. The taxonomy was developed using the taxonomy development method by Nickerson et

al. (2013) and its extension by Kundisch et al. (2022) , following iterative empirical-to-conceptual (E2C) and conceptual-to-empirical (C2E) cycles.

The initial E2C iteration drew on insights from an international exploratory study of 214 PM adopters across various industries and maturity levels (Reinkemeyer et al., 2022), providing a broad empirical basis for identifying real-world variations in PM setups. This was followed by 15 semi-structured expert interviews to further explore specific setup characteristics. A structured literature review informed the deductive refinement and naming of dimensions (C2E), ensuring conceptual clarity and alignment with existing terminology. Additional evaluation interviews and an expert survey assessed the taxonomy's completeness, understandability, and usefulness. The resulting taxonomy (Table 5) comprises 12 dimensions, organized into four overarching layers:

- **Governance and Structure** – Capturing where and how the PM unit is embedded within the broader organizational context.
- **Operationalization and Scope** – Defining the activities, strategic intent, and operational mode of the PM unit.
- **Funding and Planning** – Addressing the financial setup and planning horizon of the PM unit.
- **Roles and Responsibilities** – Detailing how responsibilities and support structures are distributed across internal and external stakeholders.

Each dimension is classified as either exclusive (E) or non-exclusive (N) and is accompanied by a guiding question to support practical application. This structure allows organizations to reflect on their own setup, compare it with others, and make informed design decisions as they scale PM across business units. Importantly, the taxonomy is intended to be applied to each PM unit individually, especially in large organizations where PM may be implemented in complex or partially independent ways across different business areas or subsidiaries. Each layer of the taxonomy should be assessed independently, and the resulting configuration should reflect the structure and practices at the level of the PM unit, rather than at the level of individual projects.

The taxonomy was evaluated in multiple stages. First, twelve expert evaluation interviews confirmed its conceptual clarity and relevance. Participants described the taxonomy as a "bird's-eye view" that supports classification and stakeholder alignment, particularly for organizations in the early stages of PM adoption. Second, an anonymous online survey assessed completeness, understandability, and usefulness. Results showed high agreement, with 92% of participants strongly agreeing on completeness and understandability, and all participants rating its usefulness positively.

Layer	Dimension	Characteristic						E/N*	Guiding questions
Governance and structure	*Degree of centralization*	Centralized		Hybrid		Decentralized		E	What is your PM unit's degree of centralization?
	Anchoring	IT		Business		Shared services	Executive level	N	Where in the organization is your PM unit anchored?
	Institution-alization	Integrated in a (business) department		Integrated in a CoE		Cross-functional organization	Standalone department / CoE	N	How is your PM unit institutionalized?
Operationalization and scope	*Key activities*	Demand generation and assessment	Data science and engineering	Project management	Governance and steering	Change and community management	Value management and scaling	N	Which activities are part of your PM unit's value proposition?
	Prioritization of projects	Long-term roadmap		Mid-term pipeline		Short-term ad hoc		N	How are incoming projects prioritized by your PM unit?
Funding and Planning	*Budgeting*	Global		Project-based		Process-based	Per department	N	Where does the financial budget for PM activities originate?
	Internal cost management	Profit center		Hybrid		Cost center		E	What is your PM unit's financial setup?
Roles and responsibilities	*Role allocation*	Based on (business) department		Based on key activities		Based on end-to-end processes	Flexible	N	How are the roles in/of the PM unit allocated?
	Internal leadership	PM lead		Executive sponsor		Champion		N	Which PM leadership roles exist in your organization?
	*External support***	Vendor		Consultancy		None		N	Which external parties provide services for your PM activities?
	Data ownership	IT		Business		PM unit		N	Who has primary ownership of the source data used in PM activities?
	Tool ownership	IT		Business		PM unit		N	Who has primary ownership of the tools used in PM activities?

Notes: * E = exclusive, N = non-exclusive.
** Selecting both "None" and another option simultaneously is not applicable.

Table 5. *Taxonomy of organizational process mining structures*

To further demonstrate the applicability of the taxonomy, it was applied to three illustrative organizations representing different levels of PM maturity. The cases revealed diverse organizational setups, ranging from informal and decentralized arrangements to hybrid models that combine centralized strategic oversight with decentralized operational execution. The case analysis confirms that PM governance is not a one-size-fits-all concept but evolves over time — typically becoming more formalized and integrated as maturity increases. Recurring elements such as executive sponsorship and internal champions emerged across all maturity levels, highlighting their importance for sustained adoption.

The taxonomy offers both conceptual and practical contributions. Conceptually, it extends the understanding of how PM is structurally embedded within organizations, contributing to broader discussions in the areas of BPM governance and digital transformation. Practically, it can serve as a tool to describe and assess current PM setups as well as to plan future configurations based on strategic goals and maturity level. In doing so, the taxonomy supports decision-making and stakeholder communication, particularly in contexts where PM responsibilities are distributed across business and IT functions. The structured nature of the taxonomy also provides a foundation for theorizing about the organizational prerequisites and implications of scaling PM across different enterprise contexts.

While the taxonomy provides a comprehensive structural overview, it also has limitations. Its current form captures organizational setups at a single point in time and does not reflect how configurations change as organizations mature or adapt their PM strategies. The illustrative cases further show how different organizational factors, such as size, industry, and maturity level, can influence PM setups. Future research should investigate how PM setups evolve over time and how interrelationships between these factors shape configuration patterns, with the goal of deriving archetypes and developing higher-level theories. Although the taxonomy is focused on PM, future studies could also explore its applicability to related fields, such as other BI&A technologies, thereby broadening the impact of the contribution.

Overall, RA #4 contributes to understanding the organizational foundations necessary for supporting PM capabilities, providing a structured perspective on how governance, anchoring, and design choices support sustainable scaling and value realization of PM initiatives.

IV.2 Conceptualizing Business Process Management Governance Setups

Building on the PM-specific governance perspective developed in RA #4, RA #5 shifts the focus to a broader conceptualization of Business Process Management Governance (BPM-G). While RA #4 classified how organizations structure and institutionalize PM, RA #5 investigates how process-related responsibilities, decision rights, and organizational structures are designed across the enterprise to support BPM more generally. This broader perspective is essential, as PM is often embedded within wider BPM practices and may not be sustainably anchored without integration into overarching governance structures.

Although BPM governance is widely recognized as a key success factor for BPM adoption (Kerpedzhiev et al., 2021), research in this area remains fragmented. Existing studies have primarily focused on specific governance elements, such as process ownership (Hernaus et al., 2016) or BPM CoEs (Rosemann, 2015; Arsanjani et al., 2015) but lack an integrated perspective on how governance structures are configured in practice. Furthermore, it remains unclear which dimensions constitute BPM-G setups, how these dimensions relate to one another, and how contextual factors such as organizational maturity or strategic priorities influence their design (Boer et al., 2015; Santana et al., 2011). To address this gap, RA #5 investigates the following research question:

How can BPM-G setups be conceptualized?

To answer this question, the study develops a taxonomy of BPM-G setups following a structured, iterative research process grounded in the taxonomy development method by Nickerson et al. (2013) and its extension by Kundisch et al. (2022). Following multiple E2C and C2E iterations, the taxonomy was constructed based on 18 semi-structured interviews with BPM experts from diverse industries and organizational contexts. Initial E2C iterations inductively derived governance dimensions from the interview material, while subsequent C2E iterations refined and structured these dimensions drawing on BPM and organizational design literature. Throughout the process, the taxonomy was iteratively evaluated against objective and subjective ending conditions, incorporating feedback from practitioners and cross-case comparisons.

The outcome is a multi-dimensional taxonomy that captures how organizations structure BPM governance in practice (Table 6). It comprises 10 dimensions, each accompanied by a guiding question and classified as either exclusive (E), requiring a single characteristic, or non-exclusive (N), allowing multiple characteristics to coexist. These dimensions are organized along two overarching organizational tensions that shape BPM-G setups: centralization vs. decentralization and standardization vs. flexibilization. The first tension reflects how BPM is structurally embedded and governed within the organization, encompassing dimensions such as organizational anchoring, BPM ownership, funding models, activity responsibilities, and the institutionalization of ambidexterity. The second tension addresses how BPM roles, data, and methods are defined and applied, including process and data ownership, role allocation, and the degree of methodological standardization. Together, these tensions provide a lens for understanding how organizations balance control, alignment, and adaptability in their BPM governance design.

The taxonomy provides a comprehensive structure for describing BPM-G setups, highlighting how organizations balance control and adaptability in their governance designs. Centralized and standardized configurations often feature dedicated BPM teams, executive sponsorship, and consistent methods to support strategic alignment. Decentralized and flexible setups, by contrast, allow for local responsiveness and experimentation, distributing BPM responsibilities across units and tailoring implementation to context-specific needs.

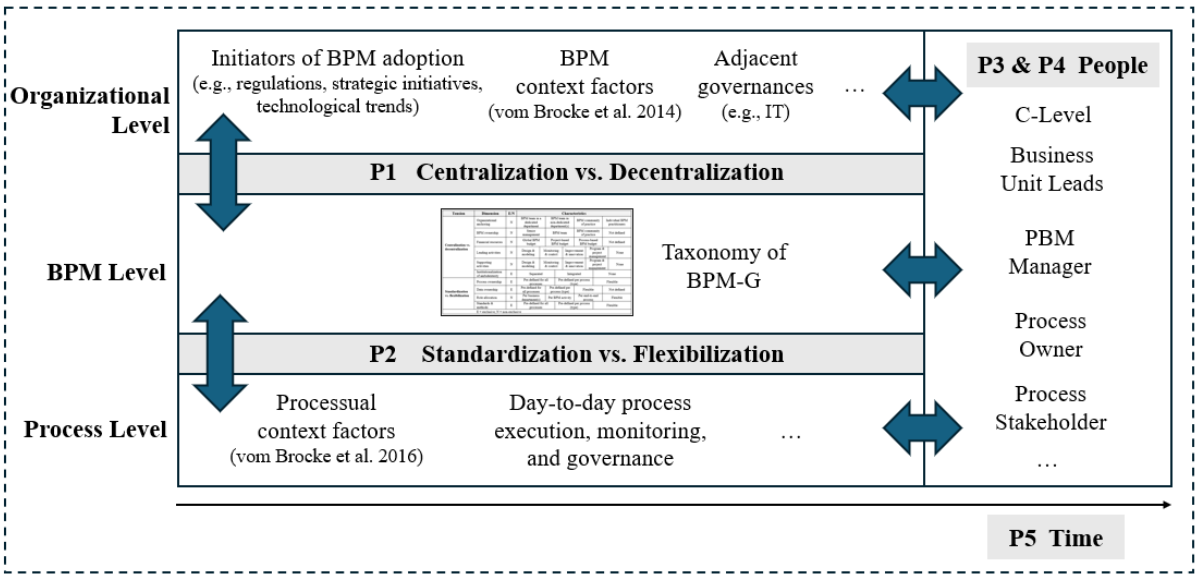
Tension	Dimension	E/N	Characteristics				
Centralization vs. decentralization	Organizational anchoring	N	BPM team in a dedicated department	BPM team in non-dedicated department(s)	BPM community of practice	Individual BPM practitioners	
	BPM ownership	N	Senior management	BPM team	BPM community of practice	Not defined	
	Financial resources	N	Global BPM budget	Project-based BPM budget	Process-based BPM budget	Not defined	
	Leading activities	N	Design & modeling	Monitoring & control	Improvement & innovation	Program & project management	None
	Supporting activities	N	Design & modeling	Monitoring & control	Improvement & innovation	Program & project management	None
	Institutionalization of ambidexterity	E	Separated	Integrated	None		
Standardization vs. flexibilization	Process ownership	E	Pre-defined for all processes	Pre-defined per process (type)	Flexible		
	Data ownership	E	Pre-defined for all processes	Pre-defined per process (type)	Flexible	Not defined	
	Role allocation	N	Per business department(s)	Per BPM activity	Per end-to-end process	Flexible	
	Standards & methods	E	Pre-defined for all processes	Pre-defined per process (type)	Flexible		
	E = exclusive; N = non-exclusive						

Table 6. *Dimensions and characteristics of BPM-G setups*

To demonstrate and evaluate the taxonomy, RA #5 applies it in three steps: First, by classifying the BPM-G setups of 14 organizations to test its applicability; second, by presenting three illustrative case studies to demonstrate how the taxonomy can be used to describe and analyze BPM-G setups; and third, by conducting ten additional expert interviews to validate its usefulness. Across the three cases, the taxonomy proved effective in capturing governance variations and supporting structured reflection. Practitioners emphasized its value in understanding their own setups, facilitating stakeholder discussions, and identifying development opportunities — particularly appreciating its clarity in addressing governance tensions and supporting actionable decision-making.

