

NOVA

IMS

Information
Management
School

MDSAA

Master Degree Program in
Data Science and Advanced Analytics

CRITICAL SUCCESS FACTORS FOR BPM ADOPTION IN ORGANIZATIONS

The Role of Culture and Context

Amelie Florentine Langenstein

Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data Science and Advanced Analytics

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação

Universidade Nova de Lisboa

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
Universidade Nova de Lisboa

CRITICAL SUCCESS FACTORS FOR BPM ADOPTION IN ORGANIZATIONS

The Role of Culture and Context

by

Amelie Florentine Langenstein

Master Thesis presented as partial requirement for obtaining the Master's degree in Data Science and Advanced Analytics, with a specialization in Business Analytics

Supervised by

Frederico Cruz Jesus, Professor, NOVA Information Management School (NOVA IMS)

February, 2024

STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

Amelie Florentine Langenstein

Wiesbaden, 29/02/2024

ACKNOWLEDGEMENTS

This journey started with an intensive year of studies, where all teachers provided valuable knowledge and challenges that first seemed impossible to overcome. Today, I am grateful that the teachers motivated and trusted us in mastering these challenges. Moreover, I really appreciate the team spirit, support and great atmosphere among the students of the Master's Program in Data Science and Advanced Analytics.

I would like to address special thanks to my supervisor Frederico Cruz Jesus, who guided me through the ups and downs of this master thesis process until reaching the finish line. I am very grateful for his tremendous support and patience throughout this journey. His knowledge, experience and personal advice were crucial for the success of this work.

Additionally, I would like to thank every other NOVA IMS staff providing advice and support throughout the studies. This also included the academic services who offered continuous support in any organizational matters.

I would especially like to thank the experts who dedicated their time and knowledge to participate in the interviews and thereby majorly contributed to this study. Each conversation brought in new perspectives and added valuable insights.

Finally, I am most grateful for the unconditional support of all the people I can call family: My three sisters who supported me from all around the globe, my parents who cared for me and my son in the last weeks of writing, my partner who always believed in me and picked me up when I was lost, and my little son, who managed to spend many days without me, who always made me smile, and who let every thoughts disappear when putting him to sleep. And not to forget, my really good friends who made me laugh and encouraged me along the way.

ABSTRACT

Business Process Management (BPM) is a holistic management approach commonly applied to increase the effectiveness and efficiency of processes in organizations. Despite considerable investments in process improvement, many BPM initiatives still fail. Recent research emphasizes that there is no “one-size-fits-all” approach and that it is essential to consider the context of the initiative. There is a variety of factors that may support but also limit BPM initiatives. One crucial factor is the culture of an organization. If the culture does not align with the BPM objectives, the BPM initiative is likely to fail. This study conducts a comprehensive literature review to collect the most important factors influencing BPM adoption. It serves as a basis for the development of a conceptual model focusing on contextual factors influencing BPM adoption success and cultural values and factors supporting BPM initiatives. Semi-structured interviews validate the model. Based on the findings, the model is complemented by a set of general BPM methods and methods to create a culture supportive of BPM objectives. The resulting framework contributes to the research on the concepts of context and culture in BPM and helps practitioners establish a culture supportive of BPM and adopt BPM successfully.

KEYWORDS

Business process management; Critical success factors; Context; BPM Culture; Methods

Sustainable Development Goals (SDG):

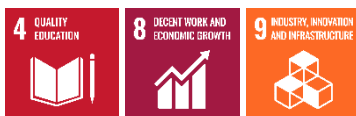


TABLE OF CONTENTS

| | |
|---|----|
| 1. Introduction | 1 |
| 2. Theoretical Background | 3 |
| 2.1. Business Process Management (BPM) | 3 |
| 2.2. Critical success factors of BPM adoption | 3 |
| 2.3. The role of context | 12 |
| 2.4. The role of culture | 13 |
| 2.5. Methods | 14 |
| 3. Proposed Conceptual Model | 17 |
| 3.1. BPM Context | 18 |
| 3.2. BPM Culture | 27 |
| 4. Qualitative Study | 31 |
| 4.1. Methodology | 31 |
| 4.2. Results | 33 |
| 4.2.1. The role of context | 33 |
| 4.2.2. The role of culture | 35 |
| 4.2.3. Methods | 37 |
| 4.2.4. Model evaluation | 40 |
| 4.3. Refined model | 41 |
| 5. Discussion | 43 |
| 5.1. Discussion of results | 43 |
| 5.2. Limitations | 44 |
| 5.3. Contributions and implications for future research | 45 |
| 6. Conclusion | 47 |
| Bibliographical References | 48 |
| Appendix A | 53 |
| Appendix B | 54 |
| Appendix C | 56 |
| Appendix D | 57 |

LIST OF FIGURES

| | |
|---|----|
| Figure 3.1 – Proposed model on the role of culture and context in BPM adoption success .. | 18 |
| Figure 3.2 – Model components | 18 |
| Figure 4.1 – Research design | 31 |
| Figure 4.2 – Refined model | 42 |

LIST OF TABLES

| | |
|--|----|
| Table 2.1 – Selected models on critical success factors of BPM | 10 |
| Table 4.1 – Interview experts..... | 32 |
| Table A.1 – Major quotes of interview partner | 57 |

LIST OF ACRONYMS

| | |
|--------------|--|
| ABPMs | AI-augmented Business Process Management Systems |
| BPM | Business Process Management |
| BPR | Business Process Reengineering |
| CVF | Competing Values Framework |
| IBPM | Integrated Business Process Management Framework |
| IT | Information Technology |
| OCAI | Organizational Culture Assessment Instrument |
| PAIS | Process-Aware Information Systems |
| TQM | Total Quality Management |

1. INTRODUCTION

Due to increased process orientation in organizations, Business Process Management (BPM) is crucial for modern management approaches. It aims to improve the operations within an organization, thereby, increasing its effectiveness and efficiency (Schmiedel et al., 2015). Successful BPM initiatives help organizations reduce costs and be more reliable in delivering qualitative goods and services (DeToro & McCabe, 1997). Also, BPM supports organizations to conform with legally required process specifications (Benraad et al., 2022). However, many BPM initiatives do not meet initial expectations (Malinova & Mendling, 2018) or fail, despite considerable investments. Thus, a closer look at the factors influencing BPM is required (Trkman, 2010). BPM research initially focused on IT-related aspects but shifted to a more holistic understanding of the concept (vom Brocke & Sinnl, 2011). According to Rosemann & vom Brocke (2015), the main areas of BPM are strategic alignment, governance, methods, IT, people, and culture. All these elements need to be considered to adopt BPM successfully. The organizational context related to these elements plays a crucial role in choosing the right adoption approach (vom Brocke et al., 2016). Depending on a variety of contextual factors such as the organizational culture and structure, the leadership style, and legal regulations, BPM requires a different approach. Recent research particularly highlights the critical role of culture in the success of BPM (Rosemann & vom Brocke, 2015; Schmiedel et al., 2013; vom Brocke & Sinnl, 2011). The organizational culture and underlying values need to be aligned with BPM objectives.

Several models elaborate on critical success factors of BPM adoption. However, the use of different terminology and levels of granularity limits the comparability of the theories. Also, most models lack the consideration of contextual factors when discussing critical success factors of BPM. Hence, the literature review was conducted to collect and structure the different conceptualizations of BPM success factors (e.g., success factors, elements, values, capability areas, principles) and consolidate the most important factors. Following this, a model is developed that focuses on the role of context and culture in BPM adoption success. The context is structured by the key elements of BPM which serve as a dimension for a set of contextual factors. Additionally, the model presents the BPM culture, which is based on four core values supportive of BPM and related success factors. The model answers the research questions:

1. *“What is the role of and context and culture in BPM adoption success?”*
2. *“Which contextual factors should be considered in BPM adoption?”*
3. *“Which cultural values and success factors contribute to a BPM culture?”*

Semi-structured interviews with experts from BPM and related areas are used to validate and refine the conceptual model. The remainder of the paper is structured as follows: Section 2 discusses the concept of BPM, critical success factors of BPM, the role of context and culture

in BPM, and BPM methods. Section 4 introduces the proposed conceptual model for successful BPM adoption and its major concepts including contextual and cultural factors. Section 4 presents the methodology and results of the qualitative study as well as the refined conceptual model. Section 5 discusses the findings, contributions and implications for future research, and Section 6 concludes the paper.

2. THEORETICAL BACKGROUND

2.1. BUSINESS PROCESS MANAGEMENT (BPM)

In the early years of the first Industrial Revolution, Adam Smith coined the concept of division of labor which laid the foundation for 200 years of functional orientation (McCormack & Johnson, 2001). The information age brought new technologies and changed economics, societies, and the organizational environment (McCormack & Johnson, 2001). Limited time and resources, as well as fierce competition force organizations to improve their performance by shifting to a process-oriented organization (DeToro & McCabe, 1997). The focus lies on business processes, which are a collection of activities creating value for customers (Hammer, 1990, cited in McCormack & Johnson, 2001). Adopting a process view can improve the performance of organizations (Škerlavaj et al., 2007) by increasing the flexibility to react to changes, supporting their responsiveness to market demands, helping to reduce costs, and delivering qualitative goods and services reliably (Armistead & Machin, 1997). Also, a horizontal and process-oriented structure helps to address cross-functional issues on the team level (DeToro & McCabe, 1997). Employees should not only execute tasks but should be considered “thinkers and doers” who are responsible for designing and securing improvement steps (DeToro & McCabe, 1997).

The concept of BPM dates back to the 1990s (DeToro & McCabe, 1997). It is based on the research areas of Total Quality Management (TQM) and Business Process Reengineering (BPR) (Schmiedel et al., 2014; vom Brocke & Sinnl, 2011). Hammer (2015) additionally claims Six Sigma as a major antecedent of BPM. While all areas seek the improvement of business processes, BPM is the most comprehensive approach to continuously improve the organization and its operations (Armistead & Machin, 1997; Schmiedel et al., 2014). The main objective of BPM is to increase the effectiveness and efficiency of an organization and its processes (Schmiedel et al., 2015). Moreover, BPM helps organizations conform to legal regulations (Benraad et al., 2022). Whereas early research focused on technical aspects, research shifted to a more holistic understanding of BPM (Rosemann & De Bruin, 2005b; Schmiedel et al., 2014, 2015; vom Brocke & Sinnl, 2011) that goes beyond IT and structural changes (Armistead & Machin, 1997; Rosemann & De Bruin, 2005a; Zairi, 1997) and also considers soft factors such as people and culture (Rosemann & vom Brocke, 2015). BPM requires change and change is only possible if the people in the organization and the culture they live support it (Zairi, 1997a).

2.2. CRITICAL SUCCESS FACTORS OF BPM ADOPTION

There are a multitude of factors that influence the success of BPM adoption. Some factors contribute to the success of BPM, while others are obstacles or barriers hindering or leading to the failure of BPM (Alibabaei et al., 2009; Rosemann et al., 2004; Rosemann & De Bruin, 2005a; Trkman, 2010). Several models elaborate literally on “*critical success factors*”. Other

models describe similar aspects such as values, elements, drivers, principles, levers of change, or capability areas of BPM. Table 2.1 presents a selection of models from the literature that cover key elements of BPM (KE), contextual factors (CF), cultural values that support BPM (CV), and BPM methods (MT). The thematic focus of the models varies, and they partly cover multiple aspects as indicated in Table 2.1.

The *Competing Values Framework* (CVF) models the effectiveness of an organization (Quinn & Rohrbaugh, 1983). It helps to enhance performance, improve the cultural understanding of the organization, and facilitate cultural change. The framework comprises three dimensions. The first dimension distinguishes between an internal and person-oriented or an external and organization-oriented focus. The *internal focus* lies on the development and well-being of the people by considering the organization as a socio-technical system of participants with individual feelings and preferences and the need for consideration, appropriate information, and stability. The *external focus* considers the organization as “*logically designed tool with the ultimate goal of accomplishing its tasks and acquiring resources*” (Quinn & Rohrbaugh, 1983, p. 370). This shows a dilemma, as maximizing the internal harmony may reduce the external value and vice versa. The second dimension shows the *structure* represented by the organizational interest in flexibility, focusing on innovation and change, or stability, focusing on order and control. It also presents a dilemma of opposing values, which are both relevant for organizational effectiveness. The third dimension reflects the *means-end* continuum, showing the closeness of means to desired outcomes. However, this dimension is neglected in more recent studies. Based on the first two dimensions, four quadrants are formed, which were defined as the internal process model, rational goal model, human relations model, and open system model. The *internal process model* emphasizes control and an internal focus. Stability and control are enhanced by communication and information management. The *rational goal model* stresses control and an external focus. Planning and goal setting help to enhance productivity and efficiency. The *human relations model* is based on flexibility and an internal focus. Cohesion and morale contribute to human resource development. Finally, the *open system model* is represented by flexibility and an external focus. Flexibility and readiness enable growth and resource acquisition.

Armistead & Machin (1997) derive six concepts of successful BPM approaches based on best practice examples: organization coordination, process definition, organization structuring, cultural fit, improvement, and measurement. Processes and their boundaries should be managed across the whole organization to prevent changes in one process from leading to performance changes in other processes (*organization coordination*). The *process definition* should not be limited to operational processes at the task level but should include higher-level processes that are communicated properly. Concerning the *structure*, matrix-based approaches between functions and processes allow for more flexibility and support better personal relationships than a purely process-oriented structure. The BPM approach needs to fit the organizational culture (*cultural fit*). The *improvement* of processes should not be limited to radical re-engineering. Therefore, human resource professionals should accompany the

change processes. *Measurement* includes identifying trends, driving improvement, and assessing the stability and whether customer needs are met. Moreover, depending on the process category (support, operational, direction-setting, or managerial) different tools and techniques are appropriate. *Operational* processes are where the work gets done. They are enabled by *support* processes. *Direction-setting* processes focus on setting the strategy and managing change. *Managerial* processes contain the decision-making and communication activities. Organizations should first start to address operational processes and then include higher-level processes. Higher-level processes have more impact on the organization's structure and may therefore demand structural changes. They also require increased process maturity and coordination.

Zairi (1997) elaborates on the importance of quality systems, quality structure, strategy, and process management when establishing a BPM culture. *Quality systems* support the development of a process-based approach by "doing the 'right things' 'right first time'" (Zairi, 1997, p. 3). *The structure* serves as a basis for cultural changes. The *strategy* needs to be aligned with corporate goals and should be communicated clearly so that employees execute what was planned with the overall goal of adding value to the customer. *Process management* overcomes the limitations of functional management and focuses on customer-driven processes. According to the rules defined in the study, successful BPM requires the mapping and documentation of major activities, a customer focus through horizontal linkages between key activities, systems, and documented procedures ensuring discipline, consistency, and repeatability, as well as measurement and assessment of individual process performance, a continuous optimization approach, inspiration by best practice, and it should support culture change. Zairi (1997) also highlights people's involvement and the use of modern tools and techniques for the success of BPM. Furthermore, BPM should strive for quality and excellence, and stimulate innovation and creativity to continuously improve processes. It should also use documentation, performance measurement, best practices, benchmarking, and problem-solving methodologies for effective process design.

The Business Process Maturity Model by Fisher (2004) defines the *Five Levers of Change* namely, Strategy, Controls, People, Process, and Technology, which help to assess the capabilities of an organization. The *strategy* supports decision-making in line with company objectives. *Controls* include the governance of management, administration, and evaluation of BPM initiatives. The organizational culture, structure, and skills are categorized by *People*. *The process* covers operating methods and practices. Finally, *Technology* covers information systems, applications, tools, and infrastructure. All five levers of change need to be considered and aligned to achieve optimal results. The second dimension describes the *States of Process Maturity*: Siloed, Tactically Integrated, Process Driven, Optimized Enterprise, and Intelligent Operation Network. Organizations progress through each state, where they face different obstacles, and the impact of the levers of change varies. Functionally oriented organizations operating in silos first require the technical integration of data and processes to be able to improve efficiency (*Siloed*). In the next step, the organizational mindset shifts to end-to-end

process execution and management (*Tactically Integrated*). The *Process Driven* level requires leadership and a responsible team to coordinate processes across the whole organization as well as governance and controls enforcing the change. Whereas the *Optimized Enterprise* commits to continuous improvement of its organizational capabilities, the *Intelligent Operating Network* aims to optimally integrate the organization into the whole ecosystem of all stakeholders involved.

Cameron & Quinn (2006) renamed the four quadrants of the CVF (Quinn & Rohrbaugh, 1983) to the following four culture types: hierarchy, market, clan, and adhocracy culture, where each culture type requires the consideration of different indicators of organizational effectiveness (Cameron & Quinn, 2006). The *hierarchy culture* is represented by formalized and structured procedures, which are organized and coordinated by leaders to maintain smooth operations, stability, predictability, and efficiency. Operations and promotion follow clear rules, and decision-making is centralized. This often applies to government agencies and large corporations. The *market culture* is externally oriented and focuses on transactions with other constituents, e.g. customers, suppliers, contractors, and unions to enhance productivity and create a competitive advantage. The *clan culture* resembles a family structure with shared values and goals and a sense of “we-ness” that enhances participation, involvement, and teamwork. The management focus lies on the encouragement and development of employees. Finally, the *adhocracy culture* responds to the challenges of the information age by prioritizing innovative and pioneering initiatives. The fast-paced and uncertain environment requires adaptive and flexible organizations supporting entrepreneurship, creativity, and activity. To succeed, organizations support individuality, and risk-taking and give up on centralized power. Instead, power should flow between individuals and taskforces.

The *Organizational Culture Assessment Instrument* (OCAI) (Cameron & Quinn, 2006) is based on the CVF developed by Quinn and Rohrbaugh (1983). It allows us to assess the dominant orientation of an organization, its cultural strength, and cultural congruence. The instrument includes six *cultural dimensions*: dominant characteristics of the organization, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success. The *organizational characteristics* distinguish between a personal and informal place, a dynamic and entrepreneurial, and a results-oriented or controlled and structured organization. The *organizational leadership* either focuses on mentoring and support, entrepreneurship and innovation, or it adopts an aggressive results-oriented approach or prioritizes coordination and organization for smooth-running and efficient operations. The *management of employees* assesses the work environment and how employees are treated. It is either characterized by teamwork, consensus, and participation, or individual risk-taking, innovation, freedom, and uniqueness. It may also be characterized by competitiveness, high demands and achievements, secure employment, conformity, predictability, and stable relationships. The *organizational glue* explains what holds the organization together. A glue of loyalty and trust results in high commitment. A shared commitment to innovation and development helps to be on the cutting-edge. Organizations can also share the importance of

achievement and goal accomplishment or compliance with rules and policies. The *strategic emphasis* defines what drives the organization, either human development, new challenges and opportunities, competition, or stability. The *criteria of success* determine what people in the organization aim for and how their success is measured. These criteria are either related to human development, the excellence of products, market performance, or efficiency.

Alibabaei et al. (2009) propose the *BPM Success Factors Framework* including the following nine factors: culture, leadership, communication, Information Technology, methodology, project management, strategic alignment, people, and performance measurement. A *culture* supportive of BPM requires formalism in processes and business planning, accepting change, and abandoning authorities. *Leadership* should drive, monitor, and control change activities. This includes establishing a transformation vision, showing management commitment, and maintaining stability during the project implementation. *Communication* needs to be clear and comprehensive to remove employee insecurities. This requires effective communication channels, communication with all stakeholders, and showing trust in employees. *Information Technology* (IT) makes business processes more effective, enables process change, and facilitates the implementation of BPM. This asks for a good understanding of IT, appropriate use, and improvement of IT capabilities, tools, and infrastructure. *Methodology* covers suitable procedures, techniques, and tools to manage the life cycle of a project. *Project management* includes adequate planning and scheduling of implementation steps, establishing a suitable team, and monitoring and controlling. *Strategic alignment* ensures that the BPM approach is aligned with the strategic goals of an organization. *People* refer to individuals conducting the processes and, therefore, being influenced by BPM and related changes. To increase the readiness to change, employees should be empowered, trained, and provided an environment supporting teamwork. Finally, *performance measurement* aims at monitoring the performance of people, processes, and projects, and applying appropriate measures, motivation, and reward systems.

The *BPM-Culture-Model* developed by vom Brocke & Sinnl (2011) conceptualizes the role of culture in BPM. It connects the concepts of culture triad, BPM culture, cultural context, and cultural fit. The *culture triad* helps to explain the prevalent organizational culture of an organization based on values, actions, and structures. *BPM culture* is a culture supportive of BPM objectives. The *cultural context* describes the cultural environment that a BPM initiative is facing. It contains the culture types: organizational culture, work group culture, and national culture. The *cultural fit* is the congruence of the organizational culture and the aspired BPM culture.

Vom Brocke and Schmiedel (2011) meet the lack of specifications of the BPM culture concept and derive the key values required to create a culture supportive of BPM from a literature review: Cross-functional orientation, customer orientation, quality, leanness, continuous improvement, innovation, and responsibility. *Customer orientation* refers to seeing the customer as the driver and the goal of processes. *Continuous improvement* focuses on the

constant revision of processes and the elimination of shortcomings. *Innovation* involves creative and fundamental changes to business processes and their outcomes. *Leanness* focuses on efficiency by streamlining and simplifying business processes. *Quality* refers to excellence and optimal performance. *Responsibility* is defined by the focus on commitment, inner engagement, and duty. Cross-functional orientation requires a focus on processes instead of a functional orientation.

According to the BPM Lifecycle Model by Dumas et al. (2013), BPM can be considered a continuous cycle of process identification, discovery, analysis, redesign, implementation, monitoring, and controlling. Each stage of the process lifecycle includes operational steps and appropriate tools and techniques. *Process identification* includes identifying relevant processes, their scope, and relationships with other processes. The result of this phase is the *process architecture*. The *process discovery* covers the process documentation of the current state of processes. This is followed by the *process analysis* which aims to uncover and prioritize process issues. The *process redesign* addresses the identified issues by analyzing different change options and selecting the most suitable one to reach the performance objectives. In the *process implementation* phase, the changes are prepared and performed. This requires change management to change the way of working of all participants and process automation through the development and deployment of IT systems. The final phase of *process monitoring and controlling* measures and analyzes the performance of the redesigned process. Any errors are identified and corrected. New issues arising require repeating the BPM lifecycle.

Schmiedel et al. (2013) conducted a global Delphi study resulting in four core values optimal for BPM, namely the *CERT values*: Customer orientation, Excellence, Responsibility, and Teamwork. These values update the previously defined BPM values (vom Brocke & Schmiedel, 2011). The value of customer orientation and responsibility remains the same, teamwork matches the previously defined cross-functional orientation and excellence serves as a higher-level category for the values of quality, leanness, continuous improvement, and innovation. *Customer orientation* represents a focus on proactively addressing customer needs. *Excellence* involves continuous improvement and innovation. Responsibility is represented by “*commitment to process objectives and the accountability for decision making*” (Schmiedel et al., 2013, p. 10). Teamwork is defined as a “*positive attitude toward cross-functional collaboration*” (Schmiedel et al., 2013, p. 10).

Schmiedel et al. (2014) update the CERT values by adding subconstructs to each of the four values: Customer orientation refers to the internal and external perspectives. Excellence includes continuous improvement and innovation. Responsibility covers accountability and commitment. Teamwork refers to formal and informal structures.

Vom Brocke et al. (2014) determine the following ten principles for successful BPM, joined by their antonyms to show potential obstacles or bad practices of BPM: Continuity, enablement, holism, institutionalization, involvement, joint understanding, purpose, simplicity, and

technology appropriation. Accordingly, BPM requires a holistic approach (*holism*) that is adjusted to the organizational context (*context awareness*). BPM should be embedded in the organizational structure (*institutionalization*). It should be of permanent practice (*continuity*), integrated as organizational capabilities (*enablement*), and should make opportune use of technologies (*technology appropriation*) while using resources in an economical way (*simplicity*). All stakeholders should be able to understand the defined processes (*joint understanding*) and should actively be involved in the change initiatives (*involvement*).

Rosemann & vom Brocke (2015) determine the following six core elements of BPM: strategic alignment, governance, methods, IT, people, and culture. *Strategic alignment* refers to the alignment of the organizational priorities and BPM requirements. *Governance* guides process-related actions by assigning roles and responsibilities and creating decision-making processes. *Methods* include tools supporting activities along the process lifecycle including process modeling, analysis, and improvement techniques IT requires process-aware information systems (PAIS). *People* refer to individuals or groups that use their BPM skills to improve business performance continuously. The element of *Culture* is based on Schein's understanding of culture (Schein, 2010) and incorporates values that are supportive of BPM defined by Schmiedel et al. (2013). Each element represents a critical success factor of BPM and needs to be considered when striving for BPM success. The elements are further decomposed into five *capability areas*.

Vom Brocke et al. (2016) stress the need to consider situational factors related to the goals of BPM, the process characteristics, the specifics of the organization, and the business environment when choosing the right BPM approach (vom Brocke et al., 2016). The dimensions should not be considered in isolation but combined when examining their influence on BPM to derive context patterns. Concerning the *BPM goals* dimension, the model distinguishes between a focus on exploitation and exploration. Whereas *exploitation* prioritizes improvement and compliance, *exploration* focuses on innovation. *Process characteristics* include the degree of value contribution, repetitiveness, knowledge intensity, creativity, interdependence, and variability of a process. Specifics of the *organization* are the scope, industry, size, culture, and resources. Finally, the *environment* dimension concerns competitiveness and uncertainty. Depending on the composition of contextual factors different methods are required for successful process improvement.

Malinova & Mendling (2018) propose the *integrated business process management framework* (IBPM) as a holistic framework for BPM adoption with 11 elements that include the six lifecycle phases and BPM infrastructure defined by Dumas et al. (2013) and the context elements of strategy alignment, governance, people, and culture based on the six core elements of BPM (Rosemann & vom Brocke, 2015). The elements of methods and IT are not included, as they are covered by the BPM lifecycle phases. The elements are organized by BPM context elements, BPM infrastructure, and BPM lifecycle. The framework serves as a structure for a set of operational and strategic BPM activities. *Strategy alignment* can be achieved if the

strategy-driven improvement steps are planned, defined, measured, and prioritized according to key customers. *Governance* supports transparency by clearly defining and executing decision-making processes, process roles, responsibilities, and process standards. *People* need to understand BPM, develop a process mindset, and gain process skills and knowledge. This can be enhanced by process education and learning. The *culture* may provide a facilitating environment for BPM if it supports accepting change, readiness for change, as well as process values, beliefs, attitudes, and behavior. *BPM infrastructure* serves as a foundation for the operationalization of the BPM lifecycle phases. It is built by setting up BPM objectives and a BPM core team and selecting a modeling platform. According to the study, the context elements act as mediators for BPM success.

According to Schmiedel et al. (2020), culture takes a mediating role between process performance and BPM methods. The methods influence the BPM culture and thereby indirectly influence process performance. The understanding of BPM culture is based on prior studies (Schmiedel et al., 2013; vom Brocke & Schmiedel, 2011) and is represented by values supportive of BPM, namely the CERT values. The process performance is measured by the BPM objectives of effectiveness and efficiency. The methods are categorized by operational, tactic, and strategic methods. *Operational* methods regard the regular execution of processes and aim to support short-term decision-making. Techniques focus on monitoring and controlling, e.g. definition of KPIs and use of BI systems. Tactic methods involve medium-term decision-making to realize process performance. Techniques of process documentation (e.g. BPMN or UML) are used for the standardization of processes. *Strategic* methods involve long-term decision-making aiming for high process performance. The improvement and innovation of processes are supported by methods such as Six Sigma, Lean Management, and BPR which help to identify waste and implement change.

Table 2.1 – Selected models on critical success factors of BPM

| Model | Factors | Reference | KE | CF | CV | MT |
|----------------------------|---|----------------------------|----|----|----|----|
| Competing Values Framework | Value dimensions: Focus: internal, external Structure: stability and control, flexibility and change Degree of closeness: means, end Culture types: internal process model, rational goal model, human relations model, open system model | (Quinn & Rohrbaugh, 1983) | | X | X | X |
| The Six Clusters | Clusters: organization coordination, process definition, organization structuring, cultural fit, improvement, measurement Process categories: operational, support, direction setting and managerial processes | (Armistead & Machin, 1997) | | X | | X |
| Rules for BPM | Important factors: quality systems, quality structure, strategy, and process management Methods mentioned in rules: mapping and documentation, customer focus, systems and documented procedures, measurement activity, continuous optimization, best practice, culture change | (Zairi, 1997) | | | X | X |

| | | | | | | |
|--|--|--|---|---|---|---|
| The business process maturity model | Levers of Change: Strategy, Controls, Process, People, IT States of Maturity: Siloed, Tactically Integrated, Process Driven, Optimized Enterprise, Intelligent Operating Network | (Fisher, 2004) | X | X | | |
| Competing Values Framework (CVF) | Value dimensions: flexibility and discretion, stability and control, internal focus and integration, external focus and differentiation Culture types: hierarchy, market, clan, and adhocracy culture | (Cameron & Quinn, 2006) | | X | X | |
| Organizational Culture Assessment Instrument (OCAI) | Six cultural dimensions: dominant characteristics of the organization, organizational leadership, management of employees, organizational glue, strategic emphases, and criteria of success | (Cameron & Quinn, 2006) | | X | X | X |
| BPM Success Factors Framework | Factors: culture, leadership, communication, Information Technology, methodology, project management, strategic alignment, people, performance measurement Subconstructs + Means for achieving BPM success | (Alibabaei et al., 2009) | X | | | X |
| BPM-Culture-Model | Constructs: culture triad (values, actions, structures), BPM culture, cultural context (organizational, work group and national culture), cultural fit | (vom Brocke & Sinnl, 2011) | | X | X | |
| BPM values | Values: cross-functional orientation, customer orientation, quality, leanness, continuous improvement, innovation, and responsibility | (vom Brocke & Schmiedel, 2011) | | | X | |
| BPM lifecycle | Phases: process identification, process discovery, process analysis, process redesign, process implementation, process monitoring and controlling | (Dumas, La Rosa, Jan Mendling, et al., 2013) | | | | X |
| CERT values | Values: customer orientation, excellence, responsibility, teamwork | (Schmiedel et al., 2013) | | | X | |
| Measurement instrument for organizational cultures' support of BPM | Domain categories of CERT values: Customer orientation: external perspective, internal perspective Excellence: continuous improvement, innovation Responsibility: accountability, commitment Teamwork: formal structures, informal structures | (Schmiedel et al., 2014) | | | X | |
| Ten principles of good BPM | Principles: context awareness, continuity, enablement, holism, institutionalization, involvement, joint understanding, purpose, simplicity, technology appropriation | (vom Brocke et al., 2014) | | X | X | X |
| The six core elements of BPM | Elements: strategic alignment, governance, methods, information technology, people, and culture Capability areas for each element | (Rosemann & vom Brocke, 2015) | X | | | X |
| Framework of contextual factors in BPM | Dimensions and Contextual Factors: BPM goals: focus Process: value contribution, repetitiveness, knowledge-intensity, creativity, interdependence, variability Organization: scope, industry, size, culture, resources Environment: competitiveness, uncertainty | (vom Brocke et al., 2016) | | X | | X |

| | | | | | | |
|---|---|-----------------------------|---|---|---|---|
| Integrated Business Process Management Framework (IBPM) | Initial BPM elements: strategy alignment, governance, people, culture BPM infrastructure BPM lifecycle: Process identification, process discovery, process analysis, process redesign, process implementation, process monitoring & controlling | (Malinova & Mendling, 2018) | X | X | | X |
| Mediating role of culture | Concepts: BPM culture, methods, process performance Methods and techniques: Operational: definition of KPIs, BI systems Tactical: BPMN, UML Strategic: Six Sigma, Lean Management, BPR | (Schmiedel et al., 2020) | | X | X | X |

Note: KE – Key elements of BPM, CF – contextual factors, CV – cultural values that contribute to a BPM culture, MT - methods.

2.3. THE ROLE OF CONTEXT

A “one-size-fits-all” approach to BPM is destined to fail (Ongena & Ravesteyn, 2019; vom Brocke et al., 2016). Depending on the context different measures are necessary to successfully adopt BPM. Vom Brocke and Sinnl (2011) emphasize the need to consider the context when specifying the concept of a BPM culture. Some values may differ depending on contextual factors. For example, creative processes require different values than standardized processes. The authors depict the organizational, work group, and national culture as dimensions of cultural context but recognize that there is a variety of other contextual factors (vom Brocke & Sinnl, 2011). According to the *Contingency Theory*, the management approach needs to fit the environment, organizational size, and strategy of the organization to succeed (Donaldson, 2001). Large organizations usually require higher levels of formalization than small organizations (vom Brocke et al., 2016) Another factor is task uncertainty. Whereas an organization with high task uncertainty requires a management approach focusing on formalization and control, an organization with low task uncertainty allows for more autonomy and participation in the organization (Donaldson, 2001; vom Brocke et al., 2016). Vom Brocke et al. (2016) conceptualize contextual factors based on goal-, process-, organization- and environment dimensions. The framework is explained with example characteristics and is not considered to be complete. Vom Brocke et al. (2016) promote additional research on dimensions, factors, and characteristics. Malinova & Mendling (2018) highlight that the factors of failure and success highly depend on the BPM phases and context.

There is consensus among BPM researchers that the organizational context plays a crucial role when choosing the adoption approach and appropriate measures. Whereas only vom Brocke and Sinnl (2011), vom Brocke et al. (2016) and Malinova and Mendling (2018) conceptualize the BPM context and contextual factors in their models, other models mention factors that can be considered as contextual factors as well. Depending on the process categories defined by Armistead & Machin (1997) different techniques are required. Whereas operational and support processes can be analyzed with flowcharting methods, higher-level processes require softer techniques. They have an increasing impact on the organizational structure and may require structural and cultural changes. Fisher et al. (2004) emphasize that the appropriate BPM model requires a multi-dimensional approach that analyzes the different areas of BPM

in the perspective of the BPM maturity level. An organization working in functional silos needs more time to adapt to market dynamics than a fully process-oriented organization which can adapt to market dynamics almost in real-time. Whereas people working in a siloed organization have to rely on subject matter experts, organizations shifting to process orientation improve the process thinking and skills of people to act independently as process leaders (Fisher, 2004). Depending on the culture types defined in the CVF (Cameron & Quinn, 2006) different management skills are required. In a clan culture, leaders rather focus on teamwork, interpersonal relationships, people development, collaboration, and community, as well as compassion and caring. A hierarchy culture is led by rational analysis, information clarity, high reliability, and process efficiency. In a market culture, the manager leads with intensity and speed and focuses on customer relationships, competitiveness, and results. The leadership in an adhocracy culture focuses on the future, supports creativity, innovation and entrepreneurship, promotes flexibility and agility as well as improvement and change (Cameron & Quinn, 2006). In all cases, it is important that the management style is aligned with the values they are promoting. If the espoused values focus on teamwork and cooperation, but the control and reward systems incentivize individual success, employees will continue to strive for individual success and compete with their colleagues (Schein, 1996).

2.4. THE ROLE OF CULTURE

Recent research considers culture as a critical factor of BPM and a source of failure and success of BPM initiatives (Cameron & Quinn, 2006; Rosemann & De Bruin, 2005b; Rosemann & vom Brocke, 2015; vom Brocke & Sinnl, 2010, 2011). However, culture is an abstract construct that is difficult to grasp, and its meaning can vary depending on the context (Schmiedel et al., 2015; vom Brocke & Sinnl, 2011). Studies in BPM research are often based on Schein's understanding of culture, describing three layers of culture (Schein, 2010; Schein & Schein, 2017): Culture is based on invisible values and underlying assumptions that manifest in visible artifacts (actions and structures). In addition, vom Brocke & Sinnl (2011) specify *the scope of the referenced group*. *Culture* refers to a specific group sharing the same values, e.g., organizational, national, and work group culture. All groups influence BPM and are complexly intertwined. Also, a group can again consist of subgroups with overlapping cultural identities. So far, BPM research mainly focuses on organizational culture.

Organizational culture is based on a set of values shared by people in the organization (Hogan & Coote, 2014; Schein, 2010; vom Brocke & Sinnl, 2011). If these values do not comply with the aims of a BPM initiative, it is destined to fail. However, an organizational culture with values supportive of BPM objectives can contribute majorly to its success (Hribar & Mendling, 2014). This is expressed by the term *BPM culture* (vom Brocke & Sinnl, 2011). Creating a BPM culture helps to establish a process mindset in the organization, which is essential for the long-term success of BPM projects (vom Brocke et al., 2014). The role of culture in BPM was first conceptualized in the *BPM-Culture-Model* developed by vom Brocke & Sinnl (2011). It helps to compare the prevalent organizational culture of an organization with the aspired BPM

culture. The *cultural fit* describes the congruence of the organizational culture and the aspired BPM culture (Armistead & Machin, 1997; vom Brocke & Sinnl, 2011). Opposing values result in negative behavior while overlapping values lead to a positive response (Leidner & Kayworth, 2006). Whereas research often discusses culture as a given phenomenon (Alibabaei et al., 2009), Schmiedel et al. (2020) explain the mediating role of culture in BPM, as it can actively be influenced by BPM methods to improve process performance.

In times when organizations face constant changes in their environment, they need to be able to adapt quickly and lead organizational change to stay competitive (Cameron & Quinn, 2006). BPM can help organizations to continuously improve their performance, but only if the approach fits the organizational culture (vom Brocke & Sinnl, 2011). To succeed with organizational change, it is obligatory to care for the organizational culture. Otherwise, the organizational changes are likely to fail (Cameron & Quinn, 2006). Therefore, organizations need to enhance their understanding of their own culture and find ways to change it sustainably, according to their strategic goals and the rapidly changing environment. However, actively changing a culture can be challenging. Culture is invisible and usually taken for granted as long as it is not challenged or changed (Cameron & Quinn, 2006). Questioning values or underlying assumptions in an organization creates uncertainty, which can lead to anxiety (Schein & Schein, 2017). Anxiety is a major reason for resistance to change (Alibabaei et al., 2009). This needs to be overcome to create a culture supportive of BPM. According to Schmiedel et al. (2013), the key values supportive of BPM are: customer orientation, excellence, responsibility, and teamwork. These values can be matched with the values of the CVF (Cameron & Quinn, 2006). Although defined as “competing” values (Cameron & Quinn, 2006), Schmiedel et al. (2013) emphasize the need to incorporate all four values for a successful BPM approach.

2.5. METHODS

Understanding the role of culture and context is important to design the right approach to BPM. This requires the choice of appropriate methods to successfully adopt BPM. Rosemann and vom Brocke (2015) mention methods as a key element of BPM which include tools and techniques supporting BPM activities. Dumas et al (2013) describes methods, tools, and techniques that only focus on the execution of tasks along the phases of the process lifecycle (Rosemann & vom Brocke, 2015). Several authors mention the use of TQM, Six Sigma, or Lean Management to improve process performance (Armistead & Machin, 1997; Rosemann & vom Brocke, 2015; Schmiedel et al., 2020). However, successful BPM adoption requires an organization-wide perspective including methods that help to understand the culture and facilitate culture change.

To operationalize the BPM culture concepts, organizations can assess their culture based on the CERT values (Schmiedel et al., 2014). Schmiedel et al. (2014) developed a tool to assess the supportiveness of organizational cultures for BPM. It can be used to compare the organizational culture with benchmarking results from similar organizations. Based on

individual assessment results, the tool also helps to compare the perception of the organizational culture of different departments or divisions. Finally, the tool gives a hint to what extent the culture needs to be changed and which measures are required to achieve a BPM culture. However, the means to develop a BPM culture are not further specified. For future research, Schmiedel et al. (2013) suggest the examination of methods or techniques that stimulate CERT values. The OCAI reflects different culture types and suggests appropriate management skills and how to improve them (Cameron & Quinn, 2006). They also propose measures supportive of each culture type and give hints for initiating cultural change.

The nine success factors defined by Alibabaei et al. (2009) are represented by several subconstructs and associated means. The means go beyond process improvement on an operational level and cover means that create a culture supportive of BPM. This not only requires formalism of processes, but a clear communication, providing learning opportunities, stimulating change, and encouraging employees to solve problems and take responsibility (Alibabaei et al., 2009). Leadership should communicate the vision to all levels of the organization and play an active role in the implementation process. To address the fear of change, leadership should create stability during the whole project phase. This requires a stable management team with good knowledge of BPM and organizational change (Alibabaei et al., 2009). People need to be considered and empowered, which requires providing knowledge about the project, finding communication strategies to deal with resistance to change, and preparing a suitable environment to reduce fear and skepticism of employees, as well as conflicts between functional units. They should also be involved in the implementation process and should be given the responsibility for decision-making. The environment should enable effective teamwork by promoting cooperation, providing communication strategies, and composing a team that doesn't lead to dissatisfaction. Employees should be offered suitable training and education concerning BPM and general IT skills. The people responsible for implementation need to know how to apply BPM techniques and tools. Moreover, a skill assessment helps to compare the present skills and the skills needed. In case of a lack of skills, employees should be supported to learn the skills to be able to perform their jobs. Training should be continuously assessed and promoted. To enhance communication, the organization should provide suitable communication channels that reach all stakeholders and allow communication between all of them, as well as between employees and management. Meetings should enable employees to explain their viewpoints. Any feedback on BPM initiatives, project success, and failure should be communicated openly. To create a sense of trust, project goals should be communicated clearly, information should be shared at all levels of the organization and any fears and ambiguities should be addressed.