To synthesize these insights, the study introduces a multi-level BPM-G framework (Figure 6) that embeds governance design within its broader organizational environment. The framework theorizes BPM-G as shaped by dependencies on context (e.g., strategic priorities, regulation), people (e.g., culture, BPM literacy), and time (e.g., maturity, transformation triggers). Over time, BPM-G evolves through recurring cycles, driven by maturity, external triggers, and digital transformation efforts.

To guide further research, the framework formulates five propositions. These describe how context influences governance design decisions (Proposition 1), how BPM-G structures influence interactions and structures at the process level (Proposition 2), how BPM leaders adapt governance setups in response to external demands and internal capabilities (Propositions 3 and 4), and how BPM-G setups transform over time as organizational conditions and maturity evolve (Proposition 5).



P1 & P2: Context dependency -- P3 & P4: People dependency -- P5: Time dependency

Figure 6. *Multi-level framework for BPM-G*

By conceptualizing BPM-G as a dynamic, multi-dimensional construct, RA #5 extends BPM research beyond static or one-size-fits-all models. The taxonomy and framework together provide a foundation for future theorizing, offering a descriptive lens to capture how BPM governance is shaped by organizational context, actor-related factors, and changes over time. Positioned as a theory for analyzing (Gregor, 2006), the taxonomy enables systematic classification and comparison of BPM-G setups across organizational settings. From a managerial perspective, it supports structured decision-making by offering a comprehensive overview of governance design options and their associated trade-offs.

The study acknowledges that the taxonomy is descriptive in nature and does not specify ideal or normative setups. In addition, it is based primarily on interviews with large organizations and may require adaptation for use in smaller firms or public-sector contexts. Future research could explore how BPM-G setups evolve over time, how they relate to organizational maturity and strategic objectives, and how they interact with adjacent governance structures such as IT or data governance. The taxonomy also lays the foundation for deriving BPM governance archetypes and for investigating how governance design influences capability development and process improvement outcomes.

Overall, RA #5 advances the understanding of BPM governance as a foundation for structuring process management, providing an essential organizational capability for embedding and scaling PM.

IV.3 Capabilities for Building and Managing Behavioral Visibility in Organizations

Whereas RA #4 and RA #5 focus on the structural and governance foundations of PM and BPM, RA #6 addresses a complementary aspect of supporting capabilities: the ability to manage the organizational dynamics that arise from behavioral visibility. As organizations increasingly rely on digital technologies, most professional activities leave behind digital trace data (Leonardi und Treem 2020), which can be transformed into event logs and analyzed through PM. This enables a new form of process-based behavioral visibility — providing transparency into how work is actually performed across roles,

systems, and processes. When effectively governed and used, such visibility offers new opportunities to manage organizations more deliberately and to create business value through improved efficiency, data-informed decision-making, and organizational learning (Badakhshan et al. 2022; Leonardi und Treem 2020). However, much of the existing literature has focused on the risks and unintended consequences of behavioral visibility. Studies have shown how visibility can lead to obtrusive control practices and exaggerated performance expectations (de Vaujany et al., 2021), emotional stress, and resistance (Benlian et al., 2022; Zorina et al., 2021), or performative behaviors that aim to manage impressions rather than improve outcomes (Aaltonen & Stelmaszak, 2024; Grisold et al., 2024). While these critiques are important, they largely overlook the managerial and strategic dimensions of behavioral visibility — that is, how organizations can actively shape, govern, and use visibility to support productive use. As PM continues to expand behavioral transparency, understanding how organizations navigate and manage these effects becomes increasingly important. Thus, RA #6 investigates the research question:

How do organizations implement and manage process-based behavioral visibility to generate business value?

To address this question, RA #6 develops a comprehensive capability framework that identifies the organizational capabilities required to manage process-based behavioral visibility and generate business value. Business value is conceptualized as measurable improvements in efficiency, strategic decision-making, and organizational learning that arise from effectively governing and using behavioral insights. The framework was developed through a grounded theory-based qualitative study involving 30 expert interviews with process analysts, senior managers, and unit heads across diverse industries. Participants were selected through purposive sampling to ensure a breadth of perspectives. The interviews provided insights into the organizational challenges, enablers, and strategic mechanisms involved in implementing and managing PM-driven behavioral visibility. Interview data were transcribed and analyzed through an iterative coding process guided by Gioia et al. (2013) and Corbin and Strauss (2008). First-order concepts were inductively identified, then grouped into second-order themes, which were further aggregated into capabilities. The resulting framework comprises nine capabilities, organized into three categories: foundational capabilities that establish the basis for managing visibility, transformational capabilities that enable organizations to act on behavioral insights, and continual capabilities that support sustained use over time.

The first category, foundational capabilities, refers to the core enablers that allow organizations to establish process-based behavioral visibility (Table 7). These include behavioral data modeling, which ensures that digital traces accurately reflect real-world process behaviors, as well as data integration mechanisms, which consolidate fragmented process data across enterprise systems. Additionally, the study highlights the role of organizational structuring in shaping behavioral visibility governance, emphasizing the need for interdisciplinary collaboration between IT, data analytics, and process

management teams, often facilitated through CoEs that coordinate PM-related initiatives and ensure alignment with broader business strategies.

Capability	Definition
Behavioral Data Modeling	*...refers to the capability of defining and using real-time data sources that represent relevant behavior in reliable, complete, and secure ways.*
Behavioral Data Integration	*...refers to the capability of integrating and centralizing behavioral fragments for the subsequent comprehensive analysis of work performances.*
Organizational Structuring	*…refers to the capability of designing and implementing a framework that seamlessly integrates socio-technical knowledge, promotes an empowering culture, and ensures alignment between managerial logic and behavioral visibility-based management.*

Table 7. *Overview of foundational capabilities*

Once foundational capabilities are in place, organizations require transformational capabilities to convert behavioral insights into process improvements and strategic decisions (Table 8). This includes behavioral correspondence, which ensures that digital process insights align with actual employee workflows and addresses discrepancies between system-tracked activities and real-world practices. Another key capability is evidence-based management, enabling organizations to move beyond descriptive process analytics and use behavioral insights to drive performance optimization, risk management, and workforce planning. The study also highlights strategic behavior mapping as a necessary capability, ensuring that behavioral visibility-driven KPIs support business objectives rather than merely serving operational tracking purposes.

Capability	Definition
Behavioral Correspondence	*...refers to the capability of mapping and contextualizing visible behavior to corresponding instances in the physical world.*
Evidence-Based Management	*...refers to the capability of leveraging evidence-based insights for managerial actions.*
Strategic Behavior Mapping	*...refers to the capability of meaningfully translating strategic goals into behavioral visibility-based KPIs.*

Table 8. *Overview of transformational capabilities*

The third category, continual capabilities, ensures that behavioral visibility is maintained as an ongoing strategic practice rather than a one-off analytics initiative (Table 9). Organizations need to develop opportunity recognition to continuously identify new applications for behavioral transparency. A dynamic behavioral mindset is also essential, requiring managers and employees to continuously update their interpretations of process performance based on evolving data rather than relying on static assumptions. Finally, the study emphasizes the importance of sustained commitment, which includes top management sponsorship, employee buy-in, and structured governance mechanisms to prevent the misuse of process transparency and maintain its strategic value over time.

Capability	Definition
Opportunity Recognition	*...refers to the capability of continuously perceiving opportunities for scaling and extending behavioral visibility-based management.*
Dynamic Behavioral Mindset	*...refers to the capability of continuously updating the organizational understanding of work performances.*
Ongoing Commitment	*...refers to the capability of using behavioral visibility as a sustained management effort.*

Table 9. *Overview of continual capabilities*

Together, these capabilities form a comprehensive framework that illustrates how organizations transition from capturing digital traces to using them as a basis for strategic decision-making and value realization. The model developed in the study (Figure 7) presents this progression along three components — data, behavioral visibility, and business value — and highlights the capabilities that enable organizations to move between them. The study also emphasizes that this progression is not linear or one-off but iterative and recursive. Behavioral visibility reveals new opportunities and challenges over time, prompting continuous organizational adaptation. The study's findings underscore that leveraging process-based behavioral visibility is not merely a technical implementation issue, but a continuous capability development process. Organizations must actively manage the strategic and organizational implications of visibility, ensuring that PM insights drive action and improvement rather than passive reporting.

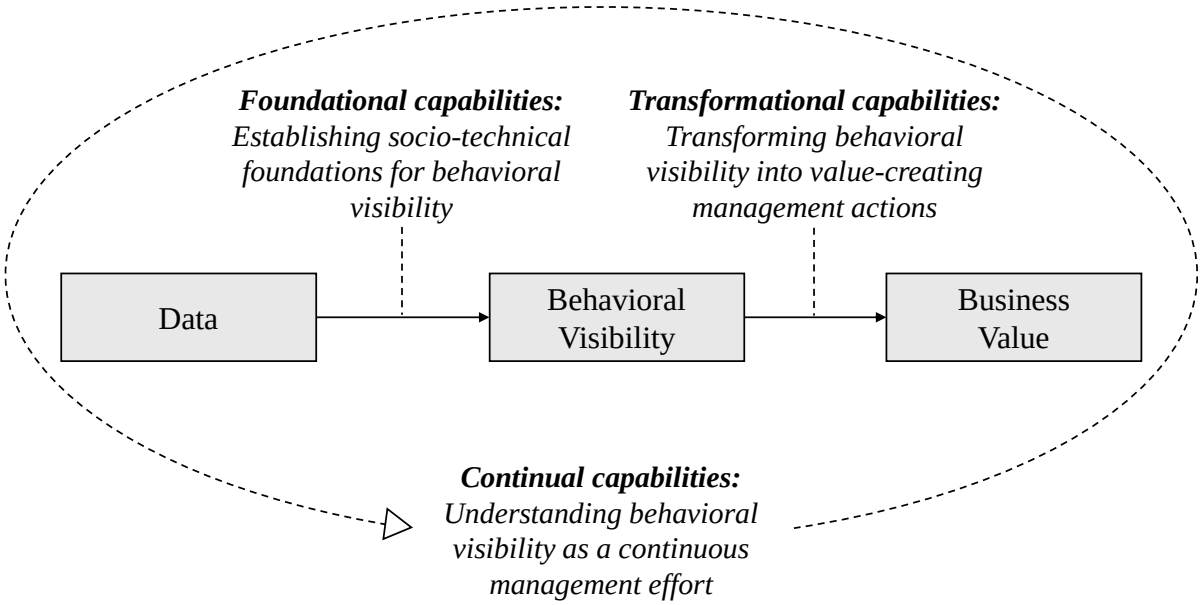


Figure 7. *The relationship between data, process-based behavioral visibility, and business value as well as the necessary capabilities*

RA #6 contributes to research on PM, digital trace data, and organizational capability-building by developing a structured framework for managing behavioral visibility with the goal of generating business value. It advances understanding of how organizations can leverage digital trace data by identifying capabilities that support technical readiness, strategic alignment, and sustained use of

behavioral insights. In doing so, the study shifts the prevailing discourse on behavioral visibility — from a focus on surveillance and resistance — toward its strategic potential when governed deliberately. From a practical perspective, the framework supports decision-makers in organizing behavioral visibility efforts, coordinating cross-functional collaboration, and embedding data-driven transparency into process management.

The study acknowledges several limitations. The framework is grounded in interviews with organizations experienced in PM, which may bias results toward more mature or proactive settings. Further, it has not yet been tested quantitatively or across a broader set of organizational contexts. Future research could explore how industry-specific factors shape the development of behavioral visibility capabilities or how organizations balance visibility with privacy and autonomy in different regulatory environments. Moreover, longitudinal studies could examine how these capabilities evolve over time and interact with broader digital transformation efforts, particularly in relation to AI-based decision-making, continuous improvement, and organizational agility.

Complementing the structural lens of RA #4 and RA #5, which conceptualizes how organizations embed PM and BPM within their enterprise architecture, RA #6 identifies the capabilities needed to act within these structures and translate digital trace data into business value. In doing so, it emphasizes process-based behavioral visibility as a dynamic capability — one that organizations must actively shape, govern, and evolve to drive long-term value creation.

Taken together, the three studies in this chapter emphasize that scaling PM is not only a technical or project management challenge but also a matter of governance design and capability building. RA #4 establishes the organizational setups through which PM can be institutionalized. RA #5 expands this to the broader BPM governance landscape, revealing how organizations balance control and flexibility across contexts. RA #6 identifies the concrete capabilities required to use process transparency for business value. These insights lay the groundwork for understanding how PM can be embedded as an enterprise-wide capability, supported by both structural design and deliberate capability-building.

V Method Deep Dive: Qualitative Research in Information Systems

Qualitative research plays a critical role in understanding the organizational, managerial, and socio-technical complexities associated with PM initiatives. In this dissertation, qualitative methods are used to explore how organizations adopt, implement, and scale PM, and how they navigate the accompanying shifts in roles, structures, and practices. Capturing such phenomena requires interpretive approaches that are sensitive to context and capable of uncovering emerging dynamics.

Within the broader IS field, qualitative research has gained increasing recognition for its ability to generate rich, contextual insights into sociotechnical phenomena (Monteiro et al., 2022; Myers, 1997). It is particularly valuable for studying emerging, dynamic, and multi-layered processes that quantitative methods often fail to capture (Bansal & Corley, 2011; Kaplan & Maxwell). While the methodological

diversity of qualitative research has enriched IS scholarship, qualitative studies remain underrepresented in top IS journals (Monteiro et al., 2022; Sarker et al., 2013), a pattern attributed to persistent biases, limited training, and the perceived difficulty of meeting publication standards (Conboy et al., 2012; Galliers & Huang, 2011; Lyytinen et al., 2007).

Although existing literature provides detailed guidance on how to conduct qualitative research — including data collection (Myers & Newman, 2007), analysis (Corbin & Strauss, 2008; Gioia et al., 2013), and visualization (Miles & Huberman, 1994) — little attention has been paid to the outcomes of qualitative research and how these are structured or communicated. As a result, qualitative IS research exhibits high variability in how findings are presented, which hampers transparency, comparability, and methodological rigor (Aspers & Corte, 2019; Sarker et al., 2013). To address this gap, RA #7 contributes to the methodological foundation of this dissertation by examining how qualitative research outcomes can be more clearly categorized and systematically reported. It investigates the following research question:

How can we classify the outcomes of qualitative research in IS?

To answer this research question, the study develops a structured classification framework based on a meta-synthesis (Mohammed, 2016) of qualitative IS papers published between January 2023 and June 2024 in the Senior Scholars' List of Premier Journals. A total of 762 articles were initially reviewed, of which 107 met all inclusion criteria for qualitative research and were included in the detailed analysis. Following a multi-phase, iterative approach, each of these 107 articles was reviewed independently by at least two researchers using a structured coding template, focusing on key aspects such as research purpose, outcome type, use of theory, data sources, and result presentation strategies. Discrepancies were resolved through workshop discussions, and recurring patterns were inductively identified, refined, and synthesized. The resulting framework (Figure 8) consists of four interrelated components:

- **Theoretical foundation**, which describes whether and how the research is grounded in existing theories, constructs, or conceptual categories drawn from prior literature;
- **Empirical base**, which refers to the types and combinations of data sources used to generate insights, such as interviews, documents, and observations;
- **Research focus**, which captures both the intended aim of the study — such as to define, describe, classify, explain, or prescribe — and the type of outcome produced, including concepts, models, typologies, or methods;
- **Research presentation**, which describes how results are conveyed, including the use of textual and visual elements, the flow of argumentation, and the structural dispersion of the outcome.

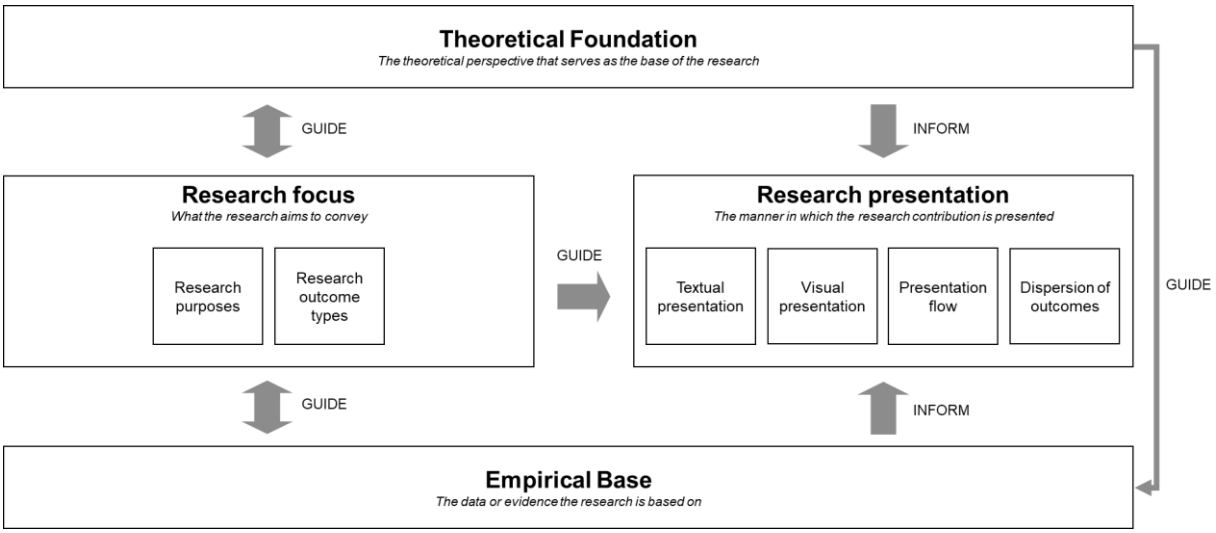


Figure 8. *Architecture of qualitative research outcomes*

Together, the four components offer a comprehensive lens for analyzing, designing, and communicating qualitative research outcomes in IS. Within this structure, the research focus is explored in terms of both research purposes and outcome types. Across the analyzed papers, five core research purposes emerge (Table 10): define, describe, classify, explain, and prescribe. These purposes often overlap, such as when descriptive studies also develop explanatory models. Four corresponding outcome types are identified and presented in Table 11: (1) concepts and constructs, (2) models and frameworks, (3) typologies and classifications, and (4) methods and guidelines. Drawing on prior work (Gregor, 2006; March & Smith, 1995b; Nickerson et al., 2013), the study shows how specific research purposes tend to align with particular outcome types, revealing archetypes such as classification efforts yielding typologies and prescriptive studies resulting in guidelines or methods.

Purpose	**Definition**
Define	To define and conceptualize problems, ideas, or abstract information within a domain, specifying their solutions. These outcomes aim to establish a clear understanding of key concepts, providing foundational terminology used in the research.
Describe	To describe and provide a detailed account of a phenomenon, focusing on its characteristics, attributes, and context. These outcomes aim to offer a clear and objective portrayal of the subject matter without inferring causal relationships.
Classify	To classify and differentiate elements into distinct types or groups based on shared characteristics. These outcomes focus on identifying and describing distinct categories or types that systematically classify and compare aspects within a phenomenon.
Explain	To explain and clarify the relationships, interactions, and structures within a specific domain, system, or process. These outcomes provide a conceptual structure that illustrates how different elements relate to and interact with each other to form a cohesive whole.
Prescribe	To prescribe or guide action through prescriptive guidance or instructions. These outcomes include stepwise methods, guidelines, and principles designed to achieve specific outcomes or complete designated tasks.

Table 10. *Overview of different research purposes*

Outcome type	Definition
Concept & Construct	Abstract ideas or mental representations capturing the essence of a real or latent phenomenon (concepts) and/or specific, often operationalized, versions of such concepts (constructs), formulating the vocabulary of a domain (March & Smith, 1995a).
Model & Framework	Simplified representations of phenomena, showing different components of the investigated phenomenon and how they relate or interact (March & Smith, 1995a), often considered theory (Gregor, 2006).
Typology & Classification	Systematic categorizations and groupings that classify phenomena into distinct, often mutually exclusive categories or types based on shared characteristics or patterns (Nickerson et al., 2013).
Method & Guideline	Systematic techniques, practices, or principles informing step-by-step procedures (March & Smith, 1995a).

Table 11. *Overview of different research outcome types*

Beyond the research purpose and outcome types, the framework also examines how qualitative results are communicated through different presentation strategies. The research presentation component includes four subdimensions: (1) textual presentation, such as narratives, quotes, and literature references; (2) visual presentation, including diagrams, lists, and models; (3) presentation flow, referring to the logical structure of result sections (e.g., theme-driven, process-driven, or story-driven); and (4) dispersion of outcomes, which captures how unified or fragmented the result structure is across the paper. These dimensions collectively shape the clarity, coherence, and accessibility of qualitative results.

RA #7 contributes to the methodological foundation of this dissertation by addressing a critical gap in qualitative IS research: the lack of guidance on how research outcomes are structured and communicated. The study introduces a comprehensive classification framework that brings clarity and structure to this area, enabling researchers to systematically describe and present their qualitative findings. Further, the study identifies recurring patterns in how research purposes align with specific outcome types and presentation strategies, offering archetypes that support consistency, transparency, and rigor in reporting. By highlighting the interplay between presentation styles and interpretability, it also provides actionable guidance — especially for early-career researchers — on how to enhance the accessibility and impact of their work.

The study also acknowledges limitations. The analysis is based on a 1.5-year sample of journal publications, which may reflect prevailing styles of result presentation during that period rather than capturing longer-term trends. By adopting a descriptive lens, the study reflects current reporting practices rather than prescribing best practices, which may limit its normative guidance. The exclusion of mixed-methods and design science studies further narrows the generalizability of the framework across methodological traditions. Future research could build on these foundations by examining how presentation strategies influence research impact, how outcome structures vary across different qualitative methods, and how the clarity of results affects reviewer perceptions and practitioner

adoption. Comparative studies could also explore differences between qualitative and mixed-methods designs and investigate how qualitative outcomes are interpreted in applied organizational contexts.

Overall, the architecture of qualitative research outcomes developed in RA #7 offers a foundation for improving transparency, structure, and scholarly dialogue in qualitative IS research. As such, RA #7 not only supports the methodological coherence of this dissertation but also contributes to strengthening the role of qualitative research in the IS discipline.

VI Conclusion

VI.1 Summary and Conclusion

In today's data-driven business landscape, organizations are increasingly turning to PM as a means to enhance operational efficiency. While PM has experienced rapid technological advancements, organizations continue to struggle with realizing tangible value from the technology. This dissertation addresses this challenge by focusing on the organizational side of PM adoption, moving beyond its current technical foundations to explore how businesses can bridge the gap between data, insights, action, and value. Thus, this thesis aims to answer the overarching research question of how to effectively organize PM to generate business value.

Spanning seven research articles, this dissertation sheds light on both the project level and company level of PM value generation. On a project level, the research explores a method for structuring and managing process improvement projects, as well as a method for generating actionable improvement ideas. On a company level, it investigates how organizations can build the supporting capabilities needed for successful PM adoption, develop governance structures, and manage behavioral visibility to drive process improvements. In doing so, it contributes both a holistic framework and targeted insights into key organizational enablers of PM success, which are summarized in the following.

First, this dissertation develops a Value Management Capability Framework, which serves as a conceptual foundation for this work. The framework distinguishes between core capabilities and supporting capabilities, which together offer a comprehensive perspective on the organizational enablers of PM success.

Second, this dissertation advances process-mining-enabled business process improvement by introducing two complementary methods that address key gaps in current practice. The MAPPER method supports the systematic management of PM-driven improvement portfolios. It enables organizations to prioritize, coordinate, and evaluate initiatives across the process landscape by guiding them through a structured process from data to insights to action and value**.** The FLAC method, in turn, targets one of the most critical and manual phases of improvement work, the generation of actionable ideas, by transforming conceptual BPI patterns into executable rule sets. This approach facilitates the reuse of improvement knowledge across process contexts and supports the semi-automated

identification of improvement opportunities. Together, these methods enable organizations to operationalize PM insights more effectively and foster repeatable, data-driven improvement practices.

Third, this dissertation strengthens the organizational foundations necessary for scalable PM adoption by conceptualizing key supporting capabilities. It offers a structured perspective on how organizations anchor PM within their structures, highlighting variations in ownership, resource allocation, and institutionalization. It further conceptualizes governance structures for enterprise-wide process management, addressing how responsibilities, decision rights, and standards are designed to balance control and flexibility. In addition, it identifies the capabilities required to manage transparency in digital processes, emphasizing how organizations can empower stakeholders, foster acceptance, and align transparency initiatives with strategic objectives. Together, these contributions advance the understanding of how PM can be systematically embedded into enterprise environments, ensuring that the organizational conditions are in place to support sustained process improvement and value realization.

Finally, it extends beyond PM-specific research to offer meta-level insights into qualitative research in IS, which underpins multiple studies within this dissertation. By systematically classifying qualitative research outcomes, it sheds light on different forms of result presentation, thereby enhancing methodological rigor and contributing to a more structured and transparent approach to reporting qualitative research findings.

By integrating these perspectives, this dissertation provides a holistic view of PM value generation, offering conceptual, methodological, and empirical contributions to the BPM and PM communities. The findings have several important implications for both research and practice. For research, this dissertation expands the discourse on PM by shifting the focus from technical advancements toward a more holistic understanding of its organizational enablers. It thereby provides a foundation for future studies to explore the socio-technical dynamics of PM adoption in greater depth. Further research could build upon the capability perspective developed in this dissertation by investigating how organizations evolve their PM maturity over time and which additional factors influence the long-term sustainability of PM initiatives. Additionally, the framework developed in this dissertation offers a structured basis for empirical validation across different industries and organizational settings, allowing researchers to refine and extend its applicability. Finally, deeper real-world evaluations could examine how variations in corporate structure, leadership support, or industry-specific challenges impact PM adoption success. Methodologically, the classification of qualitative research outcomes contributes to the broader IS field by promoting more structured and transparent reporting of research findings. By offering different ways to interpret and present qualitative data, this work not only enhances rigor but also enables researchers to uncover new insights that might otherwise remain overlooked.