Vom Brocke et al. (2016) explore three different context examples and suggest appropriate management approaches and context-sensitive methods. The standardization of a customer support process in a large, global corporation (example A), the reengineering of a core process in a start-up (example B), and the technology implementation in a support process of a global corporation (example C). The distinct BPM goals require different methods for similar types

of processes. Whereas the standardization of the support process in example A requires traditional BPM methods including process analysis, re-design, and data standardization, the implementation of new technologies in example C asks for more creative methods such as design thinking. Example B and C are processes with similar BPM goals but different characteristics. Whereas both processes can use creative methods for the process design phase, the future process execution requires a different handling. The knowledge-intensive core process of example B demands the involvement of process participants to ensure high flexibility in executing the process. In contrast, the support process of example C should be standardized for efficient execution. Concerning the organizational characteristics examples A and C have a similar size and an extensive amount of resources, but their cultures differ largely in their supportiveness of BPM. Thus, management in example A should focus on developing a culture that supports their BPM initiative. Concerning the difference in size, smaller organizations do not require the same level of formalization of processes and separation of tasks. With regard to environmental factors, uncertainty in the environment requires the definition of flexible roles and authorization concepts. A highly competitive environment calls for the involvement of the customer in the process design to ensure process excellence.

Malinova and Mendling (2018) use their IBPM framework to operationalize BPM activities. They include activities related to the BPM lifecycle phases (Dumas, La Rosa, Mendling, et al., 2013), but also to the different context elements of strategy alignment, people, governance, culture, as well as the BPM infrastructure (Malinova & Mendling, 2018). To name a few examples, *strategy alignment* requires the identification of a strategy, its linkage with process capabilities, the definition of customers and stakeholders, and setting process measures. *People* involve the setting of process skills, the planning of process education, process collaboration, and communication. *Governance* implies the planning of decision-making and the definition of roles and responsibilities. *Culture* requires the establishment of process values and attitudes and leadership attention to process.

Schmiedel et al. (2020) differentiate between operational, tactic, and strategic methods and only mention a few examples. Operational methods involve techniques such as the definition of KPIs and the use of BI systems. Tactic methods involve process documentation techniques such as BPMN or UML. And strategic methods that help to identify waste and implement change (e.g. Six Sigma, Lean Management, and BPR). However, they don't include methods for culture change or refer to context-sensitive methods.

3. PROPOSED CONCEPTUAL MODEL

This study proposes a model that shows which aspects need to be considered in order to adopt BPM successfully with a focus on the role of context and culture. According to the findings of the literature review, BPM requires a holistic, context-sensitive approach and the presence of a BPM culture to adopt BPM successfully. A holistic approach to BPM considers all key elements of BPM (Rosemann & vom Brocke, 2015). Whereas Rosemann and vom Brocke (2015) propose the six key elements of strategic alignment, governance, methods, IT, people, and culture, this study proposes an alternative set of key elements based on the findings of the literature review. Accordingly, BPM should consider the following key elements: organization, strategy, culture, people, leadership, management, process, IT, and environment. The methods are presented as a separate concept that helps to adopt BPM. The context plays a crucial role here. The context is crucial for choosing the adoption approach and BPM methods (vom Brocke et al., 2016). Vom Brocke et al. (2016) discuss contextual factors related to BPM goals, process characteristics, organizational characteristics, and environmental factors. The proposed model extends the context dimensions by using the newly defined key elements of BPM as dimensions for a set of contextual factors. Additionally, the organizational culture should fit the BPM approach. This requires the establishment of a BPM culture that is represented by values supportive of BPM (vom Brocke & Sinnl, 2011). Whereas the CERT values are comprised of one higher-level category value (excellence) and three basic values (customer orientation, responsibility, and teamwork) (Schmiedel et al., 2013), the proposed model suggests four core values that serve as higher-level categories for subordinate values and success factors, namely openness, ownership, engagement and continuous improvement. The most important critical success factors were consolidated and structured by the concepts of context and BPM culture. The proposed conceptual model is presented in two different views. The first model (Figure 3.1) presents the concepts of context, BPM culture, methods and BPM adoption success and the relationships among them. The second model (Figure 3.2) shows a more detailed view of the components of the context and the BPM culture.

As illustrated in Figure 3.1, the context is represented by the key elements of BPM, which serve as dimensions for a set of contextual factors. The BPM culture is represented by a set of cultural values and related success factors. Successful BPM adoption also requires appropriate methods, which are mentioned in the model, but not further specified. Methods are discussed in the expert interviews and specified in the refined model. The model proposed that the context directly influences BPM success. For example, if the organization is operating in functional silos, it is difficult to successfully implement BPM (Armistead & Machin, 1997; Fisher, 2004). Likewise, the present culture in the organization could impede BPM's success, if there is a certain resistance to change (Malinova & Mendling, 2018). The context influences the methods, e.g. the choice of BPM tools should be aligned with the BPM skills and experience of employees (Alibabaei et al., 2009). BPM methods that are aligned with the

context contribute to BPM's success and help to create a BPM culture. The presence of a BPM culture is crucial for the success of BPM (vom Brocke & Sinnl, 2011). In this model, the BPM culture is represented by values supportive of BPM and related success factors which support or strengthen the core values.

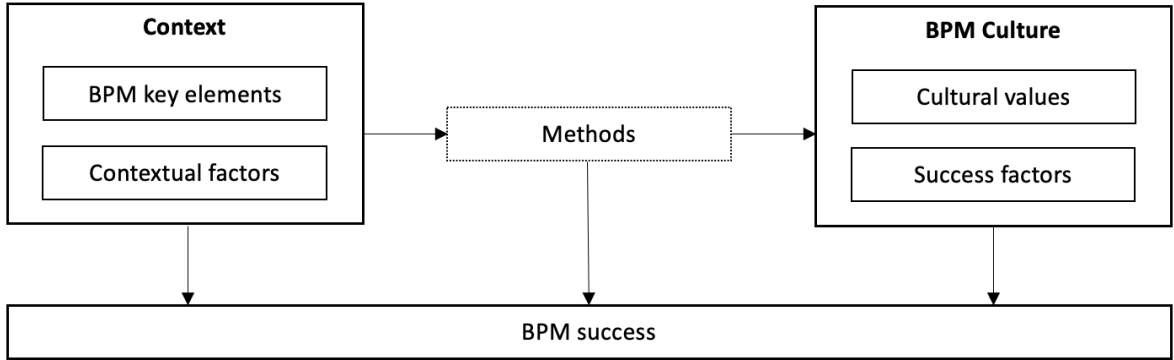


Figure 3.1 – Proposed model on the role of culture and context in BPM adoption success (Source: authors)

3.1. BPM CONTEXT

The model shown in Figure 3.2 presents the concepts and their components in more detail. The context is structured by the key elements of organization, strategy, culture, people, leadership, management, process, IT, and environment, which serve as dimensions for a variety of contextual factors. Each factor will be explained in more detail in the following text.

Which contextual factors should be considered in BPM adoption?

Which culture is optimal for BPM adoption?

| Context | |
|---------------------|---|
| BPM elements | Contextual factors |
| Organization | Industry, size, organizational structure, shareholder structure, internationality |
| Strategy | Corporate goals, financial objectives, BPM objectives |
| Culture | Culture type, cultural differences, cultural fit |
| People | Knowledge, digital literacy, BPM skills, personal background |
| Leadership | Vision, cultural understanding, communication skills, motivation, change management |
| Management | Planning, governance, control |
| Process | BPM maturity, process type, process scope, process characteristics |
| IT | IT infrastructure, digital maturity, IT department structure |
| Environment | Legal regulations, technological progress, competition, market uncertainty |

| BPM Culture | |
|-------------------|--|
| Cultural values | Success factors |
| Openness | failure culture, transparency, clarity, trust in organization, readiness to change |
| Ownership | responsibility, trust in employees, change initiation |
| Engagement | involvement, participation, commitment, reliability, teamwork |
| Excellence | quality, customer orientation, continuous improvement, innovation, learning |

Figure 3.2 – Model components (Source: authors)

The *organization* dimension refers to the characteristics of the organization, such as industry, size, organizational structure, shareholder structure, and internationality.

- *Industry*: Depending on the industry the organization has different core processes, and customers and faces different legal regulations (vom Brocke et al., 2016).
- *Size*: The size in terms of the number of employees determines which resources can be allocated to BPM and it has an influence on the required *structure*.
- *Organizational structure*: Large organizations tend to have more complex structures than small organizations and require more formalized processes (vom Brocke et al., 2016). Zairi (1997a) emphasizes the importance of structure for cultural change. The structure alone is not able to change a culture, but a qualitative structure supports the change and the establishment of a BPM culture. The organizational structure can range between a fully functional-oriented structure and a process-oriented structure (Armistead & Machin, 1997). A matrix-based approach combines both worlds. In functionally oriented organizations the focus lies on the performance and optimization of the functional unit or department and less on the organization-wide strategy (Fisher, 2004). Process-oriented organizations coordinate and manage processes across the whole organization of maximizing customer value (Armistead & Machin, 1997). Functional organizations operating in silos often have different information systems for each functional unit (Fisher, 2004). The shift to a process-driven organization thus first requires an enterprise-wide integration of information systems.
- *Shareholder structure*: The owners of the organization influence the strategic decision-making and the motivation of management. Institutional investors aim to maximize benefits for their clients and to control risks (Sarhan & Al-Najjar, 2023). Their investment attitude may oppose BPM projects that involve sustainable organizational change, whereas pension funds may seek a balance of social and environmental aspects and therefore have a different attitude towards change initiatives that focus on the well-being of employees.
- *Internationality* refers to whether the organization operates in different countries (Schmiedel et al., 2020) and therefore faces additional challenges in managing processes and implementing BPM. Depending on the country, different regulations might apply (Dumas, La Rosa, Mendling, et al., 2013), and different national cultures might be present that should be considered in BPM initiatives (vom Brocke & Sinnl, 2011).

The *strategy* involves the organizational priorities, positioning and planning to achieve corporate success (Fisher, 2004; Rosemann & vom Brocke, 2015). A context-sensitive approach to BPM requires the consideration of corporate goals, financial objectives and BPM objectives (Alibabaei et al., 2009). BPM objectives need to be aligned with the strategy to

achieve long-term success (Alibabaei et al., 2009; Rosemann & vom Brocke, 2015; Zairi, 1997). In case that the BPM objectives contradict the strategic goals, the project is likely to fail (Trkman, 2010) or may only receive little support from management and employees, which is crucial for BPM success (Minonne & Turner, 2012). Even if there is a good strategy in place, organizations may still struggle to execute it (Kirchmer, 2017). Business processes link strategy and execution (Kirchmer, 2017) and BPM can serve as a tool to operationalize the strategy (Alibabaei et al., 2009; Trkman, 2010).

- *Corporate goals*: The development of a process-oriented structure requires a specification of corporate goals, otherwise the BPM related transition has no clear direction and might fail (Alibabaei et al., 2009; Minonne & Turner, 2012). A BPM initiative needs to consider the corporate goals be successful (Malinova & Mendling, 2018; Rosemann & vom Brocke, 2015; Zairi, 1997).
- *Financial objectives*: The organizational strategy also involves setting the financial objectives of an organization (Minonne & Turner, 2012). BPM helps to increase the quality and productivity of processes, which supports financial objectives (Minonne & Turner, 2012). However, there is a lack of management support if the financial benefits of BPM are not clear (Minonne & Turner, 2012). Therefore, BPM should be aligned with the financial objectives and communicate the financial benefits to receive support from management in the BPM adoption process.
- *BPM objectives*: The main objective of BPM is to increase the effectiveness and efficiency of business processes (Schmiedel et al., 2015, 2020). *Effective* processes produce the desired results (Zairi, 1997). *Efficient* processes minimize the resources used. Zairi (1997) additionally mentions *adaptability* as main goal, which enables organizations to meet changing customer and business needs. In practice, BPM is often targeted at quality improvement, process optimization by means of standardization and increased productivity (Minonne & Turner, 2012).

Culture is defined by the shared values of a group of people in the organization, which become visible in actions and structures (Hogan & Coote, 2014; Schein, 2010; vom Brocke & Sinnl, 2011). The organizational culture is crucial for the success of BPM initiatives (Cameron & Quinn, 2006; Rosemann & De Bruin, 2005b; Rosemann & vom Brocke, 2015; vom Brocke & Sinnl, 2010, 2011). If the culture does not align with the objectives of the BPM initiative it is likely to fail. Therefore, organizations need to be aware of their own culture which can be categorized by the organizational focus and structure of different culture types (Cameron & Quinn, 2006). Vom Brocke and Sinnl (2011) emphasize the importance of the cultural context of BPM initiatives, which not only involves the organizational culture but also the national culture and work group culture. The national culture is rarely discussed in BPM research but may bring additional challenges (vom Brocke & Sinnl, 2011). Moreover, organizations may have several subcultures, which require an approach that is sensitive to the presence of

cultural differences among departments, teams, or occupations (Schein, 2004, p. 204; vom Brocke & Sinnl, 2011).

- *Culture type*: Cameron & Quinn (2006) define four culture types: hierarchy, market, clan, and adhocracy culture. The culture types can be distinguished by their organizational focus and structure. The *organizational focus* lies either on the wellbeing of the people or the wellbeing of the organization. The *structure* is distinguished by being rather flexible and changeable or stable and controlled. Whereas most organizations develop a dominant culture type, some organizations share aspects of all four culture types. Each type is associated with different core values and leadership styles, which requires a different approach to BPM.
- *Cultural differences*: Organizational culture is embedded in values and norms, which can differ among groups or individuals in an organization (Schein, 2004; vom Brocke & Sinnl, 2011). This may be related to the occupation or profession, but also to other hidden or less obvious reasons (Schein, 2004). Organizations with similar characteristics such as industry, size, and geographic location, or similar professional groups can still show significant cultural differences. People enjoy sharing the same values and norms and perceive them as the correct ones (Schein, 2004; Schein & Schein, 2017). Belonging to a culture provides a sense of identity and self-esteem. Therefore, cultural differences within an organization can be irritating and may lead to discomfort or misunderstanding (Schein & Schein, 2017). The differentiation into subgroups usually happens the more an organization grows and the longer it operates (Schein, 2004). It is not feasible that only one leader is overseeing and coordinating the whole organization. Smaller units start to create their own cultures with their leaders (Schein, 2004). Therefore, it is important to understand cultural differences to be able to create a common language and shared experiences (Schein, 2004).
- *Cultural fit*: The cultural fit describes the alignment of the BPM approach with the present organizational culture (Armistead & Machin, 1997). In the short term, the approach should fit the present culture. In the long run, BPM would result in structural changes that ultimately lead to cultural changes (vom Brocke & Sinnl, 2011). Thus, BPM needs to consider the present culture and change it at the same time to establish a culture supportive of the BPM objectives. In a culture supportive of BPM, processes are not seen as constraints, but as a framework for empowerment. A BPM culture is characterized by customer orientation, excellence, responsibility, and teamwork (Schmiedel et al., 2013).

People play a crucial role in the success of BPM initiatives (Alibabaei et al., 2009; Fisher, 2004; Malinova & Mendling, 2018; Rosemann & vom Brocke, 2015). Their attitude towards change can block BPM initiatives or in the best-case support accelerate them. Kroeber and Kluckhohn define culture as “an abstraction from concrete human behavior” (Kroeber & Kluckhohn, 1952). Thus, focusing on people and their behavior makes cultural aspects more graspable

and helps to clarify where there is a concrete need for action (Alibabaei et al., 2009). People involved in managing and executing tasks within the organization bring certain skills and knowledge that help or limit them to perform their jobs. Additionally, their personal background may influence their behavior and work attitude.

- *Knowledge*: People usually have a certain knowledge related to their specific job and responsibilities. Depending on their role in BPM, they also require knowledge concerning processes (Rosemann & vom Brocke, 2015), communication, project management, and change management (Alibabaei et al., 2009). Knowledge requirements that are not met may increase the resistance to change (Alibabaei et al., 2009). In this case, people should be offered education and training opportunities to acquire the knowledge they need to successfully adopt BPM.
- *Digital Literacy*: Digital Literacy describes a broad range of skills that goes beyond the use of software or operating a digital device. It involves a set of cognitive, motor, sociological, and emotional skills to function effectively in digital environments (Eshet, 2004). People involved in BPM may have to use tools that require certain digital skills. In case they lack the necessary skills, it can be challenging to participate in the BPM initiative. The development of digital literacy requires a lot of effort and depends on critical thinking and problem-solving skills (Tinmaz et al., 2022).
- *BPM skills*: All people involved in the management and execution of processes should have the skills to adopt BPM (Alibabaei et al., 2009; Rosemann & vom Brocke, 2015). This includes skills concerning the use of BPM tools and techniques as well as social and agile communication skills (Bergener et al., 2013; Rosemann & vom Brocke, 2015). In case there is a lack of BPM skills, people should be educated and offered training opportunities to improve the skills they need to perform their new job responsibilities (Alibabaei et al., 2009; Kirchmer, 2017).
- *Personal background*: BPM often involves change which may create a certain instability and fear. Depending on the personal background people might have a different attitude towards change and taking risks. If employees are the pressure to maintain financial stability for themselves or their families, they might resist changes out of fear of losing their jobs (Alibabaei et al., 2009). This fear can have a variety of reasons, but it is often related to the threatening of the basic needs of the person, which often results in stress, poor well-being diminished job attitude, and poor performance (Shoss, 2017). The fear and stress related to job insecurity need to be addressed and organizations should care about the well-being of their employees.

Leadership involves the guidance and motivation of people to work up to their full potential (Kotter, 2008) and is crucial for creating a culture that is open to change and innovation. It involves driving, monitoring, and controlling change activities (Alibabaei et al., 2009). The shift from a functional-oriented organization to a process-driven organization requires enterprise-

wide leadership (Fisher, 2004). However, different leadership styles are focusing either on mentoring and support, entrepreneurship and innovation, financial results, or coordination and organization (Cameron & Quinn, 2006). Based on Schein's understanding of culture, leadership is an essential part of forming a culture (Schein, 2010). A leader introducing values and beliefs to a group is not enough to establish a culture. Only if the actions based on these values lead to success, they will be approved. The same applies to the leader. If the leader is not able to lead a group to success, the group will search for a different leader until one helps them to succeed (Schein, 2010). Under this assumption, good leadership plays a crucial role in establishing and changing a culture supportive of BPM. Thus, the BPM approach depends on the vision of the leader, the cultural understanding, the communication skills, the motivation of employees, and the approach to change management.

- *Vision*: BPM is often related to change and therefore requires leadership support (Alibabaei et al., 2009). The vision of the leader needs to be aligned with the BPM objectives, otherwise it will be hard to convince other people in the organization to follow the change. The leader should be convinced of the change, communicate the vision (Alibabaei et al., 2009), and lead the change by example to show its success and establish a BPM culture (Schein, 2010).
- *Cultural understanding*: The leader needs to understand the present organizational culture to some extent, to be able to change it (Cameron & Quinn, 2006). If there is a lack of cultural understanding the leader might not be able to get people engaged in the change process. People often resist change because it creates fear and uncertainty (Schein & Schein, 2017). This needs to be recognized and addressed by creating stability in the implementation process wherever possible (Alibabaei et al., 2009).
- *Communication skills*: Communication is key for the success of BPM. The adoption of BPM requires clear communication from leadership to enhance the understanding of the initiative and thereby increase stability (Alibabaei et al., 2009; Quinn & Rohrbaugh, 1983). Getting people involved and participating in change, it requires open communication with leadership and management that also allows for honest feedback and reporting any issues occurring (Alibabaei et al., 2009). Leaders should provide all necessary information, offer effective communication channels, and enable communication among all stakeholders (Alibabaei et al., 2009; Cameron & Quinn, 2006). Communication can also be supported by the use of process models (Rosemann & vom Brocke, 2015).
- *Motivation*: Leaders need to be able to motivate people to engage in change processes, improve their skills, and continuously learn. Therefore, leaders need to use or develop motivational skills that build on the intrinsic motivation of employees to succeed and do a good job. In the context of BPM, this involved motivating people to decision-making and initiating change (Alibabaei et al., 2009). Reward systems should

less focus on personal activities, and process results (Alibabaei et al., 2009). Leaders can promote an innovation-friendly culture by showing respect and appreciation for employees' contributions (Hogan & Coote, 2014).

- *Change Management:* Change management is crucial for organizational change and changes related to BPM. It involves the application of tools and techniques (Dumas, La Rosa, Jan Mendling, et al., 2013), but should also focus on the people involved in change. The change management approach chosen by the leader influences how radical changes are and how much people are affected by the change.

Management is considered to be one of the most important success factors of BPM (Trkman, 2010). It involves the oversight and management of business activities to meet company objectives including planning, governance, and control which are all critical for the success of BPM (Fisher, 2004; Malinova & Mendling, 2018; Rosemann & vom Brocke, 2015).