For practice, this dissertation provides actionable guidance on systematically building the organizational capabilities needed for realizing business value from PM. The capability framework clarifies the core

and supporting capabilities required, while the MAPPER and FLAC methods equip practitioners with concrete tools for translating PM insights into sustainable process improvements. Additionally, the insights into PM and BPM governance and behavioral visibility help organizations navigate the complexities of adoption at scale, ensuring that transparency-driven process improvements are integrated into broader strategic goals while fostering employee acceptance and empowerment. By leveraging these insights, organizations can transition from fragmented PM use cases toward a more mature, enterprise-wide approach, enabling PM to become a sustained source of business value rather than an isolated analytics initiative. This structured approach empowers companies to make informed decisions about PM investments, align PM initiatives with their strategic objectives, and foster a culture of data-driven process improvement.

VI.2 Limitations and Future Research

The research results contained in this thesis must be interpreted in view of their limitations, which are summarized below. This summary focuses on overarching constraints rather than the specific limitations of each research article, which are addressed in their respective sections. At the same time, these limitations provide avenues for future research.

First, this dissertation predominantly employs qualitative research methods to explore the organizational enablers of PM adoption and value creation. While these approaches allow for in-depth theory building, they inherently limit the generalizability of findings. The interview- and case-based nature of the majority of studies means that insights are derived from specific organizational contexts, which may not be fully representative of other industries, firm sizes, or regions. The relatively small sample sizes further constrain the applicability of findings across a broader range of organizations. Future research should complement these findings with large-scale empirical validation, such as surveys, to test the frameworks and developed methodologies across diverse organizational settings.

Second, the Value Management Capability Framework developed in this dissertation provides a holistic structure for understanding PM success by distinguishing between execution-focused core capabilities and strategic and structural supporting capabilities. However, while this dissertation examines selected supporting capabilities, such as the institutionalization of PM, it does not comprehensively cover all capabilities within the enablement, establishment, and empowerment layers. Given that all capabilities in the framework are necessary for sustained PM success, future research should explore the role of the remaining capabilities and their interactions with those already investigated.

Third, this dissertation primarily focuses on the organizational aspects of PM adoption, while purely technical advancements are not explicitly examined. However, the success of PM initiatives relies on the interplay between technical and organizational factors. In practice, organizations must integrate PM technology investments with governance structures, stakeholder management, and value realization mechanisms to avoid fragmentation between process analytics and business decision-making. While this work provides a holistic framework to build on, future research should investigate how organizations

can effectively co-develop technical and organizational capabilities, ensuring that technical innovations translate into scalable and sustainable business value.

Fourth, this dissertation focuses on the challenges of scaling PM beyond pilot projects and embedding it into enterprise-wide structures. However, organizations at earlier stages of PM adoption may encounter distinct challenges, such as selecting initial use cases, ensuring data availability, and securing organizational buy-in. The majority of studies in this dissertation, including the case study on value management capabilities, reflect organizations with a certain level of PM maturity. As a result, the insights and frameworks developed may not fully address the needs of organizations in the early stages of PM adoption. Future research should explore the adoption journey across different maturity levels and develop structured roadmaps tailored to organizations at varying stages of PM implementation. Additionally, research could examine how organizations transition between different maturity stages, identifying the enablers and barriers that facilitate or hinder long-term PM value realization.

Fifth, while this dissertation focuses on PM within enterprise environments, it does not explicitly examine the cross-organizational application of PM. As organizations increasingly operate within extended value chains, including suppliers, partners, and customers, PM has the potential to improve inter-organizational processes and collaboration (Rott et al., 2024). However, cross-enterprise PM adoption introduces new challenges, such as data access restrictions, privacy concerns, and interoperability issues between different IT systems. Future research could investigate how PM can be leveraged beyond individual firms to create value across broader ecosystems, addressing questions on data governance, security, and the alignment of PM initiatives with multi-stakeholder objectives.

Beyond addressing specific limitations, this dissertation also points to broader avenues for future research that build upon its conceptual and methodological contributions. On the side of supporting capabilities, a key area of interest lies in the governance of data-driven and process-oriented technologies. Organizations increasingly manage technologies such as PM, RPA, Business Intelligence, and Low-Code/No-Code solutions through dedicated, technology-specific Centers of Excellence. While these specialized governance structures facilitate initial technology adoption and the development of specialized expertise, they frequently lead to fragmented governance landscapes characterized by duplicated roles, siloed knowledge, inconsistent standards, and inefficiencies for business departments seeking holistic technological support.

Future research should therefore explore how to move from isolated governance approaches toward integrated models that enable cohesive and scalable technology management. A particularly promising direction involves the design of hub-and-spoke governance structures that centralize shared capabilities, such as data governance, analytics infrastructure, and solution evaluation, while allowing for domain-specific flexibility through decentralized, technology-specialized units. Researchers could examine which governance activities are best suited for centralization, and which require localized ownership due to their context-specific nature. Additionally, future studies may define and evaluate the roles of

integrative actors such as “digital solution architects” or “cross-technology engineers,” including the competencies, placement, and authority required for such roles to orchestrate cross-functional collaboration. Comparative case studies could further assess the performance of integrated versus siloed governance models across different organizational contexts, maturity levels, and industries, offering evidence on their impact on technology adoption speed, solution quality, and strategic alignment.

On the side of core capabilities, this work emphasizes that BPI remains the most value-generating phase within the BPM lifecycle (Fehrer et al., 2022). Yet, many organizations struggle to convert PM insights into actionable change, as this step remains largely manual and reliant on domain expertise and stakeholder consensus. The structured methodologies developed in this work, such as MAPPER and FLAC, help guide organizations from insights to improvement, but they also highlight the practical and theoretical challenges of scaling these efforts across contexts. By addressing these limitations and future research avenues, scholars can build on the findings of this dissertation to further refine the understanding of PM adoption and value realization, ultimately bridging the gap between technical advancements and organizational transformation.

Future research should build on these foundations to further develop semi-automated, human-centered approaches to BPI. Specifically, there is potential to enhance existing methods by incorporating real-time process monitoring, enabling more continuous and context-sensitive improvement recommendations. This would involve exploring how analytical techniques, visualization tools, and interactive decision-support systems can help organizations dynamically detect and respond to improvement opportunities. Moreover, integrating human and cultural factors into these approaches remains essential. Future work could investigate concrete mechanisms, such as participatory design practices, simulation environments, or co-creation workshops, that facilitate stakeholder engagement in data-driven improvement processes. These efforts would extend the findings on behavioral visibility in this dissertation by emphasizing that sustainable improvement requires not only technical feasibility but also organizational fit and employee acceptance.

By building on the foundations laid in this dissertation and pursuing the outlined research directions, future studies can refine and expand the introduced frameworks, methods, and concepts. In doing so, they can advance both theoretical understanding and practical capabilities for realizing business value through PM, ultimately contributing to the broader goal of bridging the gap between technical innovation and organizational transformation.

Use of writing assistance: Please note that I have utilized various writing assistance software programs (e.g., ChatGPT, DeepL, and Grammarly) to enhance the language and readability of this work. Nevertheless, I take full responsibility for its content and have thoroughly reviewed and edited the material as necessary.

VII References

Aaltonen, A., & Stelmaszak, M. (2024). The Performative Production of Trace Data in Knowledge Work. *Information Systems Research*, *35*(3), 1448–1462. https://doi.org/10.1287/isre.2019.0357

Archer, N., & Ghasemzadeh, F. (1999). An integrated framework for project portfolio selection. *International Journal of Project Management*, *17*(4), 207–216. https://doi.org/10.1016/S0263-7863(98)00032-5

Arsanjani, A. (2015). *Business process management design guide: Using IBM business process manager* (First edition). *WebSphere*. IBM Corporation International Technical Support Organization. https://learning.oreilly.com/library/view/-/9780738440590/?ar

Aspers, P., & Corte, U. (2019). What is Qualitative in Qualitative Research. *Qual Sociol (Qualitative Sociology)*, *42*(2), 139–160. https://link.springer.com/article/10.1007/s11133-019-9413-7

Badakhshan, P., Wurm, B., Grisold, T., Geyer-Klingeberg, J., Mendling, J., & vom Brocke, J. (2022). *Creating business value with process mining*. Universität Augsburg; Elsevier. https://doi.org/986765

Bansal, P., & Corley, K. (2011). The coming of age for qualitative research: Embracing the diversity of qualitative methods. *Academy of Management Journal*(54(2)), 233–237.

Beerepoot, I., Di Ciccio, C., Reijers, H. A., Rinderle-Ma, S., Bandara, W., Burattin, A., Calvanese, D., Chen, T., Cohen, I., Depaire, B., Di Federico, G., Dumas, M., van Dun, C., Fehrer, T., Fischer, D. A., Gal, A., Indulska, M., Isahagian, V., Klinkmüller, C., . . . Zerbato, F. (2023). The biggest business process management problems to solve before we die. *Computers in Industry*, *146*, 103837. https://doi.org/10.1016/j.compind.2022.103837

Benlian, A., Wiener, M., Cram, W. A., Krasnova, H., Maedche, A., Möhlmann, M., Recker, J., & Remus, U. (2022). Algorithmic Management. *Business & Information Systems Engineering*, *64*(6), 825–839. https://doi.org/10.1007/s12599-022-00764-w

Beverungen, D., Buijs, J. C. A. M., Becker, J., Di Ciccio, C., van der Aalst, W. M. P., Bartelheimer, C., vom Brocke, J., Comuzzi, M., Kraume, K., Leopold, H., Matzner, M., Mendling, J., Ogonek, N., Post, T., Resinas, M., Revoredo, K., del-Río-Ortega, A., La Rosa, M., Santoro, F. M., . . . Wolf, V. (2021). Seven Paradoxes of Business Process Management in a Hyper-Connected World. *Business & Information Systems Engineering*, *63*(2), 145–156. https://doi.org/10.1007/s12599-020-00646-z

Boer, F. G. de, Müller, C. J., & Caten, C. S. ten (2015). Assessment model for organizational business process maturity with a focus on BPM governance practices. *BPMJ*, *21*(4), 908–927.

Bucher, T., Klesse, M., Kurpjuweit, S., & Winter, R. (2007). Situational Method Engineering. In J. Ralyté, S. Brinkkemper, & B. Henderson-Sellers (Eds.), *IFIP — The International Federation for Information Processing. Situational Method Engineering: Fundamentals and Experiences* (Vol. 244, pp. 33–48). Springer US. https://doi.org/10.1007/978-0-387-73947-2_5

Carmona, J., van Dongen, B., Solti, A., & Weidlich, M. (2018). *Conformance Checking*. Springer International Publishing. https://doi.org/10.1007/978-3-319-99414-7

Celonis. (2023). *The Process Era is Here: How enterprises are using processes as a lever for value and a driver for change*. https://www.celonis.com/process-excellence/processreport/download/

Chen, Chiang, & Storey (2012). Business Intelligence and Analytics: From Big Data to Big Impact. *MIS Quarterly*, *36*(4), 1165. https://doi.org/10.2307/41703503

Conboy, K., Fitzgerald, G., & Mathiassen, L. (2012). Qualitative methods research in information systems: motivations, themes, and contributions. *European Journal of Information Systems*, *21*(2), 113–118.

Corbin, J., & Strauss, A. (2008). *Qualitative Research: Techniques and procedures for developing grounded theory* (3rd ed.). SAGE.

de Vaujany, F.-X., Leclercq-Vandelannoitte, A., Munro, I., Nama, Y., & Holt, R. (2021). Control and Surveillance in Work Practice: Cultivating Paradox in ‘New’ Modes of Organizing. *Organization Studies*, *42*(5), 675–695. https://doi.org/10.1177/01708406211010988

Dechert, F., García González, A., Kratsch, W., Kreuzer, T., & Röglinger, M. (2025). *On the Interaction between Business Process Management and Process Mining*.

Denner, M.-S., Püschel, L. C., & Röglinger, M. (2018). How to exploit the digitalization potential of business processes. *Business & Information Systems Engineering*.

Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2018). *Fundamentals of Business Process Management*. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-56509-4

Eggers, J., Hein, A., & Krcmar, H. (2023). Bridging the Gap: How Firms Use Process Mining to Create and Act on a Shared End-to-End Process Understanding. *Proceedings of the 44th International Conference on Information Systems (ICIS)*.

Eggers, J., Häge, M.-C., Zimmermann, S., & Gewald, H. (2023). Assessing Process Mining Use Cases: A Taxonomy of Antecedents and Value Poten-tials of Process Mining. *AMCIS 2023 Proceedings*.

Fehrer, T., Fischer, D. A., Leemans, S. J., Röglinger, M., & Wynn, M. T [Moe T.] (2022). An assisted approach to business process redesign. *Decision Support Systems*, *156*, 113749. https://doi.org/10.1016/j.dss.2022.113749

Fink, L., Yogev, N., & Even, A. (2017). Business intelligence and organizational learning: An empirical investigation of value creation processes. *Information & Management*, *54*(1), 38–56. https://doi.org/10.1016/j.im.2016.03.009

Fortune Business Insights. (2025). *Process Mining Software Market Size, Share & Industry Analysis*. https://www.fortunebusinessinsights.com/press-release/global-process-mining-software-market-10526

Galliers, R. D., & Huang, J. C. (2011). The teaching of qualitative research methods in information systems: An explorative study utilizing learning theory. *European Journal of Information Systems*, *21*(2), 119–134. https://doi.org/10.1057/ejis.2011.44

Gioia, D. A., Corley, K. G., & Hamilton, A. L. (2013). Seeking Qualitative Rigor in Inductive Research. *Organizational Research Methods*, *16*(1), 15–31. https://doi.org/10.1177/1094428112452151

Grashoff, I., & Recker, J. (2023). Design, Development, and Implementation of Artificial Intelligence Technology: A Scoping Review. *ECIS 2023 Research Papers. 305*. https://aisel.aisnet.org/ecis2023_rp/305

Gregor (2006). The Nature of Theory in Information Systems. *MIS Quarterly*, *30*(3), 611. https://doi.org/10.2307/25148742

Gregor, S., & Hevner, A. R. (2013). Positioning and Presenting Design Science Research for Maximum Impact. *MIS Quarterly*, *37*(2), 337–355. https://doi.org/10.25300/MISQ/2013/37.2.01

Grisold, T., Groß, S., Stelzl, K., vom Brocke, J., Mendling, J., Röglinger, M., & Rosemann, M. (2022). The Five Diamond Method for Explorative Business Process Management. *Business & Information Systems Engineering*, *64*(2), 149–166. https://doi.org/10.1007/s12599-021-00703-1

Grisold, T., Janiesch, C., Röglinger, M., & Wynn, M. T. (2024). "BPM is Dead, Long Live BPM!" – An Interview with Tom Davenport. *Business & Information Systems Engineering*, *66*(5), 639–642. https://doi.org/10.1007/s12599-024-00880-9

Grisold, T., Mendling, J., Otto, M., & vom Brocke, J. (2021). Adoption, use and management of process mining in practice. *Business Process Management Journal*, *27*(2), 369–387. https://doi.org/10.1108/BPMJ-03-2020-0112

Grisold, T., Seidel, S., Heck, M., & Berente, N. (2024). Digital Surveillance in Organizations. *Business & Information Systems Engineering*, *66*(3), 401–410. https://doi.org/10.1007/s12599-024-00866-7

Groß, S., Grisold, T., Mendling, J., & Haase, J. (2024). Idea generation in exploitative and explorative business process redesign techniques. *Information Systems and E-Business Management*, *22*(3), 527–555. https://doi.org/10.1007/s10257-024-00684-0

Hammer, M. (2015). What is Business Process Management? In J. vom Brocke & M. Rosemann (Eds.), *Handbook on Business Process Management 1* (pp. 3–16). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-45100-3_1

Hernaus, T., Bosilj, V., & Indihar Štemberger, M. (2016). How to go from strategy to results? Institutionalising BPM governance within organisations. *Business Process Management Journal*, *22.1*, 173–195.

Hevner, March, Park, & Ram (2004). Design Science in Information Systems Research. *MIS Quarterly*, *28*(1), 75. https://doi.org/10.2307/25148625

Kaplan, B., & Maxwell, J. A. Qualitative Research Methods for Evaluating Computer Information Systems. In *Aydin, C., Anderson, J. Hg* (pp. 30–55). https://link.springer.com/chapter/10.1007/0-387-30329-4_2

Kerpedzhiev, G., König, U., Röglinger, M., & Roseman, M. (2017). Business process management in the digital age. *BPTrends.*

Kerpedzhiev, G., König, U., Röglinger, M., & Rosemann, M. (2021). An Exploration into Future Business Process Management Capabilities in View of Digitalization. *Business & Information Systems Engineering*, *63*(2), 83–96. https://doi.org/10.1007/s12599-020-00637-0

Kreuzer, T., Röglinger, M., & Rupprecht, L. (2020). Customer-centric prioritization of process improvement projects. *Decision Support Systems*, *133*, 113286. https://doi.org/10.1016/j.dss.2020.113286

Kundisch, D., Muntermann, J, Oberländer, A. M., Rau, D., Röglinger, M., Schoormann, T., & Szopinski, D. (2022). An Update for Taxonomy Designers. *Business & Information Systems Engineering*, *64*(4), 421–439. https://doi.org/10.1007/s12599-021-00723-x

Leonardi, P. M., & Treem, J. W. (2020). Behavioral Visibility: A new paradigm for organization studies in the age of digitization, digitalization, and datafication. *Organization Studies*, *41*(12), 1601–1625. https://doi.org/10.1177/0170840620970728

Lyytinen, K., Baskerville, R., Iivari, J., & Te'eni, D. (2007). Why the old world cannot publish? Overcoming challenges in publishing high-impact IS research. *European Journal of Information Systems*, *16*(4), 317–326.

Malinova, M., Gross, S., & Mendling, J. (2022). A study into the contingencies of process improvement methods. *Information Systems*, *104*, 101880. https://doi.org/10.1016/j.is.2021.101880

Mamudu, A., Bandara, W., Wynn, M. T., & Leemans, S. J. J. (2024). Process Mining Success Factors and Their Interrelationships. *Business & Information Systems Engineering.* Advance online publication. https://doi.org/10.1007/s12599-024-00860-z

March, S. T., & Smith, G. F. (1995a). Design and natural science research on information technology. *Decision Support Systems*, *15*(4), 251–266.

March, S. T., & Smith, G. F. (1995b). Design and natural science research on information technology. *Decision Support Systems*, *15*(4), 251–266. https://doi.org/10.1016/0167-9236(94)00041-2

Martin, N., Fischer, D. A., Kerpedzhiev, G. D., Goel, K., Leemans, S. J. J., Röglinger, M., van der Aalst, W. M. P., Dumas, M., La Rosa, M., & Wynn, M. T. (2021). Opportunities and Challenges for Process Mining in Organizations: Results of a Delphi Study. *Business & Information Systems Engineering*, *63*(5), 511–527. https://doi.org/10.1007/s12599-021-00720-0

Miles, M. B., & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. SAGE.

Mohammed, M. A. (2016). Meta-synthesis of qualitative research: The challenges and opportunities. *International Journal of Clinical Pharmacy*, 1–10. https://doi.org/10.1007/s11096-016-0289-2

Monteiro, E., Constantinides, P., Scott, S., Shaikh, M., Burton-Jones, A. (2022). Qualitative research methods in Information Systems: A call for Phenomen-focused Problematization. *MIS Quarterly*. https://ntnuopen.ntnu.no/ntnu-xmlui/bitstream/handle/11250/3110185/misq+qual+editorial+no+format.pdf?sequence=1

Myers, M. D. (1997). Qualitative Research in Information Systems. *MIS Quarterly*(21 (2)), 241–242.

Myers, M. D., & Newman, M. (2007). The qualitative interview in IS research: Examining the craft. *Information and Organization*, *17*(1), 2–26. https://www.sciencedirect.com/science/article/pii/s1471772706000352

Nickerson, R. C., Varshney, U., & Muntermann, J. (2013). A method for taxonomy development and its application in information systems. *European Journal of Information Systems*.

Park, G., Schuster, D., & van der Aalst, W. M. (2023). Pattern-based action engine: Generating process management actions using temporal patterns of process-centric problems. *Computers in Industry*, *153*, 104020. https://doi.org/10.1016/j.compind.2023.104020

Peffers, K., Tuunanen, T., Rothenberger, M. A., & Chatterjee, S. (2007). A Design Science Research Methodology for Information Systems Research. *Journal of Management Information Systems*, *24*(3), 45–77. https://doi.org/10.2753/MIS0742-1222240302

Ralyté, J., Deneckère, R., & Rolland, C. (2019). Towards a Generic Model for Situational Method Engineering. In R. King (Ed.), *Notes on Numerical Fluid Mechanics and Multidisciplinary Design. Active Flow and Combustion Control 2018* (Vol. 141, pp. 95–110). Springer International Publishing. https://doi.org/10.1007/3-540-45017-3_9

Recker, J. (2021). *Scientific research in information systems: a beginner's guide*. Springer Nature.

Recker, J., & Mendling, J. (2016). The State of the Art of Business Process Management Research as Published in the BPM Conference. *Business & Information Systems Engineering*, *58*(1), 55–72. https://doi.org/10.1007/s12599-015-0411-3

Reijers, H, & 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

Reinkemeyer, Grindemann, Egli, Röglinger, Marcus, & Fabri. (2022). *Accelerating Business Transformation with Process Mining Centers of Excellence (CoEs)*. https://www.celonis.com/report/fraunhofer-study/ty/

Reinkemeyer, L. (Ed.). (2020). *Process mining in action: Principles, use cases and outlook.*

Reinkemeyer, L. (2022). Status and Future of Process Mining: From Process Discovery to Process Execution. In W. van der Aalst & J. Carmona (Eds.), *Lecture Notes in Business Information Processing. Process Mining Handbook* (Vol. 448, pp. 405–415). Springer International Publishing. https://doi.org/10.1007/978-3-031-08848-3_13

Rojas, E., Munoz-Gama, J., Sepúlveda, M., & Capurro, D. (2016). Process mining in healthcare: A literature review. *Journal of Biomedical Informatics*, *61*, 224–236. https://doi.org/10.1016/j.jbi.2016.04.007

Rosemann, M. (2015). The Service Portfolio of a BPM Center of Excellence. In J. vom Brocke & M. Rosemann (Eds.), *Handbook on Business Process Management 1* (Springer, Berlin, Heidelberg, pp. 381–398). Springer Berlin Heidelberg. (Original work published 2015)

Rott, J., & Böhm, M. (2022). Mine the right process – towards a method for selecting a suitable use case for process mining adoption. *ECIS 2022 Research Papers. 45*. https://aisel.aisnet.org/ecis2022_rp/45

Rott, J., Böhm, M., & Krcmar, H. (2024). Laying the ground for future cross-organizational process mining research and application: a literature review. *Business Process Management Journal*, *30*(8), 144–206. https://doi.org/10.1108/BPMJ-04-2023-0296

Rozinat, A. (2021). *Project Guide – Part 1: Process Selection*. https://fluxicon.com/blog/2021/04/project-guide/

Santana, A. F. L., Alves, C. F., Santos, H. R. M., & Lima Cavalcanti Felix, A. de. (2011). BPM Governance: An Exploratory Study in Public Organizations. In T. Halpin, S. Nurcan, J. Krogstie, P. Soffer, E. Proper, R. Schmidt, & I. Bider (Eds.), *Lecture Notes in Business Information Processing: Vol. 81. Enterprise, Business-Process and Information Systems Modeling: BPMDS EMMSAD 2011 2011* (Vol. 81, pp. 46–60). Springer Berlin Heidelberg.

Sarker, Xiao, & Beaulieu (2013). Qualitative studies in information systems: A critical review and some guiding principles. *Management Information Systems*.

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. *MIS Quarterly*(43(3)), 695–719. https://aisel.aisnet.org/misq/vol43/iss3/3

Sonnenberg, C., & vom Brocke, J. (2012). Evaluations in the Science of the Artificial – Reconsidering the Build-Evaluate Pattern in Design Science Research. In D. Hutchison, T. Kanade, J. Kittler, J. M. Kleinberg, F. Mattern, J. C. Mitchell, M. Naor, O. Nierstrasz, C. Pandu Rangan, B. Steffen,

M. Sudan, D. Terzopoulos, D. Tygar, M. Y. Vardi, G. Weikum, K. Peffers, M. Rothenberger, & B. Kuechler (Eds.), *Lecture Notes in Computer Science. Design Science Research in Information Systems. Advances in Theory and Practice* (Vol. 7286, pp. 381–397). Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-29863-9_28

Stein Dani, V., Leopold, H., van der Werf, J. M. E., Beerepoot, I., & Reijers, H. A. (2024). From process mining insights to process improvement: all talk and no action? *Nternational Conference on Cooperative Information Systems*, 275–292.