- *Planning:* BPM adoption requires planning to enable a smooth transformation. This involves planning the actual process improvement, but also the process improvement decision-making, the process education, collaboration, and communication (Malinova & Mendling, 2018).
- *Governance:* Governance involves the definition of clear roles, responsibilities, and decision-making processes to enhance transparency on all BPM levels (Rosemann & vom Brocke, 2015). It is required to coordinate and monitor processes across the whole organization.
- *Control:* The BPM project should be monitored to control costs, and implementation risks, to adjust the project plan in case of necessary changes, and to coordinate the implementation schedule with the IT development schedule (Alibabaei et al., 2009). In the transition from a fully functional-oriented organization to a process-driven organization, enterprise-wide standards and process metrics should be established to measure the performance of process teams and partner relationships (Fisher, 2004).

Process: Process-related aspects such as the type, scope and characteristics of the process addressed in the BPM initiative as well as the BPM maturity of the organization need to be considered to find the right methods for the BPM initiative (Fisher, 2004; vom Brocke et al., 2016, p. 201). A creative non-repetitive process requires a completely different approach, than a standardized and repetitive process (vom Brocke et al., 2016).

- *BPM maturity:* In the transformation process from a functional-oriented to a fully process-oriented organization, organizations progress through different levels of BPM maturity, where they face different obstacles (Fisher, 2004). Each level requires different measures to move the organization to the next level. Increasing BPM maturity results in higher efficiency, lower costs, improved customer satisfaction, and

increased competitive advantage. However, this requires the alignment of all Levers of Change, namely Strategy, Controls, Process, People, and IT (Fisher, 2004).

- *Process type*: Armistead and Machin (1997) distinguish operational, support, direction-setting, and managerial processes. The higher the process level is, the higher is the impact on the organizational structure, which requires increased process maturity and coordination (Armistead & Machin, 1997). Vom Brocke et al. (2016) differentiate support, core and management processes based on their value contribution. Each requires a different process management approach (vom Brocke et al., 2016).
- *Process scope*: When starting a BPM initiative, organizations should identify relevant processes, and define their scope and relationships (Dumas, La Rosa, Jan Mendling, et al., 2013). The definition of the scope requires a tradeoff between the impact of the process and the manageability. The fewer processes defined, the more operations are included in each process which simplifies finding redundancies and improvement opportunities. However, processes that are large in scope are more difficult to manage in terms of staff involved, model updates, and complexity of improvement projects. The scope can refer to intra-organizational processes or inter-organizational processes, so processes cross the boundaries of the organization (vom Brocke et al., 2016).
- *Process characteristics*: The process characteristics are a set of dimensions that describe the process concerned in the BPM initiative. Depending on the repetitiveness, creativity, knowledge intensity, interdependence, and variability of the process different methods are appropriate to improve the process (vom Brocke et al., 2016).

IT: BPM adoption is supported by software, hardware, and information systems to model and monitor business processes and enable process change (Alibabaei et al., 2009; Rosemann & vom Brocke, 2015). The IT components can be specified by the phases of the process lifecycle (Dumas, La Rosa, Jan Mendling, et al., 2013; Malinova & Mendling, 2018; Rosemann & vom Brocke, 2015). IT-related aspects such as the IT infrastructure, the digital maturity of the organization, and the structure of the IT department influence the methods that can be used to adopt BPM (Alibabaei et al., 2009).

- *IT Infrastructure*: The provision of a suitable IT infrastructure is necessary to enable the execution of core processes, process redesign, and innovation (Alibabaei et al., 2009; Dumas, La Rosa, Jan Mendling, et al., 2013). In case the infrastructure does not provide suitable or sufficient tools, people may experience frustration in redesigning processes (Dumas, La Rosa, Jan Mendling, et al., 2013). The IT infrastructure also depends on the financial resources and size of the organization. Some IT investments might not be feasible in small organizations. Moreover, organizations fully operating in functions

may use different tools and applications in each department (Fisher, 2004). An enterprise-wide integration would involve a huge effort.

- *Digital maturity*: Digital maturity can support BPM initiatives. If an organization reaches a certain digital maturity level, the organization manages to adapt quickly to the environment. Digital competencies including communication, collaboration, and lifelong learning are all supportive of BPM objectives as well (Van Ee et al., 2020). Digital resources can be used to improve communication and create process awareness (Van Ee et al., 2020). Organizations that record activities within the organization can also make use of BPM methods such as process mining to discover business process models, and analyze process conformance and variants of business processes (vom Brocke et al., 2021). However, this also requires people to have the required skills to use the tools.
- *IT department structure*: In functionally oriented organizations IT departments tend to be an “island of automation”(Fisher, 2004), which is often perceived as technical support. In a process-driven organization, the IT department should be involved in the enterprise-wide BPM and should be incorporated into an organizational entity that is involved in business decisions (Fisher, 2004).

Environment: The environment refers to external factors that influence the organization and BPM, such as the regulatory environment (Benraad et al., 2022), technological progress (Dumas et al., 2023; Mendling et al., 2018), competition and market uncertainty (vom Brocke et al., 2016).

- *Legal regulations*: Organizations must comply with *legal regulations*, which also affect the design, execution, and control of their business processes. Especially highly-regulated sectors such as banking, pharmaceuticals, and healthcare need to ensure that process specifications are aligned with legal regulations and that processes are executed accordingly (Benraad et al., 2022). Therefore, the level of regulation influences the flexibility of executing business processes and the need to conform to process specifications.
- *Technological progress*: Industry 4.0 brought major technological innovations that may also impact BPM initiatives (Czvetkó et al., 2022). Data-driven development tools help to increase process efficiency and enable evidence-based decision-making. Blockchain technology may provide the option to realize execution without a central party and point of trust (Mendling et al., 2018). With the rise of Artificial Intelligence (AI) organizations face new challenges but also encounter new opportunities. The use of AI-augmented Business Process Management Systems (ABPMSs) enables a more adaptable, proactive, explainable, and context-sensitive (Dumas et al., 2023). These technologies enhance objectivity and transparency, however the “datafication”

increases behavioral visibility, which raises ethical concerns, that should also be addressed (vom Brocke et al., 2021).

- *Competition*: Depending on the *competition*, the organizational focus may vary (vom Brocke et al., 2016). In a highly competitive environment, an organization requires an external focus prioritizing the development and well-being of the organization, whereas in a low competitive environment, an organization can focus on internal change prioritizing the well-being of people and the establishment of a BPM culture (Cameron & Quinn, 2006; vom Brocke et al., 2016).
- *Market uncertainty*: Organizations need to be aware of their environment and adapt to market turbulences (vom Brocke et al., 2016). Traditional BPM approaches focusing on process standardization, information processing, and project management might not be suitable (vom Brocke et al., 2016). A turbulent environment requires a more flexible approach that focuses on achieving the goal rather than looking at the process.

3.2. BPM CULTURE

The model suggests the four key values of openness, ownership, engagement, and excellence as core values contributing to a BPM culture. The values serve as higher-level categories for related values and success factors.

Openness: The implementation of BPM practices requires open-minded people. Employees and leaders need to be responsive to a challenging environment and open to change (Schmiedel et al., 2013) related to their way of working, their responsibilities, traditional organizational practices and rituals, and ways of communicating. Openness also involves the flexibility of employees to solve problems and come up with new ideas (Hogan & Coote, 2014). Openness can be supported by establishing a failure culture as well as enhancing transparency, clarity, and people's readiness to change.

- *Failure culture*: To realize effective and efficient processes it is necessary to uncover all inefficiencies in an organization. This also includes tasks that are executed incorrectly, or avoided due to a lack of skills, uncertainties, or wrong prioritization. Open failure communication requires that there are no sanctions for disclosing failure and that it is possible to openly share issues with supervisors (Alibabaei et al., 2009). One example is the healthcare sector, where the overall goal is the safety of patients (Parker & Davies, 2020). Often people working in this sector witness individual blame when reporting errors, although the attention should be directed at the system. Establishing a "No Blame Culture" would enhance patient safety and help medical professionals learn from their mistakes (Parker & Davies, 2020).
- *Transparency*: Transparency is crucial for the success of BPM. Organizations need to provide sufficient information for people to understand the BPM initiative and

resulting changes (Schmiedel et al., 2013). This can be enhanced by open communication and the definition of roles and responsibilities. Additionally, the organization should enable cross-function communication among all stakeholders.

- *Clarity:* Employees who are not familiar with BPM might fear the unpredictable change related to it. Therefore, the organization should clearly communicate the vision, strategy, and execution steps to get people on board. People need to know *why* the change is necessary. If they understand the need for certain BPM measures, their acceptance might rise. Also, the organization should provide suitable communication channels to enhance communication among all stakeholders (Alibabaei et al., 2009).
- *Trust in the organization:* People involved in BPM should trust the process and the organization. Therefore project goals and activities need to be communicated clearly, relevant information should be shared among all levels and stakeholders and any fears should be addressed (Alibabaei et al., 2009). If people share a culture of loyalty and trust it results in high commitment (Cameron & Quinn, 2006).
- *Readiness to change:* People in the organization are often confronted with changes which creates insecurity and instability. The same applies to BPM initiatives. People might fear failing new challenges, losing responsibility and control, or even their jobs as part of a rationalization process (Alibabaei et al., 2009). Thus, organizations need to make sure that people involved in the change process are ready for it (Benraad et al., 2022). This requires creating stability where possible as well as providing sufficient information and training opportunities to be able to participate in BPM activities (Alibabaei et al., 2009). The readiness to change related to BPM activities may be represented by the willingness to conform to processes and the ability to execute them (Benraad et al., 2022). Some people might agree that change is necessary but don't have the appropriate skills to pursue the change. It is therefore important to provide sufficient training opportunities and encourage employees to improve their skills (Alibabaei et al., 2009).

Ownership: BPM requires employees to go beyond just executing tasks but taking full ownership of their area of responsibility. This also includes the monitoring and improvement of processes.

- *Responsibility:* Responsibility involves the commitment to BPM objectives, decision-making, and being accountable for any consequences (Schmiedel et al., 2013, 2014). For people to take full ownership, roles and responsibilities should be clearly defined and communicated (Alibabaei et al., 2009; Rosemann & vom Brocke, 2015).
- *Trust in employees:* Employees should be trusted and provided flexibility to enable proactive process improvement and enhance ownership (Alibabaei et al., 2009).

Supervisors do profit when their employees can make decisions on their own and when they are only consulted where it is necessary.

- *Change initiation:* People are often experts in their field of work and know best which improvements might be required. People should have the chance to suggest and implement changes themselves (Alibabaei et al., 2009), instead of just acting upon changes that someone else dictated. However, this demands trust in employees that they are knowledgeable of their field and act in the organization's interest.

Engagement: To get people engaged in BPM activities it is important to listen to their ideas and involve them in change processes. If people see their worth beyond executing tasks, they are willing to participate and commit to company goals and BPM objectives.

- *Involvement:* BPM requires the active involvement of all process participants and the customer to ensure process quality and performance (vom Brocke et al., 2014, 2016; Zairi, 1997). The involvement reduces the risk of resistance to change (Van Ee et al., 2020).
- *Participation:* Participation and teamwork are required in a culture that is sensitive to the concerns of customers and people in the organization (Cameron & Quinn, 2006). Participation can be enhanced if the BPM approach focuses more on cultural issues to achieve acceptance and the encouragement of employees (Alibabaei et al., 2009; Schmiedel et al., 2013).
- *Commitment:* Employees should commit to process objectives and should play an active role in achieving them (Schmiedel et al., 2013). If people share a commitment to innovation development they can work on the cutting edge (Cameron & Quinn, 2006). The management should also show commitment concerning BPM objectives and training opportunities (Alibabaei et al., 2009).
- *Reliability:* People need to be able to rely on the organization and management decisions as well as trust the BPM approach to proactively engage in BPM activities.
- *Teamwork:* BPM requires cross-functional cooperation of employees to align business activities and outcomes and achieve common goals (Schmiedel et al., 2013, 2020).

Excellence: BPM is a continuous optimization approach that requires general process thinking based on a joint understanding of the processes (Dumas, La Rosa, Jan Mendling, et al., 2013; vom Brocke et al., 2014). Excellence focuses on the optimization of process performance through discipline, quality awareness, and sustainability (Schmiedel et al., 2013). The process quality is ensured with monitoring and controlling while focusing on creating customer value (Dumas, La Rosa, Jan Mendling, et al., 2013). Employees and supervisors should be able to continuously learn to be able to adapt to challenges arising in the business environment (Alibabaei et al., 2009). Moreover, employees should be motivated by constructive feedback

and the offer of development opportunities to continuously improve their skills (Alibabaei et al., 2009).

- *Quality*: BPM should strive for quality focusing on excellence and optimal performance (Schmiedel et al., 2013; vom Brocke & Schmiedel, 2011; Zairi, 1997). The quality can be distinguished by internal and external quality (Dumas, La Rosa, Jan Mendling, et al., 2013). Internal quality refers to the perception of the process participant and if the person feels in control of the work. External quality refers to the client's satisfaction with the product and how the process was executed.
- *Customer orientation*: Process performance is directed at creating customer value. BPM should proactively address the needs of process output recipients (Schmiedel et al., 2013; vom Brocke & Schmiedel, 2011). This refers to internal and external customers (Schmiedel et al., 2014)
- *Continuous improvement*: Continuous improvement involves the continuous revision of processes, the elimination of waste, and learning from previous experience (Pritchard & Armistead, 1999; Schmiedel et al., 2014; Zairi, 1997).
- *Innovation*: Innovation aims at the development and improvement of processes to stay competitive (Schmiedel et al., 2013).
- *Learning*: People should have training opportunities to continuously learn and adapt their skills (Alibabaei et al., 2009; Van Ee et al., 2020). This also involves discovering new possibilities for the use of digital resources (Van Ee et al., 2020).

4. QUALITATIVE STUDY

4.1. METHODOLOGY

This study aims to identify the critical success factors of BPM with a focus on BPM context and culture. While several models address critical success factors and examine them from different perspectives, only a few elaborate on contextual factors and methods. According to the findings of the literature review, BPM requires a holistic approach that considers all key elements of BPM. Additionally, BPM asks for a context-sensitive approach and a BPM culture to successfully adopt BPM. Therefore, this study followed the research steps presented in Figure 4.1.

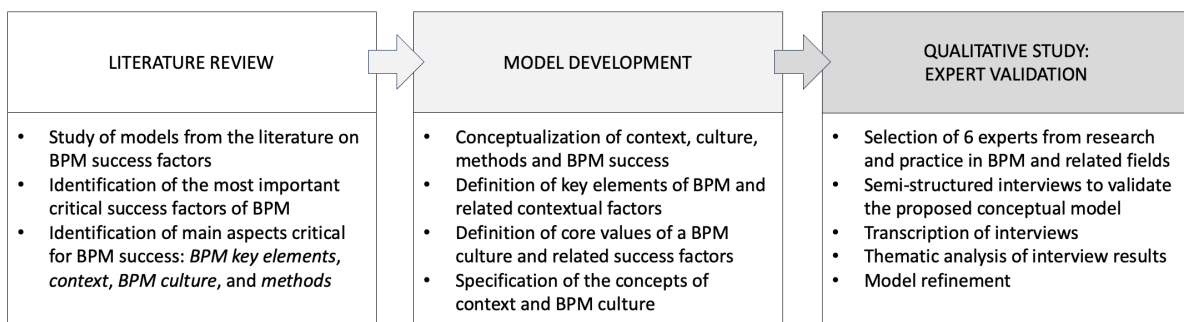


Figure 4.1 – Research design (Source: authors)

An in-depth literature review was conducted on the influencing factors of BPM with a focus on the role of context and culture. The search was conducted with relevant keywords and following a forward and backward search. During the literature review, different models on BPM success factors, context, and BPM culture were studied and compared. Subsequently, the most important factors influencing BPM were collected (non-exhaustive list). This also included similar concepts such as values, elements, dimensions, capability areas, principles, and rules of successful BPM. Despite having slightly different meanings, all of them are crucial for the success of BPM and are therefore considered critical success factors. The findings served as a basis for the creation of a conceptual model on successful BPM adoption focusing on the concepts of *context* and *BPM culture*. The model proposes a new categorization of critical success factors, which helps to put the list of factors into perspective. The proposed model and its major concepts were presented to experts from BPM and related areas from practice and academia. Semi-structured interviews were conducted to validate the proposed model and its components.

In total, six interviews were conducted with experts that have extensive experience in BPM and related areas, including Process Mining, Enterprise Architecture Management, Quality Management, Organizational Development, Change Management, and Talent Acquisition (Table 4.1). Their experience ranges between 5 and 20+ years. The table does not indicate the age or gender, because it was assumed to not be relevant to the study.

Table 4.1 – Interview experts

| ID | Participant | Education | Role | Experience (in years) |
|-----|---------------|------------------------------|--|-----------------------|
| IP1 | Interviewee 1 | Master's Degree | BPM Consultant with experience in different BPM roles in the aviation industry | 20+ |
| IP2 | Interviewee 2 | Bachelor's Degree | Quality Management Consultant | 10 |
| IP3 | Interviewee 3 | Master's Degree | BPM and Organizational Development Consultant, university lecturer | 20+ |
| IP4 | Interviewee 4 | Master's Degree | Expert in Talent Acquisition Processes in the technology sector | 15 |
| IP5 | Interviewee 5 | Master's Degree | Process and Enterprise Architecture Management Consultant, university lecturer | 20 |
| IP6 | Interviewee 6 | Master's Degree, PhD Student | BPM and Process Mining Researcher, university lecturer | 5 |

Each interviewee received an information sheet beforehand via mail to inform about the research purpose, the interview procedure, and the interview guidelines (Appendix A). The interviews were conducted via Microsoft Teams and were recorded after the interviewees gave their consent. One interviewee did not agree to the recording but provided the automatically generated transcript. Subsequently, the interviewees were informed about the interview guidelines and asked to give their consent. The interviews were based on a set of 25 questions related to their professional background, the role of context and BPM culture in BPM adoption success and the specific relevance of key elements, contextual factors, cultural values, and success factors (Appendix B). The questions served as a guideline to conduct the interview. However, some aspects were covered in the answers to other questions and therefore some questions could be omitted. The order of the questions was aligned to the flow of the conversation. Each interview lasted about 60 minutes. Five out of six interviews were recorded via Microsoft Teams. For one interview, the interviewee only agreed to use the transcription option of Microsoft Teams. The recorded interviews were transcribed with the transcription feature of Word in Microsoft 365. The responses were anonymized and do not reveal any personal data. Subsequently, a thematic analysis was conducted by relistening to the interviews and extracting the main aspects and quotes from the transcript. The extracted text excerpts were structured by the main aspects they covered. This helps to quickly find the key aspects of each interview and the corresponding quotes. First, this simplifies the evaluation and description of the interview, and it helps the reader to quickly find quotes related to certain aspects, in case the reader wants dive in more in certain topics. The complete table of the interview excerpts can be found in the Appendix D (Table A.1). The results of the analysis are presented in the following subsection. The interview findings

demanded a few minor changes in the model. The refined model will be presented in Section 4.3.

4.2. RESULTS

There was consensus among the experts that context and culture play a crucial role in the success of BPM adoption. Besides some little variations the relevance of the key elements, contextual factors, cultural values, and success factors was confirmed. Whereas the experts' answers were not entirely congruent concerning the most important factors, the majority highlighted similar aspects that will be explained in the following subsections. Thus, theoretical saturation was reached within these six interviews.

4.2.1. The role of context

The consideration of the context of the BPM initiative was generally confirmed to be important for BPM adoption success. The interviewees just partly highlighted different factors. But there was also wide consensus concerning the most important factors. Accordingly, BPM should focus on the people, culture and leadership, if it aims for sustainable change. In the following, the highlights related to the discussion of the context are presented.

- *Functional orientation:* Mature organizations that exist for a long time often operate in a functionally oriented structure. The problem is that departments usually focus on optimizing themselves. If that is the case, BPM can help to “break down the walls between those disciplines” and take the complete value chain in scope (IP5).
- *Existing culture:* In case the organization has existed already for a few years, it is expected that there is already a culture present in the organization, which is hard to change, if there are processes that seem to work (IP2). Depending on the age of the organization this culture might exist for a long time, which makes it more difficult to change it (IP2). For example, in an old organization with a traditional structure, people are used to follow order but might struggle to take ownership (IP3).
- *National culture:* The experts emphasize that depending on the location there are different cultures (IP1, IP3, IP5), which can be referred to as the national culture. It is crucial to understand the national culture and be aware of cultural differences that require a different approach, e.g. in communication (IP2).
- *History of BPM:* BPM has a history of radical BPR changes without considering the people behind it (IP3). So in case people have prior experience in BPM initiatives failing, they might have a certain negative bias towards organizational changes related to BPM or other restructuring methods (IP3, IP4). Therefore, organizations should look at past initiatives, understand why they failed and learn from it (IP4). This also involves the application of frameworks. Frameworks can be very useful tools, but sometimes it is better to not advertise them, if people have made bad experiences with the strict

implementation of frameworks (IP3). Usually, any form of forced change is perceived negatively (IP2, IP4).

- *Fear of change:* People are often afraid of change and resist it. IP3 sees the common ground in the fear of losing something. For example, a person in a leading position might fear to lose power and influence. IP2 assumes that people can only change to a certain extent and that people are at some point reaching their limits of adapting and learning new skills. IP4 breaks it down to people being afraid of losing their job. The rise of new technologies increases the pressure and employees, as existing processes will be challenged or replaced which might ultimately affect their jobs (IP4).
- *Leadership vs. Management:* All interview partners agree that leadership and management are two different aspects that should be considered in BPM. Leadership involves leading the people by creating a vision and leading by example (IP1, IP2, IP3, IP4).

“To inspire people for excellent processes, this also means to act as a role model. If you are the one who is accountable for process management, implementation and organization, then you should do the same like you ask all the people to do.” (IP1)

The leader should understand the present culture (IP2), should be convinced of the BPM initiative (IP5) and should be open for feedback (IP5). A lack of good leadership makes it difficult to change a culture sustainably (IP2, IP3). If the leader is not standing behind the BPM initiative, either because they don't want to change or just heard about it and do not really stand behind it, it will be hard to convince other people to support it (IP3, IP5). According to IP4 leadership should involve consequence management. So “What happens if I don't follow a new guideline and new process?” (IP4). If rules and consequences are clearly defined, you can avoid that people try to avoid certain changes or don't follow order (IP4). But, if they are not clear, it can risk change initiatives, because if people see that nothing happens if they don't obey to the rules, others will follow, if it is better for them or their agenda (IP4). Moreover, if there is a high leadership rotation, it will be difficult to implement longterm projects involving cultural changes (IP2).

- *Legal regulations:* Organizations are driven by legal regulations, e.g. GDPR (IP5). Therefore, regulations are often a driver for BPM initiatives (IP5). The regulatory environment may also influence management decisions. In a highly regulated environment, top management may focus rather on fulfilling external regulations, than companies in a less regulated environment (IP1).
- *Corporate rules:* In addition to legal regulations, there might also be corporate rules influencing BPM. In a large corporation, the mother company may set rules that limit

the way you can change a culture in a child company (IP3). So, this should be considered as well as contextual factor.

- *Stakeholders:* IP3 and IP6 emphasized the need to consider all stakeholders in the value chain and not only the customers. People that have been working in a rather traditional organization with a conservative culture might be used to follow orders and would therefore rather accept implementing BPM tools, but it might be more difficult to implement ownership (IP3).
- *Perspective:* There are different approaches to BPM. It can either focus on solving occurring issues and inefficiencies or find a preventative approach that is based on a risk analysis (IP6).
- *Purpose:* According to IP1, the BPM approach always depends on the purpose of what the organization wants to achieve with BPM.
- *Process:* The interviewees have different opinions on the importance of process and IT-related aspects. Whereas some interviewees saw rather little importance in the specifics of the processes and the digital maturity (IP3, IP4). IP6 highlighted the importance of both of them. IP4 states that it is much more important to put the right communication in place (IP4). And IP3 and IP4 both agree that BPM is also possible without digital maturity (IP3, IP4).

4.2.2. The role of culture

There is consensus among the interviewees that culture plays a crucial role in BPM's success. The proposed values supportive of BPM are confirmed to be important. The majority of related success factors were discussed and also considered as important factors. Among these, transparency, trust, cross-functional teamwork, and readiness to change were emphasized the most. The highlights of the discussed topics will be presented in the following text.

- *Forced change:* It is possible to force change by communicating a decision and resolutely implementing it without involving the people. This might be necessary in some cases, however, people will likely react with disengagement or even boycott (IP4). Forced changes that do not reflect the organizational culture will not be sustainable (IP2, IP4). Therefore, organizations should be careful about radical decisions that impact employees, because it might have a long-term effect on job satisfaction and engagement, or people might even leave the company (IP4).
- *Cultural change:* There is a common ground that BPM requires cultural change or that at least the culture should be considered. However, cultural change requires much more effort, leadership involvement, and time than doing the minimum necessary to

implement change (IP2, IP3, IP4). Therefore, organizations might be hesitant to fully address the culture in a BPM initiative, but it is worth it (IP4).

"[...] it's better to invest a bit more and upfront because then afterwards you will be even more successful with it." (IP4)

It can also be seen from a different perspective. BPM does not necessarily require cultural change but may lead to a cultural change (IP1, IP2).

- *People focus*: BPM is less about the processes than it is about the people managing and executing them (IP 3, IP4). All interviewees highlight that people should be at the center of attention. BPM can only be successful if the people get on board, which requires a more personal approach that also considers psychological aspects (IP1, IP4). BPM has its roots in IT and therefore most models and frameworks applied in practice focus on rather technical aspects (IP1). However, BPM requires a human-centric approach (IP1). Due to the differences in organizational culture, there is no "one-size-fits-all solution" (IP3).

"You work with people and their resentments, their fears, their wishes and expectations, and there is a lot of soft work that needs to be done." (IP3)

This demands involving people with diverse backgrounds, so not only people from IT, but also people from HR or with psychological background (IP1). Moreover, it requires to consider the diversity among employees and the attitude and skills of different generations (IP3). Depending on the generation, people behave differently with regard to process management and how far they accept it (IP1, IP3).

- *Openness*: Openness is critical for starting a BPM initiative (IP1, IP4). It's the basis for creating trust, transparency and a failure culture that allows for open failure communication (IP1, IP2, IP4). Trust refers to trust in the organization but also trust in the employees (IP4). Often, trust in people working on the process is missing and this limits independent decision-making (IP1).
- *Transparency*: Transparency is considered to be one of the most important success factors of BPM (IP1, IP3, IP5) and also serves as a foundation for establishing a BPM culture.
- *Trust*: The interviewees agreed on the importance of trust in the organization as well as trust in the employees. People should be trusted when working on the process and should have the freedom to make independent decisions (IP1).

"[...] if you provide all the necessary information to the people, I'm sure they will make good decisions." (IP1)

IP3 emphasized that people need to let go before they start trusting people. They need to let go of control and micromanaging to reach the situation where they have to trust people (IP3).

“If you don't let go, you don't have to trust.” (IP3)

- *Safety*: In times of constant organizational change and job insecurity, people need a certain stability and need to feel safe. This requires more than being trusted, employees should feel psychologically safe (IP4). This also requires positive examples of change. If people see that change makes their work easier and that they are working compliant, so legally safe, it helps (IP2). Here, BPM tools can help to provide a certain structure and security. It provides people with a plan and goal that they can hold on to while implementing change (IP3). At the same time, it is possible that people may have had a experience with the use of frameworks, which should therefore be applied carefully (IP4).
- *Readiness to change*: Most of the interviewees highlight that BPM needs to address the fear of change of people. BPM involves change and people need to be ready for it (IP6). Thus, readiness to change is one of the most important aspects (IP2, IP4).
- *Involvement*: The major focus of BPM should lie on involving the people (IP1, IP2, IP3, IP6). If you don't have their support, it will be hard to succeed.
- *Teamwork*: Teamwork is crucial for the success of BPM. However, teamwork is only possible if the management not only promotes individual performance by determining individual KPIs instead of team KPIs (IP3). It is important that KPIs support the “togetherness” (IP3). According to IP5, teamwork can only be established if there is transparency across functional units that enables people to look at the whole picture (IP5). This shifts the focus from the “local optima” to the “global optima” (IP5).
- *Continuous improvement*: IP1 and IP4 highlight the importance of continuous improvement, to not “fall behind” (IP1). According to IP4, it should involve continuous change and adaption, or even continuous transformation (IP4). Some process models might be outdated quickly due to constant changes in the organization and environment, including customers and demand (IP4).

4.2.3. Methods

In the interviews methods were discussed in terms of their general use to adopt BPM, but also to create a BPM culture. Cultural change requires methods that go beyond the basic toolset of BPM, involving “softer methods” (IP3) to empower and motivate people to continuously learn and embrace change. However, the interviews revealed that classic BPM tools also support the creation of a BPM culture by enhancing transparency, by documenting processes

and setting clear roles and responsibilities (IP1, IP2, IP5). According to IP1, BPM is a holistic transformation approach that helps to execute a strategy.

“It could be used to bring a purpose or a strategy to reality with everything which is necessary, so establishing processes, structures, training the people and so on. So, you definitely influence the culture with BPM.” (IP1)

- *Modeling*: There are different ways to model business processes, also on different levels. However, in the end, it should aim to give a clear overview about the process borders, the inputs, the outputs, the responsibilities, and the tools used (IP5). Modeling enables transparency by giving other people the opportunity to get insights into the work of others (IP5).
- *Frameworks*: In practice, it is common to use frameworks for the implementation of BPM (IP1, IP4). Frameworks can provide a structure for implementing BPM and change management. However, people should have the flexibility working within the framework (IP3). “[...] you might have to also give a little leeway with the framework. So, push the boundaries, just give boundaries in the framework, and then let people work within” (IP3). According to IP3, methods such as framework are important to provide security. They provide a plan how work needs to be done and what the steps are.

“[...] within all of these changes a methodology, a framework provides security. There is something you can hold on to and there is something where you can say, OK, if I do A then B happens and then C and let's go. People need this. And it's very fine even if you end up with Z at the end, doesn't matter.” (IP3)

So, it is not about sticking to the plan until the end of the project, but to have a guideline for the work that needs to be done. It may also be reevaluated and changed in the future, but it needs to be there, to provide a structure (IP3). However, the application of framework should be sensitive to the experience of people. If they experienced, that frameworks were used to strictly and just forced upon people without being asked or considered, they might have an aversion to the use of frameworks. In this case, it's better to rather convince them of the idea than to promote the framework (IP3).

- *Systems*: ERP systems are commonly used in organizations. Usually, they have processes implemented and therefore “force” people to think in processes (IP5).
- *Change Management*: Organizations should consider change management methods to deal with the changing environments of their management and employees (IP3). In terms of cultural methods, change management provides tools that help to guide and understand the change. This also involves analyzing which people are involved and what the expected resistance could be (IP4). This is especially helpful in change

projects on a strategic level that have a high impact on people (IP4). It is necessary to get the people on board and find ways to involve everyone in process management and related changes (IP1, IP3, IP4, IP6). People should be invited to work on the process and bring their ideas and give feedback (IP1). With the help of tools such as surveys, big meetings, team building activities, it is possible to involve all people and make them feel part of it (IP3).

- *Clear communication:* Communication is crucial for the success of BPM or any other project that results in change (IP4). It helps to enhance the understanding of the overall strategy (IP3) and the processes (IP6). It's about telling the truth, so that people trust the information they are provided, and sharing ideas and practices among employees, which enhances teamwork (IP6).
- *Provide information:* BPM requires providing all necessary information about the current situation, the budget and other aspects that are relevant to take a decision (IP1).
- *Best practice and guiding coalition:* The implementation of BPM can be supported by showing examples of successful implementation (IP2, IP4). IP3 refers to Kotter stating that successful organizational change requires a guiding coalition that leads the change (IP3).

"[...] if you don't have people who really want to do it and who really see the benefit for them, it's just not going to work." (IP3)

It is necessary to find people who embrace the change, who are willing to participate in pilot projects to show how BPM can be implemented successfully (IP2, IP4). This positive stimulation of people is critical to get more people on board (IP4). People should get excited for processes (IP1). And it is even more important to "know your critics" (IP4). They are the biggest risk to the project and should therefore be listened to and involved as much as possible (IP4). It is important to gain a network of supporters and change ambassadors (IP4). It helps to find sponsors from the different areas in the organization that are involved in decision making and guiding the project to support the change initiative (IP4).

- *Learn from mistakes:* Organizations should try to learn from past experiences and failed change initiatives. One learning according to IP4 is that "you can't just put everyone on the same spot" (IP4). People have different perspectives, different doubts and questions that need to be addressed in order to have their support (IP4).
- *Training:* People should be offered sufficient training opportunities to work on processes and enhance their BPM skills (IP1, IP2, IP6).

- *Feedback*: BPM adoption requires continuous feedback from people working on the process or executing it, to identify possible improvements (IP1, IP4, IP5). Therefore, people and management need to be open for feedback (IP5). Additionally, people should be given feedback on a regular basis to see what they are doing well and where they should change (IP6)
- *Coordination*: BPM requires the coordination of processes across process boundaries. This supports transparency and teamwork, as people understand what goes on before and after the own process and what is needed or might not be needed (IP5).
- *Local vs. global optimum*: The optimization of processes requires people to understand what comes before their processes and after their processes. This transparency helps to shift the focus from optimizing the own work to optimizing the whole value chain (IP5). This requires that people know and understand the overall strategy of the organization (IP3).
- *Alignment of objectives*: According to IP3, BPM objectives and KPIs are often not aligned. In case that BPM is implemented, the KPIs are often not changed accordingly, which is often “a total dealbreaker” (IP3). If the strategy is not widely known in the organization, line managers might define KPIs that don’t fit the strategy of the organization (IP3). Therefore, management needs to make sure that the KPIs are aligned with the corporate goals and with BPM objectives (IP3).

4.2.4. Model evaluation

Most experts confirmed the understanding and practical applicability of the model. Frameworks or models are commonly used in BPM practice (IP3). Thus, the model can serve as a practical guideline to implement BPM (IP3). IP1 considered the model to be useful as a checklist, when rolling out a BPM system. IP2 emphasizes that the model shows aspects that are all necessary to consider if you want to have sustainable change. The proposed model helps to understand what things may influence BPM and what needs to be changed (IP6). It provides a checklist that helps to see, where an organization may have issues (IP3). So, it helps to figure out where an organization stand in terms of their supportiveness of BPM (IP5) and which culture it requires to adopt BPM (IP3, IP6).

However, according to IP1 and IP4, the framework takes more a high-level approach that is rather suitable for people overseeing the whole process of process management (IP1, IP4). IP (IP1) added “it's more for the real enthusiasts [...] but it has a real value”. Moreover, IP1, IP4 and IP5 suggested to add recommendations for dealing with contextual factors and for achieving the values and success factors of a BPM culture, so a practical guideline to improve the culture. IP4 suggested to add probing questions:

“How do we work on this one? How do we make this one work? And what does it mean that these contextual factors will influence our success? What do we need to do in order to get it right?” (IP4)

IP5 sees a need to add recommendation and best practice examples, so that organizations not only see what issues they have, but that they also know what they can do to improve them (IP5).

According to the interviewees, the following aspects should be added to the model: organizational type, corporate rules, corporate objectives, KPIs, national culture, diversity, customer knowledge and stakeholder. IP1 highlighted the importance of purpose in BPM initiatives, which is different to the concrete BPM objectives, but crucial for the whole adoption process. IP5 emphasized that depending on the type of the organization, e.g. NGO or public administration, BPM might play a different role. According to IP3 it is also important to distinguish between corporate goals, corporate objectives and KPIs. IP1, IP3 and IP5 would additionally consider the national culture, which can bring new challenges to adopt BPM on an international level. IP3 emphasizes the need to consider the challenges that come with different generations and consider the diversity in organization and how the organization manages to address it and therefore suggests adding diversity as a contextual factor. IP3 witnessed that often people in the organization don't know what their customers are and suggested to add the aspects of internal and external customers to the model. According to IP3 and IP6 it is important to consider all stakeholders in the value chain. Additionally, IP5 suggested to rename IT to IT & Data, as the importance of data is steadily increasing. IP3 suggested to remove BPM maturity from the model, as it the overarching term that results from all contextual factors.

4.3. REFINED MODEL

The proposed model was refined based on the findings of the interviews. The organizational type, corporate rules were added to the organization dimension. Additionally, the term “internationality” was renamed to “locations”, as interviewees perceived that this aspect is missing. Thus, internationality seems to not be clear enough. The corporate objectives, KPIs, and BPM purpose were added to the strategy dimension. The corporate objectives replaced the financial objectives. The national culture was added to the culture dimension. The people dimension was expanded by diversity and customer knowledge and the process dimension by the stakeholder. Additionally, the refined model includes a set of BPM methods including methods that help to create a BPM culture. Therefore, change management was removed from the contextual factors and added to the BPM methods.

Which contextual factors should be considered in BPM adoption?

Which culture is optimal for BPM adoption?

Context

| <i>BPM elements</i> | <i>Contextual factors</i> |
|----------------------|---|
| Organization | Industry, size, organizational type, organizational structure, corporate rules, locations |
| Strategy | Corporate goals, corporate objectives, KPIs, BPM purpose, BPM objectives |
| Culture | National culture, Culture type, cultural differences |
| People | Knowledge, digital literacy, BPM skills, personal background, diversity, customer knowledge |
| Leadership | Vision, cultural understanding, communication skills, motivation |
| Management | Planning, governance, control |
| Process | Process type, process scope, process characteristics, stakeholder |
| IT & Data | IT infrastructure, digital maturity, IT department structure |
| Environment | Legal regulations, technological progress, competition, market uncertainty |

| <i>BPM methods</i> |
|---------------------------------------|
| ✓ BPM frameworks |
| ✓ Process modeling |
| ✓ Six Sigma |
| ✓ Lean management |
| ✓ Change management |
| ✓ Waste analysis |
| ✓ Culture Assessment |
| ✓ Strategic alignment |
| ✓ Goals alignment |
| ✓ Definition of KPIs |
| ✓ Co-ordination of process boundaries |
| ✓ Best practice |
| ✓ Guiding coalition |
| ✓ Training |
| ✓ Feedback |

BPM Culture

| <i>Cultural values</i> | <i>Success factors</i> |
|------------------------|--|
| Openness | failure culture, transparency, clarity, trust in organization, readiness to change |
| Ownership | responsibility, trust in employees, change initiation |
| Engagement | involvement, participation, commitment, reliability, teamwork |
| Excellence | quality, customer orientation, continuous improvement, innovation, learning |

Figure 4.2 – Refined model (Source: authors)

5. DISCUSSION

5.1. DISCUSSION OF RESULTS

The findings of the literature indicated that the context and culture influence the BPM adoption success (Schmiedel et al., 2013, 2020; vom Brocke & Sinnl, 2011; vom Brocke et al., 2016). BPM requires a context-sensitive (Donaldson, 2001; vom Brocke et al., 2014, 2016) and holistic approach that considers all key elements of BPM (Rosemann & vom Brocke, 2015; vom Brocke et al., 2014) to successfully adopt BPM. Depending on the composition of contextual factors, different methods are required to adopt BPM (vom Brocke et al., 2016). The present organizational culture is critical for the success or failure of BPM (Cameron & Quinn, 2006; Rosemann & De Bruin, 2005b; Rosemann & vom Brocke, 2015; vom Brocke & Sinnl, 2010, 2011). Depending on the culture type, there is a different “glue” that holds people together (Cameron & Quinn, 2006). If the culture is built on values that do not comply with the BPM objectives, the BPM initiative might fail (vom Brocke & Sinnl, 2011). Thus, it is crucial to develop a culture supportive of BPM objectives to successfully adopt BPM (Hribar & Mendling, 2014; vom Brocke & Schmiedel, 2011).

Based on these findings, this study concluded that BPM requires an adoption approach that is sensitive to the context of BPM including the present culture and other key elements of BPM, as well as establishing a culture supportive of BPM. The BPM approach and associated methods need to fit this context including the present culture and should aim for creating a BPM culture. Based on these assumptions a model was proposed that conceptualized contextual factors based on key elements of BPM and suggested a set of key values and related success factors to create a culture supportive of BPM. According to the research and understanding of this study, the context presents the individual setting in which the BPM initiative is taking place. This includes the present organizational culture, as well the characteristics of the organization itself, the strategy of the organization, the people involved or affected by the initiative, the leadership and management approach, the IT setting, and environmental factors such as legal regulations and competition. The model additionally proposes a set of cultural values that contribute to a BPM culture, namely openness, ownership, engagement, and excellence. This model was evaluated based on semi-structured interviews with BPM experts.

The interviewees confirmed that BPM should be sensitive to the context and the present culture and confirmed the importance of most of the contextual factors, cultural values, and success factors. The interviews provided interesting insights into BPM practice as well as additional aspects that should be considered. The interviews indicated that BPM is less about the processes and IT involved, than about the people, culture, and leadership. The BPM approach should indeed consider the specifics of the process addressed in the BPM initiative, as the process type and characteristics influence which BPM methods should be chosen. However, the study revealed that the most critical part in BPM is to get people on board of

the initiative. To reach long-term success, BPM should focus on involving people in the BPM process and convince them of the BPM initiative. This requires good leadership that understands the present culture and focuses on the motivation and well-being of the people. Leaders themselves should be convinced of the BPM project and lead by example. Only if this leads to success, people will start to follow. Another key aspect for a successful BPM adoption is communication. People should be provided all the necessary information to understand the processes and participate in BPM. They should be able to openly communicate with all stakeholders across the whole organization including the management. Additionally, organization should provide training opportunities, so that people have all the skills they need for understanding and adopting BPM methods. Moreover, leaders need to find an approach that is sensitive to the individual doubts and fears of the people. People face constant changes in organizations which creates instability and ultimately leads to resistance to change. To address the resistance, organizations need to understand the reasons for it. The history of BPM and change in organization may reveal clear causes. In case people witnessed radical restructuring approaches, which did not consider the people behind the processes, it is not a surprise that they have a negative attitude towards change. In this case, it requires a sensitive approach that is supported a lot by open leadership communication and is careful with the use of BPM methods. Frameworks can serve as a guideline and structure for people involved in BPM. However, the history of BPM may shed a bad light on them. It may be possible to force changes without involving people, but the interviewees confirm the risks that come with it and agree that it will not lead to sustainable success. If people are left out of decisions, it may result in disengagement and lack of motivation to contribute to the overall goal of BPM. And it may even risk the well-being of employees. Thus, BPM should be carefully applied, and the approach should also consider psychological aspects that come with it. Moreover, BPM not necessarily requires a cultural change. It may be seen the other way around, that BPM helps to create a culture supportive of BPM based on transparency, trust, and teamwork.