Stettina, C. J., & Hörz, J. (2015). Agile portfolio management: An empirical perspective on the practice in use. *International Journal of Project Management*, *33*(1), 140–152. https://doi.org/10.1016/j.ijproman.2014.03.008

Thiede, M., Fuerstenau, D., & Bezerra Barquet, A. P. (2018). How is process mining technology used by organizations? A systematic literature review of empirical studies. *Business Process Management Journal*, *24*(4), 900–922. https://doi.org/10.1108/BPMJ-06-2017-0148

van der Aalst, W. (2011). *Process Mining*. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-19345-3

van der Aalst, W. (2016). *Process Mining*. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-662-49851-4

van Eck, M. L., Lu, X., Leemans, S. J. J., & van der Aalst, W. M. P. (2015). PM^2: A Process Mining Project Methodology. In J. Zdravkovic, M. Kirikova, & P. Johannesson (Eds.), *Lecture Notes in Computer Science. Advanced Information Systems Engineering* (Vol. 9097, pp. 297–313). Springer International Publishing. https://doi.org/10.1007/978-3-319-19069-3_19

Venable, J., Pries-Heje, J., & Baskerville, R. (2016). FEDS: a Framework for Evaluation in Design Science Research. *European Journal of Information Systems*, *25*(1), 77–89. https://doi.org/10.1057/ejis.2014.36

vom Brocke, Jans, Mendling, & Reijers (2021). A Five-Level Framework for Research on Process Mining. *Business & Information Systems Engineering*, *63*(5), 483–490. https://doi.org/10.1007/s12599-021-00718-8

vom Brocke, J., Baier, M.-S., Schmiedel, T., Stelzl, K., Röglinger, M., & Wehking, C. (2021). Context-Aware Business Process Management. *Business & Information Systems Engineering*, *63*(5), 533–550. https://doi.org/10.1007/s12599-021-00685-0

vom Brocke, J., Debortoli, S., Müller, O., & Reuter, N. (2014). How In-memory Technology Can Create Business Value: Insights from the Hilti Case. *Communications of the Association for Information Systems*, *34.* https://doi.org/10.17705/1CAIS.03407

vom Brocke, J., & Rosemann, M. (Eds.). (2015). *Handbook on Business Process Management 1*. Springer Berlin Heidelberg. https://doi.org/10.1007/978-3-642-45100-3

vom Brocke, J., Zelt, S., & Schmiedel, T. (2016). On the role of context in business process management. *International Journal of Information Management*, *36*(3), 486–495. https://doi.org/10.1016/j.ijinfomgt.2015.10.002

Wessel, L., Baiyere, A., Ologeanu-Taddei, R., Cha, J., & Blegind Jensen, T. (2021). Unpacking the Difference Between Digital Transformation and IT-Enabled Organizational Transformation. *Journal of the Association for Information Systems*, *22*(1), 102–129. https://doi.org/10.17705/1jais.00655

Yang, W., & Su, Q. (2014). Process mining for clinical pathway: Literature review and future directions. In *2014 11th International Conference on Service Systems and Service Management (ICSSSM)* (pp. 1–5). IEEE. https://doi.org/10.1109/ICSSSM.2014.6943412

Yoo, Y. (2010). Computing in everyday life: A call for research on experiential computing. *MIS Quarterly*(34 (2)), 213–231.

Zellner, G. (2013). Towards a framework for identifying business process redesign patterns. *Business Process Management Journal*, *19*(4), 600–623. https://doi.org/10.1108/BPMJ-Mar-2012-0020

Zorina, A., Bélanger, F., Kumar, N., & Clegg, S. (2021). Watchers, watched, and watching in the digital age: Reconceptualization of information technology monitoring as complex action nets. *Organization Science*.

VIII Appendix

VIII.1 Index of Research Articles

Research Article 1	**Realizing Business Value through Process Mining: An Exploration into Related Capabilities** Dechert F, Marcus L, Röglinger M (2025) Submitted to: *Process Science* (No rating available yet)
Research Article 2	**A Portfolio Management Method for Process Mining-enabled Business Process Improvement Projects** Fischer DA, Marcus L, Röglinger M (2024) Published in: *Business & Information Systems Engineering* DOI: https://doi.org/10.1007/s12599-024-00906-2 (VHB-24: B, VHB-JQ3: B, SJR: Q1, IF: 7.9)
Research Article 3	**The FLAC Method: Data-Facilitated Discovery of Business Process Improvement Options** Fehrer T, Marcus L, Röglinger M, Smalei U, Zetzsche F (2024) Published in: *European Conference on Information Systems (ECIS), 2024* (VHB-24: A, VHB-JQ3: B)
Research Article 4	**Navigating the Organizational Landscape of Process Mining Setups: A Taxonomy Approach** Marcus L, Schmid S, Friedrich F, Röglinger M, Grindemann P (2024) Published in: *Business & Information Systems Engineering* DOI: https://doi.org/10.1007/s12599-024-00908-0 (VHB-24: B, VHB-JQ3: B, SJR: Q1, IF: 7.9)
Research Article 5	**Conceptualizing Business Process Management Governance Setups** Dechert F, Friedrich F, Kreuzer T, Marcus L, Röglinger M (2025). Submitted to and currently under major revision at: *Schmalenbach Journal of Business Research* (VHB-24: B, VHB-JQ3: B, SJR: Q1, IF: 1.9)
Research Article 6	**Capabilities for Building and Managing Behavioral Visibility in Organizations** Franzoi S, Kipping G, Marcus L, Schmid S, Grisold T, Mendling J, Röglinger M, vom Brocke, J (2025) About to be submitted to: *Journal of Strategic Information Systems* (VHB-24: A, VHB-JQ3: A, SJR: Q1, IF: 8.7)
Research Article 7	**Qualitative Research Outcomes in Information Systems: Enhancing Rigor and Insights** Marcus L, Kreuzer T, Moder L, Röglinger M (2025) Submitted to and currently under major revision at: *Communications of the AIS* (VHB-24: B, VHB-JQ3: B, SJR: Q2, IF: 2.4)

Table 12. *Index of Research Articles*

Further, I also co-authored the following research articles. These articles are not part of this dissertation.

Accelerating Business Transformation with Process Mining Centers of Excellence (CoEs) Reinkemeyer L, Grindemann P, Egli V, Röglinger M, Marcus L, Fabri L (2022) URL: https://publica.fraunhofer.de/entities/publication/94257ff7-3368-4d25-a114-95858e736c8e/details
How to Leverage Process Mining in Organizations – Towards Process Mining Capabilities Kipping G, Djurica, D, Franzoi, S, Grisold, T, Marcus L, Schmid S, vom Brocke J, Mendling J, Röglinger M (2022) Published in: *International Conference on Business Process Management (pp. 40-46)* DOI: https://doi.org/10.1007/978-3-031-16103-2_5
Moderne Prozessgestaltung am Beispiel der öffentlichen Verwaltung: Der Mensch im Mittelpunkt Engenhorst K, Marcus L, Moder L, Kühnel T, Oberländer A, Röglinger M (2024) Published in: *Wirtschaftsinformatik & Management* DOI: https://doi.org/10.1365/s35764-024-00508-3
Harnessing Collective Brainpower for Practical Excellence in Process Mining Dechert F, García Gonzáles A, Marcus L, Moder L, Röglinger M, Lebherz J, Accorsi R, Agam R, Al Ghadban M, Arcangeli S, Blank P, Both T, Erieau J, Hoffmann M, Krumeich J, Lehto T, Müller C, Reinkemeyer L, Rosik M, Schilling C, Sun Y, Wehmschulte C, Zanner B (2024) URL: https://www.fit.fraunhofer.de/content/dam/fit/witschaftsinformatik/dokumente/ICPM%202023_Harnessing-Collective-Brainpower-for-Practical Excellence-in-Process-Mining.pdf
Recent Advances in Data-Driven Business Process Management Ackermann L, Käppel M, Marcus L, Moder L, Dunzer S, Hornsteiner M, Liessmann A, Zisgen Y, Empl P, Herm L-V, Neis N, Neuberger J, Poss L, Schaschek M, Weinzierl S, Wördehoff N, Jablonski S, Koschmider A, Kratsch W, Matzner M, Rinderle-Ma S, Röglinger M, Schönig S, Winkelmann A (2024) DOI: https://doi.org/10.48550/arXiv.2406.01786

Table 13. *Further Research Articles*

VIII.2 Individual Contribution to the Included Research Articles

This dissertation is cumulative and includes seven research articles. All research articles were written in teams with multiple co-authors. This section outlines the settings and describes my contribution to the seven articles. The descriptions follow the Contributor Roles Taxonomy (CRediT) by Allen et al. (2019).

Research Article #1, entitled "*Realizing Business Value through Process Mining: An Exploration into Related Capabilities*" (Dechert et al. 2025; Section VII.3), was written by a team of three authors. I contributed significantly to the conceptualization, methodology, investigation, and data curation of the research. In addition, I was responsible for the original drafting of individual sections, and I was involved in reviewing and editing the entire paper. Further, I took on a supervision role. As a team, we agreed that we all contributed to this research article in equal parts.

Research Article #2, entitled "*A Portfolio Management Method for Process Mining-enabled Business Process Improvement Projects*" (Fischer et al. 2024; Section VII.4) was written by a team of three authors. I contributed significantly to conceptualization, methodology, data curation, and investigation. In addition, I was responsible for the original drafting of individual sections, and I was involved in reviewing and editing the entire paper. As a team, we agreed that the first author acted as the lead author, while the other co-author and I acted as subordinate authors.

Research Article #3, entitled "*The FLAC Method: Data-Facilitated Discovery of Business Process Improvement Options*" (Fehrer et al. 2024; Section VII.5) was written by a team of five authors. I contributed significantly to the conceptualization and methodology of the paper. I also took a leading role in administering the evaluation. In addition, I was responsible for the original drafting of individual sections, and I was involved in reviewing and editing the entire paper. Further, I took on a supervision role. As a team, we agreed that we all contributed to this research article in equal parts.

Research Article #4, entitled "*Navigating the Organizational Landscape of Process Mining Setups: A Taxonomy Approach*" (Marcus et al. 2024; Section VII.6) was written by a team of four authors. In line with my role as the first author, I held a substantial role in conceptualizing the paper, designing the methodology, data curation, and evaluation. In addition, I was responsible for the original drafting of individual sections, and I was involved in reviewing and editing the entire paper. Further, I took on project administration. As a team, we agreed that we all contributed to this research article in equal parts.

Research Article #5, entitled "*Conceptualizing Business Process Management Governance Setups"* (Dechert et al. 2025; Section VII.7) was written by a team of five authors. While I was not involved in drafting the original version, I contributed significantly during the revision process. Specifically, I was involved in data curation, investigation, and literature review. Additionally, I rewrote sections of the original draft, authored new sections added during the revision, and was involved in reviewing and editing the entire paper. As a team, we agreed that we all contributed to this research article in equal parts.

Research Article #6, entitled "*Capabilities for Building and Managing Behavioral Visibility in Organizations*" (Franzoi et al. 2025; Section VII.8) was written by a team of eight authors. I contributed significantly to the conceptualization, methodology, investigation, and data curation of the research. Further, I took on project administration and had a leading role in the development of the research model. In addition, I was responsible for the original drafting of individual sections, and I was involved in reviewing and editing the entire paper. As a team, we agreed that we all contributed to this research article in equal parts.

Research Article #7, entitled "*Qualitative Research Outcomes in Information Systems: Enhancing Rigor and Insights*" (Marcus et al. 2025; Section VII.9) was written by a team of four authors. In line with my role as the first author, I held a crucial role in all parts and administered the research. I contributed significantly to the conceptualization, methodology, investigation, and data curation of the research. Also, I was solely responsible for writing the original draft and for visualization. I acted as lead author, while the other three co-authors acted as subordinate authors.

VIII.3 Research Article #1: Realizing Business Value through Process Mining: An Exploration into Related Capabilities

Authors:

Franziska Dechert, Laura Marcus, Maximilian Röglinger

Submitted to:

Outlet hidden due to double-blind review process of the journal

Extended Abstract:

In today's digital economy, process mining has become a key technology for organizations seeking operational excellence. While the technical foundations have seen significant advancements, the organizational side of process mining is by far less mature. Specifically, the challenge of converting data into insights that eventually drive business value through process improvement requires further investigation (Eggers et al., 2023; Martin et al., 2021). Prior research has identified various enablers of process mining adoption, such as use case selection (Rott & Böhm, 2022), return-on-investment assessment (Eggers et al., 2023), or governance models (Reinkemeyer, 2020). However, these studies typically focus on specific levers or implementation contexts. A holistic perspective that integrates both organizational and technical dimensions and considers process mining not merely as a tool but as an evolving capability remains underdeveloped. To address this gap, we investigate the following research question: *What capabilities are needed for creating business value through process mining?*

To answer this question, we develop a structured Value Management Capability Framework. The research is based on an exploratory single-case study design at a global pharmaceuticals and chemicals company listed in the DAX. This case company provided a unique research setting due to its significant investments in process mining and the establishment of a global process mining Center of Excellence. A single-case study was chosen because of the complexity and richness of process mining integration within this company, allowing for in-depth exploration of organizational and managerial dimensions that are difficult to capture through broader, multi-case approaches.

Data was collected over a period of 14 months through 48 in-depth interviews with process mining leaders, business and IT representatives, extensive document analyses, and participant observations. To ensure methodological rigor and a systematic analysis of the qualitative data, we applied the Gioia methodology (Gioia et al., 2013), which allowed for a structured identification of capabilities and their interactions. Validity was ensured through triangulation across multiple data sources, iterative feedback with key informants, and regular interim presentations of emerging findings to process mining experts within the case organization.

The study finds that organizations require a set of capabilities to bridge the gap between process transparency and value realization, ensuring that process mining efforts produce sustainable, measurable outcomes. The result is a structured framework of value management capabilities for process mining, outlining the capabilities required for harnessing the potential of process mining technology in organizations. Overall, the framework distinguishes two layers, six dimensions, and 15 capabilities. The identified core capabilities directly help to create business value by enabling the improvement of business processes through insights gained and actions taken when applying process mining to process data in individual value cases. Accordingly, the capabilities are grouped along the data-insights-action-value process. Supporting capabilities facilitate the enactment of core capabilities independent from and across individual value cases. Thereby, they indirectly contribute to value creation through process mining. To that end, they focus on the establishment of governance structures, the enablement of employees to fully leverage process mining technology, and the empowerment of different stakeholders for successful process mining implementation. Together, these capabilities form a structured approach to transitioning from local experimentation to enterprise-wide integration of process mining. The framework helps organizations consistently translate insights into action and ultimately into measurable outcomes.

This study advances the organizational discourse on process mining by reframing value realization as a capability-building challenge rather than a purely technological task. It contributes to the emerging organizational stream of process mining research and responds to calls for understanding how process mining creates business value (Martin et al., 2021; Badakhshan et al., 2022). Building on affordance-based perspectives, the framework distinguishes between core capabilities that drive value creation and supporting capabilities that enable scalability and sustainability. Drawing on dynamic capabilities theory, the core capabilities align with sensing, seizing, and transforming activities (Teece, 2007), while the supporting capabilities, establishing, enabling, and empowering, provide essential organizational foundations. The framework is transferable to similarly complex organizational contexts (Vom Brocke et al., 2021a) and offers a foundation for future research, including confirmatory studies and investigations into the micro-foundations of capability development (Teece, 2007; Kroh et al., 2024). In doing so, it shifts the focus from isolated project success to the development of repeatable, scalable capabilities for sustained value realization.

Keywords:

Process Mining, Capability framework, Business value of IT, Resource-based view of the firm, Dynamic capability theory

References

Badakhshan P, Wurm B, Grisold T, et al (2022) Creating business value with process mining. J Strateg Inf Syst 31:101745. https://doi.org/10.1016/j.jsis.2022.101745Dunzer S, Stierle M, Matzner M, Baier S (2019) Conformance checking: a state-of-the-art literature review. In: Proceedings of the 11th International Conference on Subject-Oriented Business Process Management. ACM, Seville Spain, pp 1–10

Eggers J, Häge M-C, Zimmermann S, Gewald H (2023) Assessing Process Mining Use Cases: A Taxonomy of Antecedents and Value Potentials of Process Mining. In: AMCIS 2023 Proceedings. Panama City, Panama

Gioia D, Corley K, Hamilton A (2013) Seeking Qualitative Rigor in Inductive Research. Organ Res Methods 16:15–31. https://doi.org/10.1177/1094428112452151

Kroh J, Globocnik D, Schultz C, et al (2024) Micro-foundations of digital innovation capability – A mixed method approach to develop and validate a multi-dimensional measurement instrument. Technol Forecast Soc Change 198:122942. https://doi.org/10.1016/j.techfore.2023.122942

Martin N, Fischer DA, Kerpedzhiev GD, et al (2021) Opportunities and Challenges for Process Mining in Organizations: Results of a Delphi Study. Bus Inf Syst Eng 63:511–527. https://doi.org/10.1007/s12599-021-00720-0

Reinkemeyer L (2020a) Business View: Towards a Digital Enabled Organization. In: Reinkemeyer L (ed) Process Mining in Action. Springer International Publishing, Cham, pp 197–206

Rott J, Böhm M (2022) Mine the right process – towards a method for selecting a suitable use case for process mining adoption. In: ECIS 2022 Research Papers

Teece DJ (2007) Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. Strateg Manag J 28:1319–1350. https://doi.org/10.1002/smj.640

Vom Brocke J, Baier M-S, Schmiedel T, et al (2021a) Context-Aware Business Process Management: Method Assessment and Selection. Bus Inf Syst Eng 63:533–550. https://doi.org/10.1007/s12599-021-00685-0

VIII.4 Research Article #2: A Portfolio Management Method for Process Mining-enabled Business Process Improvement Projects

Authors:

Dominik A. Fischer, Laura Marcus, Maximilian Röglinger

Published in:

Business and Information Systems Engineering (2024). DOI: 10.1007/s12599-024-00906-2

Abstract:

Process mining has received tremendous attention from research and industry, establishing itself as a highly sought-after technology. Despite the technological maturity of process mining solutions, which has been achieved through extensive investments in research and development, organizations still face the challenge of elusive value when systematically adopting process mining. We attribute this dilemma to a lack of support for scaling and managing process mining project portfolios. To address this practical need and research gap, we propose a method for managing portfolios of so-called process mining value cases, which we define as process mining enabled business process improvement projects, towards an evolutionary roadmap (MAPPER) The method aims to support organizations in determining portfolios of process mining projects that generate value by improving business processes. The method was developed through a combination of design science research and situational method engineering and comprises five activities that outline techniques, roles, and tools: strategize, identify, select, implement, and monitor. The method has been instantiated as a software prototype and iteratively evaluated for applicability and real-world fidelity by involving an expert panel of academics and practitioners. The usefulness of the artifact was substantiated through a real-world case study in a naturalistic setting.

Keywords:

Process Mining, Business process improvement, Project selection, Portfolio management

VIII.5 Research Article #3: The FLAC Method: Data-Facilitated Discovery of Business Process Improvement Options

Authors:

Tobias Fehrer, Laura Marcus, Maximilian Röglinger, Smalei Uladzimir, Felix Zetzsche

Published in:

European Conference on Information Systems (ECIS) 2024
https://aisel.aisnet.org/ecis2024/track08_bpm_di/track08_bpm_di/4

Abstract:

Business process improvement (BPI) is crucial to every business, as inefficiencies jeopardize an organization's success. Predominant methods for BPI build on static process models, which are often incomplete, outdated, and lack execution-related insights. Process mining bears the potential to add execution-related insights into the process. However, organizations often lack the methodological expertise to apply process mining systematically to find process improvement options. Automating parts of BPI thus holds the potential to assist users without BPI expertise and enables data-driven BPI at scale. We introduce the FLAC method, which guides users in transforming conceptual BPI patterns into specific rulesets. Once transformed, they can be repeatedly applied to event logs to generate options for process improvement. An instantiation of the FLAC method on several BPI patterns and evaluation of its subsequent application to an event log confirmed its applicability and high relevance to practice by significantly reducing the time-to-insight.

Keywords:

Business process improvement, Business process redesign, Redesign pattern, Situational method engineering

VIII.6 Research Article #4: Navigating the Organizational Landscape of Process Mining Setups: A Taxonomy Approach

Authors:

Laura Marcus, Sebastian Johannes Schmid, Franziska Friedrich, Maximilian Röglinger, Philipp Grindemann

Published in:

Business and Information Systems Engineering (2024). DOI: 10.1007/s12599-024-00908-0

Abstract:

Process mining (PM) technology evolves around the analysis, design, implementation, and ongoing improvement of business processes. While it has experienced a lot of attention and significant technological advancements, contributions to the field have mostly revolved around technical matters, neglecting managerial and organizational aspects. Thus, researchers have called for a more holistic view of the application and adoption of PM in enterprises. To address this gap, this paper presents a taxonomy for organizational PM setups. Its applicability and usefulness are shown in three exemplary cases. This study extends the descriptive knowledge at the intersection of PM and business process management (BPM) governance, highlighting the unique governance requirements associated with PM that cannot be effectively addressed through traditional governance approaches. The taxonomy provides practitioners with orientation when developing an effective PM setup and helps to characterize existing setups.

Keywords:

Process mining, Organizational setup, BPM governance, Center of excellence, Taxonomy development

VIII.7 Research Article #5: Conceptualizing Business Process Management Governance Setups

Authors:

Franziska Dechert, Franziska Friedrich, Thomas Kreuzer, Laura Marcus, Christian Ritter, Maximilian Röglinger

Submitted to:

Outlet hidden due to the double-blind review process of the journal

Extended Abstract:

Business Process Management has evolved significantly in research and practice over recent leading to solid knowledge on success factors, methods, and capabilities (e.g., Bruin & Rosemann, 2007; Kerpedzhiev et al., 2021). Its role has grown with digital transformation and innovation, and the rise of process data has made process mining a key technology for many organizations (Grisold et al., 2021; van der Aalst, 2020). Successful enterprise-wide BPM adoption requires clear roles, structures, and methods that provide guidance and continuity (Hammer, 2015; Kerpedzhiev et al., 2021; vom Brocke et al., 2014). This coordination, known as business process management governance, remains a critical yet challenging success factor (Kerpedzhiev et al., 2021; vom Brocke et al., 2022). Research often examines governance through case studies, showing various design options such as decentralized roles, centers of excellence, or integrated business units (Alibabaei, 2021; Arsanjani et al., 2015; Rosemann, 2015; Santana et al., 2011). However, little is known about how to systematically combine these dimensions based on organizational context like strategy or competition (vom Brocke et al., 2016; vom Brocke et al., 2022). Unlike other BPM success factors such as methods or IT, governance lacks a holistic conceptualization. Most research focuses on isolated elements like process ownership (Hernaus et al., 2016) or specific models such as centers of excellence (Rosemann, 2015). A comprehensive overview of governance setups is essential to advance theory and help practitioners make informed, context-aware decisions. Therefore, this article investigates the following research question: *How can BPM-G setups be conceptualized?*

To address this question, we develop a taxonomy of governance setups through a structured, iterative process based on the taxonomy development method by Nickerson et al. (2013) and its extension by Kundisch et al. (2021). Our research included 18 semi-structured interviews with BPM experts from diverse industries and contexts. We derived governance dimensions inductively from the data and refined them through conceptual iterations drawing on BPM and organizational design literature.

The resulting taxonomy captures ten dimensions organized around two core organizational tensions: centralization versus decentralization, and standardization versus flexibilization. The first tension

addresses how BPM is embedded structurally and governed, covering aspects such as organizational anchoring, BPM ownership, funding, and ambidexterity. The second tension relates to the definition and application of BPM roles, data, and methods, including process and data ownership, role allocation, and methodological standardization. Together, these tensions offer a lens to understand how organizations balance control, alignment, and adaptability in governance design.

We validated the taxonomy by classifying BPM governance setups in 14 organizations, presenting three detailed case studies, and conducting further expert interviews. The taxonomy proved effective in capturing governance variations and supporting structured reflection. Practitioners found it valuable for understanding their governance configurations, facilitating stakeholder discussions, and identifying improvement opportunities. Particularly, its clarity in addressing governance tensions supports actionable, context-aware decision-making.

Finally, we advance our theoretical understanding of BPM-G by embedding the taxonomy in a multi-level framework that situates governance design within its broader organizational environment. This framework theorizes governance as shaped by dependencies on organizational context (e.g., strategic priorities, regulation), people (e.g., culture, BPM literacy), and temporal factors (e.g., maturity, transformation triggers). It highlights governance evolution through recurring cycles driven by maturity progression, external events, and digital transformation initiatives.

This study advances the understanding of business process management governance by providing a comprehensive, multi-dimensional taxonomy grounded in empirical data and theory. It bridges the gap between fragmented research on governance elements and the practical need for holistic, context-aware governance design. The taxonomy and framework offer both scholars and practitioners structured guidance to analyze, design, and evolve BPM governance setups that align with organizational goals and environments, ultimately supporting more effective BPM adoption and sustained value creation.