5.2. LIMITATIONS

There are several limitations to this study. First, the sample size of six interviews is small and thus the results are not representative. Nevertheless, the interviews give a glance at the main challenges that organizations currently face in terms of BPM adoption. It could also be considered as a limitation that five out of six interviewees are from practice and only one interviewee is conducting research on BPM. However, the research of this study is profoundly based on BPM literature and the interviews with people from practice add valuable aspects to the findings and help to put things into perspective. The interviews confirmed that the model can be a useful tool to guide BPM projects, but several interviewees suggested to add recommendations and examples for each factor of the model. The refined model was extended by a set of BPM methods that are commonly used in BPM. But it would have exceeded the scope of this work, to add detailed recommendations and examples for each factor of the model.

5.3. CONTRIBUTIONS AND IMPLICATIONS FOR FUTURE RESEARCH

This study contributes to the research on BPM by combining the two trending topics of BPM research in a conceptual model to provide an overview of the most important influencing factors of BPM. This study analyzed the role of context and culture in BPM adoption success. The BPM culture concept (vom Brocke & Schmiedel, 2011) and associated CERT values (Schmiedel et al., 2013) were extended by the definition of new higher-level categories (values) and related success factors. The context is represented by an extended catalog of dimensions derived from the literature review. Each dimension contains the most important contextual factors that should be considered when choosing the appropriate BPM approach. Based on the semi-structured interviews the model is complemented by a set of BPM methods that also help create a BPM culture. Although this study emphasizes the need for a context-sensitive approach, the model suggests core values that seem generally valuable for successful BPM implementation. The context only influences these values differently and requires a trade-off between measures.

Frameworks are useful tools commonly applied in practice. Therefore, this study also provides a model that helps to guide BPM implementation. Whereas culture is a frequently discussed topic in recent research, models take rather theoretical approaches and often lack practical implications. In BPM research, there is also an awareness that BPM requires a context-sensitive approach. However, there are only a few models on context-sensitive BPM approaches and methods. An exemption build the studies of Malinova and Mendling (2018) and Alibabaei et al. (2009) which both propose a detailed set of BPM methods. Whereas Malinova and Mendling (2018) focus on actions which are closer to BPM implementation, Alibabaei et al. (2009) suggest a detailed set of means that goes beyond BPM implementation activities and involve “softer” means that focus on cultural aspects and the involvement of people and leadership. These means are largely reflected in the statements of the interviewees. To improve the applicability of models for practitioners, future research could investigate further which means and methods are required in different contexts to create a BPM culture and thus enhance process performance. It is helpful if the findings are presented in framework that are of practical use. According to the interviews it would be very useful to have a framework that elaborates more on recommendations for dealing with the different contextual factors and examples how a BPM culture can look like or can be established. New frameworks may also integrate the four culture types defined in the frequently used Competing Values Framework (Cameron & Quinn, 2006). The core dimensions of the framework are similar to the *psychological archetype*, which psychological theorists describe as the kind of framework that individuals use to understand the world (Cameron & Quinn, 2006). Therefore, using this framework for the assessment of an organizational culture might be more straightforward for people involved in BPM initiatives. As every organization inhibits traits of all culture types it might be helpful to present context-sensitive methods that consider each contextual factor individually and its relations to other factors. For practical use, a matrix

with contextual factors and methods could serve as a basis for a BPM tool aiming to discover issues and find appropriate methods to solve them.

In practice, BPM has a history of radical improvement and restructuring. Organizations start to realize that the lack of care for people and culture in the organization prevents long-term success. While trending BPM methods aim to consider and involve the people behind processes, there is still room for improvement. People are still hesitant towards the implementation of new frameworks and resulting changes. New methods such as Process Mining focusing on simplifying process analysis and improvement and the rise of AI technology will lift process improvement but also resulting insecurities to a whole new level. It remains unclear, how far aspects concerning people and culture, which are less measurable and observable, will be considered here. New methods should include the measurement of cultural indicators and indicators concerning the well-being and satisfaction of employees.

6. CONCLUSION

This study confirms that the consideration of the context including the culture is ubiquitous for successful BPM adoption. The BPM context represents the individual setting of a BPM initiative that should be considered when choosing the BPM adoption approach and associated methods. The present culture is part of the context and needs to be considered by the organization and leadership when implementing BPM and related change activities. Next to the culture, people living this culture should be at the center of attention. If it is not possible to get people on board, the BPM initiative is destined to fail. The model of this study consolidates the most important success factors that should be considered when planning a BPM initiative and a set of cultural values and success factors that should be present in a culture to support BPM objectives. Interviews with experts from BPM and related areas saw a real value in the framework, as it helps to assess the current situation of an organization and understand what cultural values should be established to create a BPM culture. Accordingly, the model may be used as an implementation guideline or checklist. The interviews added practical insights that revealed that among all factors influencing BPM, the people should be at the center of attention. People should be listened to, motivated, and convinced to get involved in BPM activities. This demands clear communication and providing people with knowledge, information, and skills to be able to understand the BPM approach and act upon it. It may require enormous leadership effort to decrease the fear and resistance to change. Forcing change is possible but will not lead to sustainable BPM success. Even more it may result in disengagement and performance drops which risk the long-term success of organizations and even more important the well-being and psychological safety of employees. Therefore, organizations should focus less on actively changing a culture or creating a BPM culture than addressing the present culture and people in a careful way to enable BPM activities, which will consequently lead to a cultural change.

BIBLIOGRAPHICAL REFERENCES

- Alibabaei, A., Bandara, W., & Aghdasi, M. (2009). Means of achieving business process management success factors. *Proceedings of the 4th Mediterranean Conference on Information Systems*, 1348–1363. <https://aisel.aisnet.org/mcis2009/122>
- Armistead, C., & Machin, S. (1997). Implications of business process management for operations management. *International Journal of Operations & Production Management*, 17(9), 886–898. <https://doi.org/10.1108/01443579710171217>
- Benraad, M., Ozkan, B., Turetken, O., & Vanderfeesten, I. (2022). The influence of BPM-supportive culture and individual process orientation on process conformance. *Business Process Management Journal*, 28(8), 1–22. <https://doi.org/10.1108/BPMJ-08-2020-0363>
- Bergener, K., vom Brocke, J., Hofmann, S., Stein, A., & Brocke, C. (2013). On the importance of agile communication skills in BPM education: Design principles for international seminars. *Knowledge Management & E-Learning: An International Journal (KM&EL)*, 4, 415–434. <https://doi.org/10.34105/j.kmel.2012.04.032>
- Cameron, Kim S., & Quinn, R. E. (2006). *Diagnosing and changing organizational culture: Based on the competing values framework*. John Wiley & Sons.
- Czvetkó, T., Kummer, A., Ruppert, T., & Abonyi, J. (2022). Data-driven business process management-based development of Industry 4.0 solutions. *CIRP Journal of Manufacturing Science and Technology*, 36, 117–132. <https://doi.org/10.1016/j.cirpj.2021.12.002>
- DeToro, I., & McCabe, T. (1997, March). How to stay flexible and elude fads. *Quality Progress*, 30(3), 55–60. <https://www.proquest.com/docview/214521777/abstract/80A555816D604C6EPQ/1>
- Donaldson, L. (2001). *The contingency theory of organizations*. Sage.
- Dumas, M., Fournier, F., Limonad, L., Marrella, A., Montali, M., Rehse, J.-R., Accorsi, R., Calvanese, D., De Giacomo, G., Fahland, D., Gal, A., La Rosa, M., Völzer, H., & Weber, I. (2023). AI-augmented business process management systems: A research manifesto. *ACM Transactions on Management Information Systems*, 14(1), 1–19. <https://doi.org/10.1145/3576047>
- Dumas, M., La Rosa, M., Jan Mendling, & Reijers, H. A. (2013). *Fundamentals of business process management*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-33143-5>
- Dumas, M., La Rosa, M., Mendling, J., & Reijers, H. A. (2013). *Fundamentals of Business*

- Process Management*. Springer Berlin Heidelberg. <https://doi.org/10.1007/978-3-642-33143-5>
- Eshet, Y. (2004). Digital literacy: A conceptual framework for survival skills in the digital era. *Journal of Educational Multimedia and Hypermedia*, 13(1), 93–106. <https://www.learntechlib.org/primary/p/4793/>
- Fisher, D. M. (2004). The business process maturity model: A practical approach for identifying opportunities for optimization. *Business Process Trends*, 9(4), 11–15. https://web.archive.org/web/20180412101549id_/http://www.bptrends.com/bpt/wp-content/publicationfiles/10-04%20ART%20BP%20Maturity%20Model%20-%20Fisher.pdf
- Hammer, M. (1990). Reengineering work: Don't automate, obliterate. *Harvard Business Review*, 68(4), 104–112. <https://elibrary.ru/item.asp?id=1554790>
- Hammer, M. (2015). What is business process management? In J. vom Brocke & M. Rosemann (Eds.), *Handbook on Business Process Management 1: Introduction, Methods, and Information Systems* (pp. 3–16). Springer. https://doi.org/10.1007/978-3-642-45100-3_1
- Hogan, S. J., & Coote, L. V. (2014). Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*, 67(8), 1609–1621. <https://doi.org/10.1016/j.jbusres.2013.09.007>
- Hribar, B., & Mendling, J. (2014). The correlation of organizational culture and success of BPM adoption. *Tel Aviv*. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=b5be374b2ff481a8374c413c8466920bbddccbe2>
- Kirchmer, M. (2017). *High performance through business process management*. Springer International Publishing. <https://doi.org/10.1007/978-3-319-51259-4>
- Kotter, J. P. (2008). *Force for change: How leadership differs from management*. Simon and Schuster.
- Leidner, D. E., & Kayworth, T. (2006). Review: A Review of Culture in Information Systems Research: Toward a Theory of Information Technology Culture Conflict. *Management Information Systems Quarterly*, 30(2), 357–399. <https://doi.org/10.2307/25148735>
- Malinova, M., & Mendling, J. (2018). Identifying do's and don'ts using the integrated business process management framework. *Business Process Management Journal*, 24(4), 882–899. <https://doi.org/10.1108/BPMJ-10-2016-0214>
- McCormack, K. P., & Johnson, W. C. (2001). *Business process orientation: Gaining the e-business competitive advantage*. CRC Press. <https://doi.org/10.4324/9780367815608>

- Mendling, J., Weber, I., Aalst, W. V. D., Brocke, J. V., Cabanillas, C., Daniel, F., Debois, S., Ciccio, C. D., Dumas, M., Dustdar, S., Gal, A., García-Bañuelos, L., Governatori, G., Hull, R., Rosa, M. L., Leopold, H., Leymann, F., Recker, J., Reichert, M., ... Zhu, L. (2018). Blockchains for business process management-challenges and opportunities. *ACM Transactions on Management Information Systems*, 9(1), 4:1-4:16. <https://doi.org/10.1145/3183367>
- Minonne, C., & Turner, G. (2012). Business process management—Are you ready for the future? *Knowledge and Process Management*, 19(3), 111–120. <https://doi.org/10.1002/kpm.1388>
- Ongena, G., & Ravesteyn, P. (2019). Business process management maturity and performance: A multi group analysis of sectors and organization sizes. *Business Process Management Journal*, 26(1), 132–149. <https://doi.org/10.1108/BPMJ-08-2018-0224>
- Parker, J., & Davies, B. (2020). No blame no gain? From a no blame culture to a responsibility culture in medicine. *Journal of Applied Philosophy*, 37(4), 646–660. <https://doi.org/10.1111/japp.12433>
- Pritchard, J., & Armistead, C. (1999). Business process management – lessons from European business. *Business Process Management Journal*, 5(1), 10–35. <https://doi.org/10.1108/14637159910249144>
- Quinn, R. E., & Rohrbaugh, J. (1983). A Spatial model of effectiveness criteria: Towards a competing values approach to organizational analysis. *Management Science*, 29(3), 363–377. <https://doi.org/10.1287/mnsc.29.3.363>
- Rosemann, M., & De Bruin, T. (2005a). Application of a holistic model for determining BPM maturity. *BP Trends*, 2, 1–21. https://www.researchgate.net/profile/Tonia-De-Bruin/publication/27481630_Application_of_a_Holistic_Model_for_Determining_BPM_Maturity/links/56de141308ae46f1e99f93f1/Application-of-a-Holistic-Model-for-Determining-BPM-Maturity.pdf
- Rosemann, M., & De Bruin, T. (2005b). Towards a Business Process Management Maturity Model. In F. Rajola, D. Avison, R. Winter, J. Becker, P. Ein-Dor, D. Bartmann, F. Bodendorf, C. Weinhardt, & J. Kallinikos (Eds.), *ECIS 2005 Proceedings of the Thirteenth European Conference on Information Systems* (pp. 1–12). Verlag and the London School of Economics. <https://eprints.qut.edu.au/25194/>
- Rosemann, M., de Bruin, T., & Hueffner, T. (2004). A model for business process management maturity. *ACIS 2004 Proceedings*, 6. <http://aisel.aisnet.org/acis2004/6>
- Rosemann, M., & vom Brocke, J. (2015). The six core elements of business process management. In J. vom Brocke & M. Rosemann (Eds.), *Handbook on Business Process Management 1: Introduction, Methods, and Information Systems* (pp. 105–122).

Springer. https://doi.org/10.1007/978-3-642-45100-3_5

Sarhan, A. A., & Al-Najjar, B. (2023). The influence of corporate governance and shareholding structure on corporate social responsibility: The key role of executive compensation. *International Journal of Finance & Economics*, 28(4), 4532–4556.

<https://doi.org/10.1002/ijfe.2663>

Schein, E. H. (1996). Three cultures of management: The key to organizational learning. *Sloan Management Review*, 38(1), 9–21.

https://skat.ihmc.us/rid=1255442538593_81326613_21696/Three%20cultures%20of%20management%20schein.pdf

Schein, E. H. (2004). *Organizational culture and leadership* (3rd ed.). John Wiley & Sons.

Schein, E. H. (2010). *Organizational culture and leadership* (4th ed.). John Wiley & Sons.

Schein, E. H., & Schein, P. (2017). The Structure of Culture. In *Organizational culture and leadership* (5th ed.). John Wiley & Sons.

Schmiedel, T., Recker, J., & vom Brocke, J. (2020). The relation between BPM culture, BPM methods, and process performance: Evidence from quantitative field studies.

Information & Management, 57(2), 103175. <https://doi.org/10.1016/j.im.2019.103175>

Schmiedel, T., vom Brocke, J., & Recker, J. (2013). Which cultural values matter to business process management? Results from a global Delphi study. *Business Process Management Journal*, 19(2), 292–317.

<https://doi.org/10.1108/14637151311308321>

Schmiedel, T., vom Brocke, J., & Recker, J. (2014). Development and validation of an instrument to measure organizational cultures' support of Business Process Management. *Information & Management*, 51(1), 43–56.

<https://doi.org/10.1016/j.im.2013.08.005>

Schmiedel, T., vom Brocke, J., & Recker, J. (2015). Culture in business process management: How cultural values determine BPM success. In J. vom Brocke & M. Rosemann (Eds.), *Handbook on Business Process Management 2: Strategic Alignment, Governance, People and Culture* (pp. 649–663). Springer.

https://doi.org/10.1007/978-3-642-45103-4_27

Shoss, M. K. (2017). Job insecurity: An integrative review and agenda for future research. *Journal of Management*, 43(6), 1911–1939.

<https://doi.org/10.1177/0149206317691574>

Škerlavaj, M., Štemberger, M. I., Škrinjar, R., & Dimovski, V. (2007). Organizational learning culture—The missing link between business process change and organizational performance. *International Journal of Production Economics*, 106(2), 346–367.

<https://doi.org/10.1016/j.ijpe.2006.07.009>

- Tinmaz, H., Lee, Y.-T., Fanea-Ivanovici, M., & Baber, H. (2022). A systematic review on digital literacy. *Smart Learning Environments*, 9(1), 21. <https://doi.org/10.1186/s40561-022-00204-y>
- Trkman, P. (2010). The critical success factors of business process management. *International Journal of Information Management*, 30(2), 125–134. <https://doi.org/10.1016/j.ijinfomgt.2009.07.003>
- Van Ee, J., Attoti, I. E., Ravesteyn, P., & Waal, B. D. (2020). BPM maturity and digital leadership: An exploratory study. *Communications of the IIMA*, 18(1). <https://doi.org/10.58729/1941-6687.1414>
- vom Brocke, J., Jans, M., Mendling, J., & Reijers, H. A. (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., & Schmiedel, T. (2011). Towards a conceptualisation of BPM-culture: Results from a literature review. *PACIS 2011 Proceedings*. <https://aisel.aisnet.org/pacis2011/203>
- vom Brocke, J., Schmiedel, T., Recker, J., Trkman, P., Mertens, W., & Viaene, S. (2014). Ten principles of good business process management. *Business Process Management Journal*, 20(4), 530–548. <https://doi.org/10.1108/BPMJ-06-2013-0074>
- vom Brocke, J., & Sinnl, T. (2010). Applying the BPM-Culture-Model – The Hilti Case. *ACIS 2010 Proceedings*. <https://aisel.aisnet.org/acis2010/16>
- vom Brocke, J., & Sinnl, T. (2011). Culture in business process management: A literature review. *Business Process Management Journal*, 17(2), 357–378. <https://doi.org/10.1108/14637151111122383>
- vom Brocke, J., vom 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>
- Zairi, M. (1997). Business process management: A boundaryless approach to modern competitiveness. *Business Process Management Journal*, 3(1), 64–80. <https://doi.org/10.1108/14637159710161585>

APPENDIX A

Information for Interview Partner

Title:

Critical Success Factors for BPM Adoption in Organizations: The Role of Culture and Context

Purpose of the study:

This study aims to find the most important critical success factors in BPM adoption with a focus on cultural and contextual factors. Based on a comprehensive literature review, a model was developed focusing on the concepts of context and BPM culture and their influence on BPM adoption success. This interview helps to validate and refine the proposed model.

Interview procedure:

You will be presented the proposed conceptual model on critical success factors of BPM adoption focusing on culture and context. You will be asked questions that help to understand your perspective on the role of culture and context and to validate the proposed model. Please read the following guidelines carefully.

Interview guidelines:

- The participation in the interview is voluntary and you can opt out at any time.
- This study will not reveal any personal data or confidential information and the responses are anonymized.
- The results will be used for research purposes as part of a Master's thesis, which will be published in the university repository.
- The result may also be published in academic journals or at conferences.
- The interview is conducted online via Microsoft Teams and will take approximately 45 minutes.
- The interview will be recorded for evaluation purposes.

Thank you for participating in this interview. Your expertise will be a valuable contribution to this study.

If you have any questions or need further information, please contact:

Amelie Langenstein

m20210637@novaims.unl.pt

APPENDIX B

Interview Questions

Recording:

Do you agree with the recording of the interview?

Please answer “yes” if you agree or “no” if you disagree.

Interview guidelines:

- The participation in the interview is voluntary and you can opt out at any time.
- This study will not reveal any personal data or confidential information and the responses are anonymized.
- The results will be used for research purposes as part of a Master’s thesis, which will be published in the university repository.
- The result may also be published in academic journals or at conferences.
- The interview is conducted online via Microsoft Teams and will take approximately 45 minutes.
- The interview will be recorded for evaluation purposes.

Do you agree with the interview guidelines?

Please answer “yes” if you agree or “no” if you disagree.

Introduction:

- 1) What is your professional background and your current position?
- 2) What is your experience with BPM (years/topics)?
- 3) In which industry/sector have you gained BPM experience?

Model presentation and explanation

Model understanding:

- 4) Is there something unclear about the model?

BPM context:

- 5) Does the context play a role in BPM adoption success? (can you name one example?)
- 6) Which elements should be considered in a BPM approach? Are there any aspects missing?
- 7) Do you see a difference in leadership and management? Are organization differentiating that?
- 8) Which contextual factors influence the BPM approach / should be considered when choosing the BPM approach?
- 9) Looking at the contextual factors, do you consider them as relevant for BPM adoption success? Or are there any factors missing?
- 10) Which factors do you consider to be the most important ones?

BPM culture:

- 11) What role does the organizational culture play in BPM adoption success? (can you name one example?)

- 12) According to your experience in organizations, how far did cultural factors influence the implementation of BPM?
- 13) In how far does BPM require cultural change?
- 14) Which cultural values do you consider to be important for successful BPM adoption?
- 15) Are the presented values supportive of BPM? (Are any values missing?)
- 16) Does the importance of values change depending on the context?
- 17) Which success factors do you consider to be the most important ones?

BPM methods:

- 18) In how far do methods influence BPM success?
- 19) Does the appropriateness of methods differ depending on the context of BPM?
- 20) Which methods are important for BPM success?
- 21) Which methods help to establish a BPM culture?

Model improvement:

- 22) Does the model cover all relevant aspects or is there something missing?
- 23) Do you have any other suggestions for improvement?

Additional aspects:

- 24) How far could the model be useful in practice?
- 25) What would support the practical applicability of the model?

APPENDIX C

Ethics Committee Report



This is to certify that

Project No.: **INFSYS2024-2-95998**

Project Title: **Critical Success Factors of Business Process Management Adoption: The role of Culture and Context**

Principal Researcher: **Amelie Florentine Langenstein**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 2/10/2024.

It is the Principal Researcher's responsibility to ensure that all researchers and stakeholders associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Ethics Committee, via amendment or progress report, of

- Any significant change to the project and the reason for that change;
- Any unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role or any other change in research personnel involved in the project.

Lisbon, 2/10/2024

NOVA IMS Ethics Committee
ethicscommittee@novaims.unl.pt

APPENDIX D

Table A.1 – Major quotes of interview partner

| ID | Major quotes |
|-----|---|
| IP1 | <p>Role of context, purpose: It always depends on the specific purpose of what an organization wants to achieve with this process management, so, depending on their environment they are operating in, it can be completely different what the biggest pain points are. So, it really depends on the context [...] and on the specific purpose the organization wants to achieve with project management.</p> <p>Relevance of contextual factors: I'm not sure if something is missing, but what is there definitely makes sense for the context. That's contextual factors. Yeah. And I could give you examples for all of them. So yeah.</p> <p>National Culture: [...] this cultural topic we just talked about regarding different countries. Because this pretty much influences the success as well [...]</p> <p>Generations: So how do different generations behave with regards to processes and how hard is it to get the acceptance, or do they really like processes and so on. So do they want to be part of the community?</p> <p>Leadership vs. Management: Business Process Management [...] is more like planning governance, control, but it definitely also needs a lot of leadership. So like having a vision and why do we do this at all so I think it's super important to add leadership in addition to just having only management there.</p> <p>Legal regulations: top management, who is really accountable to the outside world for what is going on inside the organization, acts completely different if there are external regulations they have to fulfill compared to other companies where they don't have to</p> <p>Organizational culture: Definitely a big one, with regards to how open the people are to start thinking in processes, or if there already is a process-oriented thinking established or not. That's a big issue if they are only thinking in their organizational boxes. If the management is open and let the people do what they think is good or if they control every single step, if they trust the people. So, it definitely depends on the existing culture and this always influences the success of BPM implementation.</p> <p>failure culture, transparency, trust, clarity: failure culture in general, transparency, that's part of what I'm fighting for. Clarity, trust. That's another principle to trust the people working in and on the process. I think that's super important and this is something which is often missing and problems are designed in a way that the people have no real freedom to make independent decisions anymore.</p> <p>Information, transparency: [...] find ways to provide all necessary information to the people, so create transparency about the current situation, about budget, about all these aspects which are relevant to make a decision. And if you provide all the necessary information to the people, I'm sure they will make good decisions.</p> <p>Readiness to change, ownership, methods: Readiness to change also makes sense [...] I like the ownership aspect here. It's so important to clearly assign responsibilities to the people. Have a clearly defined role, [...] enable the people, to train them on how to do that.</p> <p>Involvement, Feedback: Involve the people working in the process into the work on the process. So invite the people to bring in their ideas, create transparency about what you are doing so that they can see what is going on, that they can provide feedback</p> <p>Excellence to inspire people, role model: principle to inspire people for excellent processes. This also means to act as a role model. If you are the one who is accountable for process management, implementation and organization, then you should do the same like you ask all the people to do</p> |

| | |
|-----|---|
| | <p>People involved in culture change: IT guys, HR, psychology: I think it's super important to have diverse people in these activities, not only the BPM guys, which are often engineers or IT guys. I think it's very important to also have the more softer expertise there involved like people from HR who bring in psychological aspects and so on.</p> <p>Lack of soft methods: Because most of the people who are working on this area are technical guys. They don't have any experience with other areas.</p> <p>People focused methods: I'm trying to bring in these more human focused methods. Trying to more highlight the purpose aspects, talk about emotions. Or if you use gamification to train the people or to get them excited. It's so important to bring in ideas from other disciplines, use methods from psychology and community building. All these interesting topics.</p> <p>BPM changes the culture: You could use BPM to change the organizational culture. Because the way you are implementing BPM can definitely influence the culture. You can use the BPM approach to implement a strategy. And for me, it's a holistic transformation approach. It could be used to bring a purpose or a strategy to reality with everything which is necessary, so establishing processes, structures, training the people and so on. So you definitely influence the culture with BPM.</p> <p>Application of the framework: It would be really helpful for people who plan to roll out a BPM system or framework in an organization to use this as a checklist to understand more about what is the optimal culture for BPM adoption and to get this theoretical background and maybe just to use it as a checklist and say "OK, this is something we have an issue with" like failure culture or something like that and maybe based on this checklist it will be possible to provide recommendations on how to approach that or just give examples. So, I think it's more for the ones who are accountable for the topic overall or who have to work on a specific business process, have a big community of people working in that process, it would be helpful for them as well. So, it's more for the real enthusiasts, I think. But, it has a real value.</p> |
| IP2 | <p>Role of context or contextual factors: Yes, it does. Each one of them.</p> <p>Existing culture: You have the same problem in every company that is older, by older I would say more than 10 years, because then a grown culture exists in the company, and then if you want to change something, you always have to fight against the growing culture. If there are grown processes that seem to work, it's pretty hard to change them. The leadership is part of the culture, [...] how you manage is part of the culture. So if you want to change the culture, you have to change everything else. You don't have to change the people, but sometimes it might be necessary to change the people.</p> <p>National culture: [...] this guy was then ill for two weeks afterwards, because he couldn't stand the shame of being confronted with a mistake in front of other people. So the cultural differences and the cultural fit, this is kind of hard and not so easy to learn and, but still very important.</p> <p>Leadership vs. Management: Yes, I would say because you can implement the management, you can organize the management by processes, but leadership, just my personal opinion, you can't learn to be a leader, you can only learn it to a certain extent, but still, you need the natural ability to be a leader.</p> <p>Leadership rotation: The problem is the leader rotation. As it was a big project, the leaders only took the items out of the project they could change in their time [...] and who have been easy to change. But it would have been a big effort of money, of time and people and education. So, it was too big for a lot of leaders to force it, push it all the time, because it takes a lot of energy and well, they didn't have it. They'd still have to get the production running.</p> <p>Cultural understanding and leadership fit: Cultural understanding. This is really interesting. It can be so frustrating, if you have a leader that doesn't understand the culture is one thing and on the other hand, if you have to deal with the culture that you don't fit with, like in a country or in a company.</p> |

Culture change and leadership: So you had to change the old leaders, replace them by new leaders, [...] or you have to fix them to the rules, which is kind of hard. You could try, but they must be behind what they then have to live. And it's hard for them to change if they have been leading in a different way or by a different culture. We tried it by training. We tried it by replacing them. We tried to teach the old leaders to install [employees] that represent the culture, [but] two out of three have been still selected by the old rules.

There is from some sides the willingness to implement change and cultural change, but [...] the system doesn't really work with it and especially the leadership.

Role model: You need a model or an example as a leader that is a perfect fit for the new culture you want to implement. And the problem was that least in companies that produce something or are under a certain kind of cost and time pressure, the result is normally the main goal.

Environment: You could want to change the culture in a company, but it might be impossible because of legal regulations.

Missing contextual factors: Well not, I don't think really, because it's quite detailed.

Role of culture: On the culture, everything is based.

Culture change: You have to teach the people coming new into the company the new culture and in the same moment you have to change the cultural understanding of the people working there.

A complete cultural change [...] could take around 10 to 15 years if you have a big grown culture. [...] if you have a small agile company, it might be much quicker, so it depends in which surrounding the company is working.

You need people that are driven by the cultural change.

openness: openness is a very big factor indeed, as the readiness to change is one topic that is absolutely necessary and the failure culture.

Failure culture: Every human being is making mistakes. If not, he's not a human being. The thing is that you have to be open about your mistakes, meaning that you have to tell if you've made a mistake, and if you made it not voluntarily. There shouldn't be a punishment, because otherwise people wouldn't report incidents or mistakes. And if you guarantee this, there must be a punishment for voluntary mistakes. So, if you willingly decide against rules and you know that what the consequences could be, this is harmful and this must be punished.

Mistakes shouldn't be punished, and so that everyone is urged to or does feel an inner urge to report mistakes because only known mistakes could be solved.

Trust: Sometimes you had to speak the same language if you wanted to be trusted.

Clear responsibilities: Let's just jump to the ownership, for example. What is really important is that you have clear responsibilities. It's kind of hard if you split the responsibility on different persons and they don't know exactly what their part in that responsibility is. So, it has to be really, really clear who is responsible for what.

Involvement, engagement, participation, commitment: I just saw another very important word, that is involvement in engagement. You won't get engagement if you don't involve the people. So, this is completely true. Participation, involvement, that leads to commitment. Otherwise, if you just uh push something on your employees, top down, doesn't really work.

Key values & quality: They're all relevant. You got this completely right, but I wouldn't add quality to the excellence because quality derives from all the other things.

Quality is to build the product the customer asked for, in the price range to the desired date. This is the product quality. And to achieve this, you need lean processes, you need working processes. You need the UM. You need employees that want to do engaged employees.

| | |
|-----|---|
| | <p>Continuous improvement: The continuous improvement that is maybe kind of a headline for the customer orientation innovation, learning. This is all part of the continuous improvement which should be a big part in a good BPM culture, [...] otherwise you fall down behind. Innovation is what you do looking in the future and continuous improvement is more reacting.</p> <p>Importance of cultural values and factors: Well, as I said, nearly all of them. Because one leads to another, as you just said, and [...] if one of them is missing, it will be hard. If one of them is missing and not even the cultural values even the Success Factors you mentioned here and one of them is missing or is getting lost in the process, you will have a problem.</p> <p>Importance of values: The importance will change over the process. Because if you have a new company, you start from scratch and could organize it in an ideal way, if you wanted to. The importance is floating, I would say.</p> <p>Best practice: You have to build up examples and then teach the examples and make them known. You have to help them change something, and if they see that something is easy to change and if you have a good foreman as an example who pushes it in his team, then it can be fun to change things, and if you see the outcome, that it makes work for you easier, the daily life gets easier and you're safe, you're legally safe, meaning you're working compliant, that really helps. You just have to show that it's possible to change processes and it's possible to follow the rules and you still have a good outcome. If you implemented the examples [...] and they all go in the same direction, then it's a self running system, but still it takes time. You will always have those people that are not willing and maybe even not able to change.</p> <p>Difficult to change people: It's not possible to change completely. That's even my experience. You could adapt a little, so little routines, but to change a human being completely, I don't know if it's really possible. We had mechanics that have been in the same department for over 30 years, and if you have been an apprentice in the same company and you learn something completely different than like it's today, then you may have problems and it's not easy to change.</p> <p>Need for change: If you don't force yourself to change or come to an environment that forces you to change, you're kind of a drop out.</p> <p>BPM requiring culture change: Not necessarily. It could also be the other way around. If you change a process that could lead to a cultural change. Could be both ways. But in any case, the culture will change.</p> <p>Methods: It depends on what you, uh, what you want to achieve. Six Sigma [...] to check if a process works, you can use all these tools. But to change a culture, you need something different. A KPI is just to measure the process afterwards and then try to improve an existing process. So, you can't really change something with Six Sigma or just KPIs. They all have an impact on the culture, standard procedures like training, lean methods, lean management, 7S, 5S. The wish to change a culture [is] derived from a real mistake and then it starts with brainstorming, what could be the reason, [...] Six Sigma, [...] kind of the normal tools you use. The cultural change, the wish to change a culture derives from something, normally it's a problem. So you just go through all the steps.</p> <p>Practical applicability: If you have a running QM system [...] like all the companies want to use right now, then this is absolutely necessary. It's absolutely necessary if you want to improve anything. I think you need this. If you want a sustainable change, you have to stick to this.</p> |
| IP3 | <p>Model understanding: No, I think it makes absolute sense.</p> <p>Role of context – digital literacy, diversity: Definitely, absolutely, 100%. [...] the digital illiteracy, [...] I came across customers who really did have a problem to use Excel [...] They did not have problems to use SAP or something, but they started at the very bottom. So if I try [...] to implement any form of structure, I'm not even talking of BPM, any form of structure I really need to start from a very different point in in comparison to [...] companies that are very much advanced already. And so yes, context plays a role, also for</p> |

people. So if I have a company that is very diverse as opposed to a company that is very male dominated, which is still around, then I also have different starting points.

Age of the organization, location: Very old organization work differently than very new startups, or management versus leadership. So there is a lot of aspect that play a role in where I would start from a consultant perspective, if I take your framework and try to implement it, it would be very different depending on the context of the organization of the country. The mindset that's in the country, so it would be definitely very different if I looked at the context of an organization that is in the USA or in Austria, it would be vastly different. So there is a lot of constraints [related to] the context and it is definitely a major part in everything that changes.

Role of culture, national culture, time: It determines the speed. So if you want to establish BPM, you need to start to implement the mindset, you need to find and implement the objectives. So all of this is a process takes more or less time and also finds more or less understanding [...] in the organization. So depending on where everybody comes from, depending on the context within which you have to work, it will take longer time or shorter time.

Resistance to change: for the resistance the [reasons] are so different. But actually, if you want to have a common ground, I would say it's losing something. So every time you change environment, people tend to lose something and they have a lot of times, difficulties seeing the opportunities that come from this change. So they lose something and that something varies from where in the organization the people reside in. So a C-level executive tends to lose or perceive, to lose different things [...] power, for example, influence.

People focus: I'm still trying to implement structure, but I'm actually more busy dealing with helping people deal with these changes and finding opportunities and their changed surroundings than just doing the formalities because the formalities I found don't really matter, it's the consequences.

Resistance to change: The companies seem to be quite open, but still there is a lot of resistance against the idea of change management.

Leadership vs. Management: [...] if you only find management in the company, change is much harder than if you also find leadership, [...] for any sustainable change.

So coming back to the distinction between management and leadership, I think there is not going to be a lot of stuff that can be managed anymore. In the sense of the word, what it means to manage, the German word would be *Verwalten*. [...] you need more and more leadership to cope with changing requirements and changing environments and to really answer to all these changes that come from outside, but also from inside. What I also see is that there is major change in the perception of what work should be and what life should be in the generations that are now in management positions and that now come to the management positions because what we say, the people that were born around the turn of the century, they start not only coming into the workforce, but they also start lining up for management positions. So there is a lot of change here and a lot of volatility also there because their minds work completely different, they have completely different needs and visions [...]. This is why I'm saying you need a lot of leadership to answer the to all of these contextual factors.

Development of BPM: business process management is much more than standard literature says that it is, because this is very much limited to the formalities of the business process management idea, which was very good. In my experience it was a very fitting around the turn of the century. [...] this is where a lot of standards literature that we use nowadays has been written and it was quite alright at this time. And then customers changed, people changed.

History: The results from these business process reengineering process projects that were around at the turn of the century. The results were very much not satisfying for the people that dealt with these projects. So it was actually for me as a consultant doing restructuring. It was really terrible to see that people laid off based on an Excel sheet.

Flexible structure, management: So building up a structure in a company that is flexible enough to change at moments notice because we are in a very volatile environment right now. And I think this is not going to stop anytime soon.

So I think this will just be the new normal where the change cycles of the environment, any environment, is

Faster and faster. So any structure that you build for an organization needs to be flexible enough to answer to that.

Individual KPIs vs. teamwork, leadership motivation:

If individual KPI's are not supporting this togetherness, this teamwork and this overall goals that have to be implemented if you do BPM, [...] and if management does not want to, if they just do it because they have to or if they just do it because they heard [...] or read about it [...] and they don't really mean it, then this is this is something that you can almost not solve at all.

KPI's: [It may be] forbidden by law [...] to do KPI's on a personal level, if it is employees. It looks different for management.

What you usually do is you have team KPI's, and the team has to do certain things to reach the KPI's and then you have also team compensation. And then you have individual salary raises based on personal evaluations that you agree on, so you have personal targets, but they must be soft targets.

On the management level, it looks different.

Usually the higher up they come, the more calculatable the KPI's get so they have for example revenue based KPI's or cost cutting related KPI's.

BPM objectives vs. KPIs: what I often see is that [...] the BPM objectives might be totally different to the KPIs that are already in place in the company.

What I sometimes see is that [...] management most of the time does not change the KPI's. And this is a total deal breaker.

They should correlate to company objectives and in this case they should also correspond to BPM, but a lot of times they don't actually do this. So I see a lot of companies where the company strategy for example is not known, it's not widely known. So the KPIs that are defined by the first line management for example [...] does not necessarily [...] fit to the company strategy.

Contextual factors – generations, diversity: The generational aspect is definitely there. And the general diversity aspect. So I would put this as diversity, because there's much more. We still have an issue for men and women. They have to [...] give people a home no matter which gender they associate with, to be very open. I would call it diversity and would put it into all of this together [...]. So this is very important to look at.

Culture, stakeholders, clients: The existing company culture, the cultural understanding of the company itself. Is it a very old company? Is it a very new company? Is it a very? What's the stakeholders around? How are the clients of this company? Are they young and flexible [...] or are they traditionally? So they might react differently.

Culture type: I might have less of a problem implementing straightforward BPM with a classical company that has very conservative understanding and conservative culture because they're used to follow orders.

I would probably fail with respect of ownership. Because they would not give away ownership, but I would definitely be able to implement BPM by the book rather quickly [...] the classical BPM, not necessarily your model, because [the classical BPM] does not consider any type of culture.

BPM Maturity: [...] BPM maturity [...] this is a little bit of a non sequitur, [...] this is a recursive thing.

Because if they are mature, what does it mean?

For me, this is again a combination of all the contextual factors you're visiting here.

IT: A lot of my colleagues put a very distinct focus on IT, digital maturity is all the rage right now.

In order to have a good process organization, you don't necessarily need a lot of a lot of IT. It should be appropriate to what the company is doing. As I said, I had customers who had troubles working with Excel. That's because they just did not need it. Their context was very conservative, [...] They don't need, so this would not be that important for me.

Regulations, corporate rules: But what it's definitely very, very important is what regulations and rules they have to apply. And this is not necessarily only legally, but this is also if I'm looking at a corporate culture, a corporate

structure where you have a mother and then you have all the children. And the mother often has very strict rules you have to follow. And then if you decide to do something to implement BPM and to change your culture in a child, for example, [...] then you might have troubles gaining acceptance in in the mother organization.

Cultural values: I think they are always needed if they do not depend on the context.

Values supporting BPM: Transparency, trust and openness, so openness as a whole. But transparency and trust is definitely on the top of the list.

Let go and trust: The ability to let go from management.

I don't know if you if you encompass this in trust in employees. For me it's the other way around. I don't actually need to trust the employees, I need to be able to let go first, of micromanaging [...], to let go of control and then I can trust my employees.

You have to let go first before you can start really trusting people. If you don't let go, you don't have to trust.

Excellence – external and internal customer orientation: Excellence [...] very important is this customer orientation. I find a lot of my clients do not even know what the customer is, who the customer is. I would even extend the definition of customer to external and internal customers.

[...] if you look at success-based compensation [...], then you have to make people aware that just because you're working in finance, you're still contributing to the success of the company. So, we can still measure you and you can still work towards some sort of KPIs.

Continuous improvement: Continuous improvement, only if you really mean it.

And it's not done to draw processes and revisit them once a year.

Slower, softer BPM: if you watch this business process management situation over the time, it turns out that from this purely statistically driven approach that was around there, this very hard approach, you do your strategy, you do your processes, you do your IT [...] and it is very straightforward. It turns out it's not that straightforward and things have turned to be much softer now and much more inclusive and much slower. It's also slower and it's good that it's slower, so people have the opportunity to really go with the change and influence their surroundings.

I was just thinking that actually my view is quite limited in this regard because I have been in [change management]

Change management: I cannot talk about any company where either they have great change management because they would never call for help. They are happy. All the companies that are very old school, they would also not call for my help. But from what I hear from people, everybody seems to need to try to have an opinion on change management. And I think it's sort of a fad right now, so that everybody needs to do something in this direction. A lot of times it is in HR, and a lot of times it's just so that they can say we are also doing it.

Involvement, flexibility: So on paper everything looks wonderful. But in reality, people have to be brought into the flow that they can still influence their surroundings, they can still form and manipulate their surroundings in a way that they like in the way that fits for them so that they can do the best work that's possible for them.