Keywords:

Business Process Management Governance, Taxonomy Development, Organizational Design, Organizational Tensions, Multi-level Framework

References:

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. Digital Transformation – Strategy, Processes and Execution, vol 4. Springer, Heidelberg, pp 207–220

Arsanjani A, Bharade N, Borgenstrand M, Schume P, Wood JK, Zheltonogov V (2015) Business Process Management Design Guide. Using IBM Business Process Manager. 1st edn. IBM Corporation, Poughkeepsie NY (WebSphere handbook series)

Bruin T de, Rosemann M (2007) Using the Delphi Technique to Identify BPM Capability Areas. In: ACIS 2007 Proceedings

Grisold T, Mendling J, Otto M, vom Brocke J (2021) Adoption, use and management of process mining in practice. Bus Process Manag J 27(2):369–387. https://doi.org/10.1108/BPMJ-03-2020-0112

Hammer M (2015) What is Business Process Management? In: vom Brocke J, Rosemann M (eds) Handbook on Business Process Management 1. Introduction, Methods, and Information Systems. 2nd edn. Springer, Berlin Heidelberg, pp 3–16

Hernaus T, Bosilj Vuksic V, Indihar Štemberger M (2016) How to go from strategy to results? Institutionalising BPM governance within organisations. Bus Process Manag J 22(1):173–195

Kerpedzhiev G, König U, Röglinger M, Rosemann M (2021) An Exploration into Future Business Process Management Capabilities in View of Digitalization: Results from a Delphi Study. Bus Inf Syst Eng 63(2):83–96

Kundisch D, Muntermann J, Oberländer AM, Rau D, Röglinger M, Schoormann T, Szopinski D (2021) An Update for Taxonomy Designers: Methodological Guidance from Information Systems Research. Bus Inf Syst Eng. https://doi.org/10.1007/s12599-021-00715-z

Nickerson RC, Varshney U, Muntermann J (2013) A method for taxonomy development and its application in information systems. Eur J Inf Syst 22(3):336–359

Rosemann M (2015) The Service Portfolio of a BPM Center of Excellence. In: vom Brocke J, Rosemann M (eds) Handbook on Business Process Management 2. Strategic Alignment, Governance, People and Culture. 2nd edn. Springer, Berlin Heidelberg, pp 381–398

Santana AFL, Alves CF, Santos HRM, Lima Cavalcanti Felix A (2011) BPM Governance: An Exploratory Study in Public Organizations. In: Halpin T, Nurcan S, Krogstie J, Soffer P, Proper E, Schmidt R, Bider I (eds) Enterprise, Business-Process and Information Systems Modeling. BPMDS EMMSAD 2011. Lecture Notes in Business Information Processing, vol 81. Springer, Berlin Heidelberg, pp 46–60

van der Aalst W (2020) Academic View: Development of the Process Mining Discipline. In: Reinkemeyer L (ed) Process Mining in Action. Springer, Cham, pp 181–196

vom Brocke J, Schmiedel T, Recker J, Trkman P, Mertens W, Viaene S (2014) Ten Principles of Good Business Process Management. Bus Process Manag J 20(4):530–548

vom Brocke J, Weber M, Baumgartner C, Roettcher A, Segerlund S (2022) Where to Allocate Business Process Management (BPM) in an Organization? Developing the BPM Governance Matrix at Endress+Hauser. Paper presented at the Industry Forum at the 20th Int. Business Process Management Conference (BPM 2022), Münster, Germany

vom Brocke J, Zelt S, Schmiedel T (2016) On the role of context in business process management. Int J Inf Manag 36(3):486–495

VIII.8 Research Article #6: Capabilities for Building and Managing Behavioral Visibility in Organizations

Authors:

Sandro Franzoi, Gregor Kipping, Laura Marcus, Sebastian Schmid, Thomas Grisold, Jan Mendling, Maximilian Röglinger, Jan vom Brocke

Submitted to:

Outlet hidden due to the double-blind review process of the journal

Extended Abstract:

As organizations increasingly operate in digital environments, most professional activities generate digital trace data that can be captured, modeled, and analyzed using process mining techniques (Leonardi & Treem, 2020). This enables a new form of behavioral visibility, one grounded in process data, that offers transparency into how work is actually performed across roles, systems, and time. When effectively governed, this form of visibility can unlock substantial business value by supporting data-informed decision-making, process optimization, and organizational learning (Badakhshan et al., 2022; Leonardi & Treem, 2020). However, much of the existing literature emphasizes the risks and unintended consequences of behavioral visibility, such as surveillance, performative behavior, and resistance (Aaltonen & Stelmaszak, 2024; Benlian et al., 2022). While these critical perspectives are important, they often overlook how organizations can proactively govern and strategically leverage process-based behavioral visibility. As process mining technologies continue to expand transparency into actual work practices, there is a growing need for a more balanced understanding of how organizations manage these dynamics. Against this backdrop, we investigate the following research question: *How do organizations manage process-based behavioral visibility to generate value?*

To address this question, the study develops a comprehensive capability framework that identifies and structures the organizational capabilities required to create business value from behavioral visibility. Business value is conceptualized as improvements in efficiency, decision-making, and learning that result from leveraging behavioral insights derived from process mining. The framework was developed through a grounded theory-inspired qualitative study, based on 30 expert interviews with professionals across industries, including process analysts, senior managers, and business unit leads. The interviews were coded following Gioia et al. (2013) and synthesized into a set of capabilities that collectively enable organizations to move from data to value.

The resulting framework encompasses nine capabilities for process-based behavioral visibility organized into three categories: foundational, transformational, and continual. Foundational capabilities establish the technical and organizational groundwork for implementing process-based behavioral visibility. Transformational capabilities enable organizations to interpret and act on behavioral insights.

Continual capabilities sustain behavioral visibility as an ongoing organizational practice. Taken together, these capabilities form an actionable framework for understanding how organizations move from capturing digital traces to realizing business value through the strategic use of behavioral insights. The model illustrates a progression from data to behavioral visibility to business value, highlighting how different capabilities support movement across these stages. Importantly, this progression is not linear but recursive: new insights create new visibility, which in turn opens up further opportunities for strategic learning and adaptation.

The article makes several contributions to the literature on process mining and organizational capability development. First, it reframes behavioral visibility not merely as a site of control and resistance but as a capability-intensive endeavor that can support strategic management when deliberately governed. Second, it provides a structured framework that supports both research and practice in managing digital trace data for organizational benefit. Third, it identifies capability configurations that are particularly relevant for embedding process-based transparency into long-term digital transformation efforts. From a practical perspective, the framework offers a roadmap for decision-makers to coordinate cross-functional collaboration, avoid fragmented initiatives, and build sustainable value from process mining.

Keywords

Behavioral visibility, Capability framework, Process mining, Digital trace data

References:

Aaltonen, A, Stelmaszak, M (2023): The performative production of trace data in knowledge work. In: Information Systems Research, Advance online publication, Article isre.2019.0357. DOI: 10.1287/isre.2019.0357.

Badakhshan, P, Wurm, B, Grisold, T, Geyer-Klingeberg, J, Mendling, J, vom Brocke, J (2022): Creating business value with process mining. In: Journal of Strategic Information Systems 31 (4). DOI: 10.1016/j.jsis.2022.101745.

Benlian, A, Wiener, M, Cram, WA, Krasnova, H, Maedche, A, Möhlmann, M, Recker, J, Remus, U (2022): Algorithmic management. In: Business & Information Systems Engineering 64 (6), S. 825–839. DOI: 10.1007/s12599-022-00764-w.

Gioia, DA, Corley, KG, Hamilton, AL (2013): Seeking qualitative rigor in inductive research. In: Organizational Research Methods 16 (1), S. 15–31. DOI: 10.1177/1094428112452151.

Leonardi, PM, Treem, JW (2020): Behavioral visibility: A new paradigm for organization studies in the age of digitization, digitalization, and datafication. In: Organization Studies 41 (12), S. 1601–1625. DOI: 10.1177/0170840620970728.

VIII.9 Research Article #7: Qualitative Research Outcomes in Information Systems: Enhancing Rigor and Insights

Authors:

Laura Marcus, Thomas Kreuzer, Linda Moder, Maximilian Röglinger

Submitted to:

Outlet hidden due to the double-blind review process of the journal

Extended Abstract:

Qualitative research has gained considerable recognition in information systems for its ability to generate rich, contextual insights into complex socio-technical phenomena (Monteiro et al., 2022; Myers, 1997). It is particularly well-suited for exploring dynamic and layered processes that are often difficult to capture through quantitative methods (Bansal & Corley, 2011; Kaplan & Maxwell, 2005). Despite its recognized value and methodological diversity, qualitative research remains underrepresented in leading IS journals (Monteiro et al., 2022; Sarker et al., 2013), a gap attributed to persistent biases, limited methodological training, and challenges in meeting perceived publication standards (Conboy et al., 2012; Galliers & Huang, 2011; Lyytinen et al., 2007). While prior literature offers extensive guidance on data collection (Myers & Newman, 2007), analysis (Corbin & Strauss, 2008; Gioia et al., 2013), and visualization (Miles & Huberman, 1994), there is limited discussion on the outcomes of qualitative research and how they are structured and communicated. This lack of guidance contributes to considerable variation in how findings are presented, undermining transparency, comparability, and methodological rigor (Aspers & Corte, 2019; Sarker et al., 2013). To address this gap, this article investigates the following research question: *How can we classify the outcomes of qualitative research in information systems?*

To answer this research question, we develop a structured classification framework to enhance the clarity, rigor, and impact of qualitative IS research outcomes. Employing a meta-synthesis approach, we analyzed 107 qualitative studies published in the Senior Scholars' List of Premier Journals between January 2023 and June 2024. These were selected from an initial pool of 762 articles and reviewed using a structured coding template. Each article was independently analyzed by at least two researchers, focusing on research purpose, outcome type, theoretical grounding, data sources, and presentation strategies. Discrepancies were resolved through collaborative workshops, and recurring patterns were inductively identified and synthesized into a comprehensive framework.

The resulting framework comprises an architecture of qualitative research outcomes that helps researchers systematically organize and present their findings, bridging the gap between raw data and meaningful contributions. The framework comprises four interrelated components. First, the theoretical foundation captures whether and how the study is anchored in existing theories, constructs, or conceptual

categories, thereby situating the research within a broader intellectual context. Second, the empirical base delineates the types and combinations of data sources, such as interviews, documents, and observations, that underpin the analysis and support the trustworthiness of the findings. Third, the research focus addresses both the overarching aim of the study, whether to define, describe, classify, explain, or prescribe, and the nature of the resulting outcomes, including concepts, models, typologies, or methods. Fourth, the research presentation component reflects how findings are communicated, covering textual and visual elements, the logical structure of the argument, and the degree of coherence or dispersion in the results. Together, these components offer a structured lens for crafting transparent, impactful, and reader-friendly qualitative research.

In sum, this study provides a comprehensive overview of the structure and presentation of qualitative research outcomes in information systems, enhancing transparency around the diverse approaches used in the field. By synthesizing patterns from recent publications in leading journals, the framework illuminates the interplay between research purposes, theoretical foundations, and presentation styles in shaping qualitative findings. Rather than redefining qualitative research, it builds on established practices to guide more intentional communication of results. By identifying recurring archetypes, the study offers actionable insights, especially for early-career researchers, on how presentation strategies can boost the accessibility and impact of their work. Future research can extend these insights by exploring the influence of presentation on research impact, variations across qualitative methods, and the role of clarity in reviewer evaluations and practitioner engagement. Ultimately, the framework serves as both a conceptual lens and a practical tool for designing and presenting qualitative contributions with greater clarity, coherence, and influence.

Keywords:

Qualitative research, Information systems, Research outcomes, Meta-synthesis

References:

Aspers P, Corte U (2019) What is qualitative in qualitative research. Qual Sociol 42(2):139–160. https://doi.org/10.1007/s11133-019-9413-7

Bansal P, Corley K (2011) The coming of age for qualitative research: embracing the diversity of qualitative methods. Acad Manag J 54(2):233–237

Conboy K, Fitzgerald G, Mathiassen L (2012) Qualitative methods research in information systems: motivations, themes, and contributions. Eur J Inf Syst 21(2):113–118

Corbin J, Strauss A (1990) Grounded theory research: procedures, canons, and evaluative criteria. Qual Sociol 13(1):3–21

Galliers RD, Huang JC (2012) The teaching of qualitative research methods in information systems: an explorative study utilizing learning theory. Eur J Inf Syst 21(2):119–134

Gioia DA, Corley KG, Hamilton AL (2013) Seeking qualitative rigor in inductive research: notes on the Gioia methodology. Organ Res Methods 16(1):15–31

Kaplan B, Maxwell JA (2005) Qualitative research methods for evaluating computer information systems. In: Aydin CE, Anderson JG (eds) Evaluating the organizational impact of healthcare information systems, pp 30–55. https://doi.org/10.1007/0-387-30329-4_2

Lyytinen K, Baskerville R, Iivari J, Te'eni D (2007) Why the old world cannot publish? Overcoming challenges in publishing high-impact IS research. Eur J Inf Syst 16(4):317–326

Miles MB, Huberman AM (1994) Qualitative data analysis: an expanded sourcebook. SAGE Monteiro E, Constantinides P, Scott S, Shaikh M, Burton-Jones A (2022) Qualitative research methods in Information Systems: a call for Phenomen-focused Problematization. MIS Quartely. https://ntnuopen.ntnu.no/ntnu-xmlui/bitstream/handle/11250/3110185/misq+qual+editorial+no+format.pdf?sequence=1

Monteiro, E, Constantinides, P, Scott, S, Shaikh, M, Burton-Jones, A, (o. J.): Qualitative research methods in Information Systems: A call for Phenomen-focused Problematization. MIS Q.

Myers MD (1997) Qualitative research in information systems. MIS Q 21(2):241–242

Myers MD, Newman M (2007) The qualitative interview in IS research: examining the craft. Inf Organ 17(1):2–26. https://doi.org/10.1016/j.infoandorg.2006.11.001

Sarker S, Xiao X, Beaulieu T (2013) Guest editorial: qualitative studies in information systems: a critical review and some guiding principles. MIS Q.