Flexibility, push boundaries of frameworks: It will be more straightforward or you need to let people take more left and right and get them back together again, [...] and you might have to also give a little leeway with the framework. So push the boundaries, just give boundaries in the framework and then let people work within.

There might be situations where implementing the BPM framework especially might fail completely, and this is where I found

Methods – security, freedom, responsibility: From my experience, a lot. But there is two different things that I noticed. [...] methods, tools, frameworks, whatever you might want to call it, or whatever you also choose to use, provide security. It's a safe thing, because within all the change that you have to do and you have to change your culture and you have to change the way you work [...] And sometimes it's very much not easy to give freedom to the employees or to take responsibility as an employee or to change your role as a manager to allow for people to make their own decisions [...]. So within all of these changes a methodology, a framework provides security. There

| | |
|-----|---|
| | <p>is something you can hold on to and there is something where you can say, OK, if I do A then B happens and then C and let's go. People need this. And it's very fine even if you end up with Z at the end, doesn't matter, People have a plan and they have a framework or a methodology or something that they can hold on to while they implement it and they have a goal.</p> <p>Frameworks: I have been working with process framework since forever. But the academic background for any kind of framework that's out there is very small. So if you look at all the ISO norms, yes, there is a normative body behind it, and it is acknowledged, but there is not so much academic background for these norms. The same is for the framework be it the S-score model for supply chain management or be it SAFe for software development or for IT in a broader context. So there are a lot of very, very skilled people that do these frameworks, but not so much academic background I'm afraid.</p> <p>Attitude towards frameworks: On the other hand, they have been a lot of times used too much without really asking people, without involving people. So a lot of times consultants [...] came with a methodology or came with a framework and they just say this is what you're going to do, starting with tomorrow. Goodbye. And this is something that people remember and they don't like it obviously. And so a lot of times there is a lot of resistance against the new methodology just because it's called methodology. So sometimes when I come to my clients, I really have to hide it, that I'm [...] implementing a very strict framework. I have to hide it just to get there by in. So I think it is very important to use it, but it is sometimes difficult to use it.</p> <p>Guiding coalition: I always come with the standard Kotter, if you don't have a guiding coalition, you can just really forget about any change in your organization. So if you don't have people who really want to do it and who really see the benefit for them, it's just not going to work.</p> <p>Change Management: I found over the years that [change management] is very much a requirement for companies to deal with the change, with the changing environments for their employees and also for the management staff. So actually for all levels in the organization.</p> <p>Methods for BPM culture – participation, soft work: [...] have everybody participate and contribute to the change. Actually, there is no recipe. Because to change someone's mindset takes time. And it's also not a one-size-fits all solution. You work with people and their resentments, their fears, their wishes and expectations, and there is a lot of soft work that needs to be done. For me, it's always important to really include everybody and if I say everybody, usually there are people who volunteer and for the others, you need to find a way how to make them participate. It doesn't mean that you always make meetings with 300 people, but there are tools which make it possible to really involve everybody, be it surveys, gig meetings, or team building activities or hanging stuff on the wall, having interviews and then work with a smaller team. So there is a lot possible things that you can do to in involve really everybody to make it to make it so that they are part of it.</p> <p>Model improvement: So everything that we talked about and where I asked already asked questions. But this is small things. Other than that, I think it looks great.</p> <p>Practical applicability: Definitely I would. That's also the reason why I would love to read it because I think this can actually really be implemented or be used as a guideline for implementation.</p> |
| IP4 | <p>Model understanding: Not unclear, it rings a lot of bells.</p> <p>Role of context: In general, absolutely, context is super critical. I think it's the basic model of change management. If you can't bring people on board with a change, if you don't involve them early on, if they don't feel it's their change, you will have resistance.</p> <p>Resistance to change: [...] there are certain changes in organizations, where people feel they should have a voice. And if they don't, and they don't feel listened to, they may boycott it, knowing or not knowing, but they will not drive your change for sure, which has a high impact.</p> <p>Relevance of contextual factors: Definitely, yeah.</p> |

Important factors: I guess definitely change management. The vision as well, because if you can't sell it with a good vision, no way. Planning would be a no brainer for me, but yes, that's important and governance. As I said right, that's kind of the consequence management that I mentioned. I think that's critical as well.

So I think all of them are important, but [...] I think everything around the people and leadership box and management potentially is for me the heavy lifting piece.

Process: I don't think it's too much about the process types, scope, characteristics [...] if you have the right communication. And with every change with every process you need to over communicate, even though you think everybody has heard.

Digital Maturity: Digital maturity, I mean, today also one critical one, but I don't think it's a pass or fail element. You can still do a lot in processes without it, even though it may not be future oriented.

Legal regulations: Yeah, and legal.

Environment: And the whole environment as you mentioned, that's a critical factor as well. I think the question is who is impacted by a change like this. And what's the risk, for example, we all talk about automation using the new technologies and machine learning etcetera. A lot of manual processes will not be there tomorrow anymore, which is good on one hand, but it will impact jobs. So if you have resistance in automating certain steps in the process, that may also because people are afraid of losing their job. As simple as that. So definitely that is a huge factor.

Consequence management: What is super critical [...] is what you call management here, which is planning, governance, control. For me that's consequence management. What happens if I don't follow a new guideline and new process?

Some companies, if they introduce something new, there is no way back. So you don't need consequence management because there's no other option. But sometimes you still have other options to kind of go around a guideline or whatever. So what happens if you don't? And that's I think one of the most critical factors for that, especially on the leadership level, because [...] if people still have the opportunity to do things their own way, they may. And if then nothing happens to them, others will see that and others will follow, because it may be just easier for them, maybe better for their organization or for their agenda. So that's an absolute critical point.

History, learn from mistakes: And I guess the other part that I'm not seeing here, I think is, in companies [...] have history. You have maybe tried to change certain things and to build processes and they didn't work. So it's critical to understand what has been tried and why did it fail and learn from that. And on the other level, this also means know your critics. Who may destroy the whole thing? [...] who has been in the past kind of someone who really influenced those certain things, that you may not even know about? So that's a critical factor I think as well, because if you don't get people on board who may really get this to a failure, it will be very hard. So gain your supporters and build a network of fans, of change ambassadors in the end.

BPM culture, psychological safety: Here I would add psychological safety. That might be in the trust in employees, but still you could trust your employees, but if employees don't trust you and they don't feel psychologically safe, they may not speak up.

Continuous improvement: And you mentioned continuous improvement, I think that's very important. I would even go a step beyond that. It's also continuous change and adoption or adaption, I think even. Even though you might have a new process model in place, its six months from now, it may be super old again. And you may have to do the whole thing again because things change, the organisations change, your customers change, your demand changes, whatever. So yeah, I think it's not just improving, it's also kind of that continuous transformation if you want.

Role of culture: Well, it does play a critical role.

Forced change: But if you really go the hard way and there's just a decision, no discussion and no way back. What the culture does is you impact it negatively, but the culture will not impact your decision, in most cases. The decision is done and at one point you have to follow. But if you want to have something also embraced, then the culture is critical, because if you change a process [...] and the change is managed super badly, people will try to derail this. People will try to boycott, because they are unhappy.

So I think it is critical and if you really have a tough or that clean decision from top level, it will be a longer term impact, because you negatively impact the people's lives and the culture and that will come back. So you will have people leaving, you will have higher attrition. You have people not wanting to go the extra mile anymore or the motivation goes down. And no one wants to invest in something new anymore. They don't wanna learn. They don't want to adapt to all these factors.

BPM culture: And on the other side, if you have culture on your side, imagine what you can do. If you have people really thriving and they wanna have that, they're rather longing for it and you're selling it with the right message to them and with the what's in it for you, then you can go everywhere with this company.

Culture change, healthy culture, leader: It really depends on the level. [Change example of the company where the] decision came from top down and [...] of course you have people who don't like this change. And you have loads of people who raise their voices, which is, I think, a good sign of a healthy culture. Having a [leader], who stands in front of employees and does rounds of open talk conversations where he answers all the questions and where he listens to concerns. Which also helps to kind of reflect and see how far can we go? Where do we maybe need exceptions? What does make sense for our people? And that's for me a good example where culture and process come together because yes, you have the kind of the black-on-white message, but then you have those people behind who may not be able to deliver on this and maybe they have good reasons for that. And if you then have a culture where people listen and where people will try to make it work. The process is only as good as the exceptions defined.

Importance of key values: It depends on the process itself, on the intensity of the impact of certain people. So for example, if you change a process in travel [reports], that will only hit the proportion of employees that do really travel, [...] it's about if I'm not getting my money back, I would be super upset. Whereas if I wanna open a new headcount request because someone in my team is leaving, if I use system A or system B ,or if I have to ask for an additional approval somewhere, that's a different story. I can still do it. There is not for me the risk of losing that right. So it really depends a bit.

Openness: Openness for me is such a big word. That can include everything and anything. But if I look at your success factors under openness, I can identify certain situations and people with those factors. So that's closer to my heart to tell you, I think that's what matters. But the whole openness value piece for me would be really critical. Trust and also transparency, failure culture, I think that's really the core. And then you have the trust again in employees on the ownership part. You can't do the one without the other if you don't have responsible people and no trust, you cannot drive anything in change, right? If you don't have people being involved and committed, same thing. But if you ask me what would be my [...] top five, I would say within openness, failure culture, transparency, trust and then you have customer orientation in the excellence part, and readiness to change also in the openness part.

Positive stimulation of people: [...] which may be underestimated, is really that positive stimulation of people. What we oftentimes do is we change something, we tell people this is new. Hey this looks so great. This will help you in your day to day [...] customer service. But we kind of missed to use positive examples, to use success stories, to have maybe a pilot region or whatsoever and then to go out with people who actually did it or who tried it and who said it's really good. And you should really try it. It's a different message from a peer or from someone you admire, from an inspiring person, then it is from an operations lead, for example.

Methods

[...] we are basically also using general project management, [...] we have people in fellowships in agile scrum teams and we wanted to try out kind of agile project management methodology. We realized we cannot use it one on one because we are not developers, we are not all sitting in one room.

| | |
|-----|--|
| | <p>So we kind of build our own framework so to say, which is basically a waterfall, but with instances of ongoing feedback. So we typically have certain volunteers from the group mostly impacted who give us feedback on the goal subsequently.</p> <p>Sponsors: We have sponsors, who kind of need to sign off the big decision so that we have someone to support us when going broader [...] So for every piece that we want to roll out, we have an executive sponsor from this group who has weekly alignments with us, who looks at OK, what's the plan? How will we trying to execute? What are we preparing and what's the progress? And they would support us and would also kind of be a voice to the organization in order to say yes, this is great and we looked into that thoroughly. And they would also help us, for example, if budgets are tight or something changes or we need additional support from a different team. They would also be in the responsibility to get green light from that end to clean up our way, so to say.</p> <p>Cultural methods: We have a change management part in our overall planning. Basically, it does list a definition of the change, what is changing? Who will be impacted? What are the reasons for the change? Benefits. What's the big picture around it, the big why? Who will be impacted? What systems processes will be impacted? And then also what are the consequences of not changing? What are interdependencies and who is sponsoring the change and does it have personal implications on people like we mentioned before, right? What's the impact? And then we list all the areas impacted by the change as-is impact, to-be state and how critical they are to the success, what's the expected resistance and the dependencies. And then it depends a bit on the size of the game. If it's really a smaller piece, we won't go too deep. We know our fellows, who we need to get on board. But for some really global and strategic rollouts, we really do this because it helps us to run risk management and anticipate what pushbacks we may get.</p> <p>Learn from the past: It is critical and we have failed in the past, if we did not ask enough people what they think, if we did not look into specifications and certain countries. China has a different legal scenario for hiring than Germany has. You can't just put everybody on the same spot and we did fail for those reasons and we learned from that. And that's for me the cultural part, if you have the buy in, if you ask questions, if you're open to different perspectives and you can even explain why certain things still have to be that way, even though it may not be what you need, people will still follow you if you sell it in the right way, if you have that, eye level conversation, that you involve them and you truly listen to their concerns. We learned from our mistakes. That's what I mentioned in the beginning and typically it's better to invest a bit more and upfront because then afterwards you will be even more successful with it.</p> <p>Practical applicability: It's not at all far away. No, I wouldn't say that. I think it's pretty much I'm spot on. I think it's kind of the very high-level view of things. So definitely if you want to use it in business you would kind of add to it right? How do you go to the level steeper and kind of create probing questions? How do we work on this one? How do we make this one work? And what does it mean that these contextual factors will influence our success? What do we need to do in order to get it right? But from a basic model, I think it's pretty good.</p> |
| IP5 | <p>Type of organization: I think it also makes a difference what type of organization you are. For example, if you're NGO or something like that, then maybe BPM plays a different role. Maybe it's not that outcome driven from a financial perspective, but they have other goals. The same is if we're talking about public administration, for example if you are the city administration, it's not about gaining money, but having, satisfied citizens. So that's I think also a crucial factor.</p> <p>Functional orientation: What I often recognize in companies who have a certain maturity, so they are acting quite long at the market and they very often have a really domain oriented organizational structure. Without this idea of BPM, the departments themselves within one organizational hierarchy or structure, they always try to optimize themselves, but they sometimes have the issue that you have this, I call it local Optima, which is not the global Optima. And that's the whole idea of BPM that you take a step back and take a look at the whole picture.</p> <p>There's definitely still this functional orientation more present. So I think there is still a road to go for the companies.</p> <p>Location: And I think it's also a little bit different of the culture, where the company is located.</p> |

Legal regulations: Regulations is also a very important factor I would say. The most prominent example was this GDPR or other regulative aspects in different industry sectors.

To be fully honest, most companies are driven by these legal regulations, because they are forced by law or by anything else to do this kind of transparency to have processes in place, so I think this environmental thing is quite often a driver to initiate such a project to set up BPM, but at the end to not have it as just one project with one result it's important to at least have the management staff, the people and the leadership. So it's a people business, this BPM. So if I would need to rank it, I would say environment, management, leadership and people are the most important things to enable BPM. Of course, all the rest is also really relevant, but those are the most influencing factors from my perspective.

Industry, IT & data: The industry sector itself and also if you mention IT, I would say its IT and data. Data becomes more and more relevant as a context of a company.

Leadership vs. Management: I would differentiate it. Why? Because this BPM is also from a management perspective that you manage your company based on business processes. For example, this whole controlling and the strategy defines what is important and which process should be optimized and where to invest my money. So it's the processes itself or themselves are the deciding factor for all the planning, investment, reporting structure. So that's from a management perspective.

And the leadership, I see it a little bit separated because business process management is also about enabling all the employees so all the guys who are executing the processes to somehow self-develop them, to identify improvements, to make suggestions how to make this process more efficient or effective. And from a leadership perspective, I need to allow this to happen that not the leader says we go in that direction, but the leader somehow deals with proposals from the employees to say, OK, let's figure out a good way together.

So I think it's a little bit different, the leadership that's more skills from a person how to deal with the colleagues or with their employees and management is more how to structure and how to organize the whole company. That's why I think it's not a bad idea to separate it. And you need both.

[...] without management attention it's pretty hard to go into a real direction of BPM. So also the management needs to be convinced that this concept of managing your organization based on processes is a good idea, and this leadership thing is that also your key people or your department heads or whatever they adopt to the situation, that they do not say we're going that way and everybody follows, but to have this openness to work with improvement ideas from the teams or from the employees. And that's the only way how BPM would really be a success because the improvements are identified, of course, on a peak level, but also on a day-to-day operational level, and this only can be considered if you're open for feedback from your colleagues who are executing the processes.

Cultural change: There is definitely a change because you have different responsibilities, so you do not have these pure domain responsibilities anymore, but you have this overall process responsibilities so this responsibility from customer to the customer, so this whole end to end process and this is definitely a shift also in how you look onto your company.

[...] you have to, widen your view a little bit, your perspective and that sometimes is not that easy for the colleagues, for the leaders to have this change, that's definitely a cultural aspect.

Also from the management team, they need to somehow ensure that this culture, this openness is in place and it should also be included in the personal goals of those guys who will need to change their view on the company a little bit. So yes, culture, if we want to name it culture, it's definitely necessary and usually for a successful implementation, this cultural change needs to be there.

Leadership, openness: I come a little bit back to this leadership stuff. So everything, this openness, to trust your employees and to have to work with feedback, that's definitely something that needs to be considered

Local vs. global optimum: [...] open for changes, if they are maybe not optimizing my department but have an optimization in the whole value chain, so this is definitely something that would foster BPM openness. I think that's the most important thing here.

Teamwork: I think it was teamwork, without that, I think it will fail. So it's a really, really crucial thing. But I think it starts a little bit earlier.

Transparency: But to be able to take a look at this whole picture, it's absolutely necessary to be transparent. BPM is to somehow break down the walls between those disciplines, between those domains, and this is only possible if you make them transparent. And of course, if they are transparent then you can start with the teamwork. So you also said the customer is very important for BPM, that's true, but what's necessary to make this happen is that you have the complete value chain in scope.

Handover, process boundaries: So if you look into the literature, you often have this example of order to cash, this process where the customer at the beginning says I want to have something and then at the end he's willing to pay something for that and in between quite a lot of steps are happening and quite a lot of domains or departments are involved. And usually the problem is not within the department, but when that process changes the department, that handover. And that's why this kind of teamwork is necessary that also the guys from the purchasing department have an idea of what's going on in the production department or what is going on in this invoicing department and the controlling department and so on and so forth.

Teamwork: And teamwork in the sense of transparency of what's going on before my to-dos and after my to-dos is I guess a really crucial or the most crucial factor

BPM methods: When we think about such ERP systems, they have processes implemented. So companies who are adopting or implementing such ERP software, they are more or less forced to think more in processes. There is the necessity to understand and follow the complete process. But yes, with the change in this whole IT environment, ERP system I think it's the most important one, also enables the companies a little bit to think in processes and not in functions. That's definitely true.

The methods and the concepts and everything is in place, but it's not adopted fully.

Modeling: With the modeling you have the ability to make the situation transparent. Modeling is the enabler to ensure this transparency and to give all the other colleagues the opportunity to get some insights into my day-to-day work. Business process modeling is the baseline and without that, the rest might fail. Modeling means you have the transparency, you have the common understanding, you share insights and so on and so forth. So model also can be an excel file, theoretically. Nobody recommends it, but it's all about transparency, communication, you know what the others do, what are the inputs, what are the outputs, the handovers.

Models: So model is definitely the thing that established on the market. If you're talking about processes, most of the time it's a model, but there are different kind of models. There are those flow charts and sometimes just to do BPM, it's sufficient to just say, OK, that's my process, that's my input, that's my output, those are the responsibilities and those are the tools that they use. And that's already enough.

Process landscape: You also can do business process management on the process landscape level because the most critical thing is identify what are the process borders, what are the inputs, what are the outputs, what needs to be done before I can start my work and what will be done with my results? And that's why I say, OK, sometimes it's already enough to have this kind of overview and responsibilities and inputs, outputs again to do efficient business process metric.

Practical applicability: If for each of those elements of the model, there are some recommended steps or some control objectives or I don't know how you want to call it. So if you say OK for example, [...] If you do not have this contextual factor in place, what should be done? The recommendation system? Then why not?

But if it's just saying, OK, this needs to be there and if it's not there then you [...] then there will not be a success then I think it's not that practical. But if you say, OK, that's what needs to be there and if some parts are not there,

| | |
|-----|---|
| | <p>please do this. Please do that and so on. So you do not have to reinvent the wheel, I guess for everything from here, there is some best practice in place, for example BPM skills or [...] build up knowledge and foster this openness [...] If we have that, it then it can be of practical use definitely.</p> <p>Because as I said also before this shift towards a process oriented organization is not completed by now, yeah. And if this model helps to at least figure out OK, here we are. And if we want to go there, then we need to this to this and that would help.</p> |
| IP6 | <p>Role of context: Yes, of course.</p> <p>Most important key elements: People, process, the IT and organization</p> <p>Leadership vs. Management: I agree with this division, because I would say that one thing is the guy that leads the other people, motivates them, talks with them and defines the clear vision of what is the company should do. And the other guy is the guy who actually is on the day today to control, to plan and to actually do this stuff and to manage this stuff. So yes, I would agree with that division.</p> <p>Key elements and contextual factors: I believe that all of them are important. I believe that all the BPM elements and the context factors are really completed.</p> <p>Missing aspects – stakeholders, risk evaluation: Maybe the relationship with different stakeholders, how the company is involved with other customers of their own customers, the suppliers. So the stakeholder involvement, not just the company itself but other participants should be important to evaluate. I would just add, maybe this stakeholder involvement, the companies connection with the suppliers, with other customers and how that can influence adoption of BPM.</p> <p>The part of risk evaluation, when we are applying BPM we need to first be aware of potential risks, potential challenges, being proactive and not reactive to the challenges, so a risk view of the project like a risk analysis, I believe, would also be a good element that guides to a good set BPM success.</p> <p>Process and digital maturity: The digital maturity, the part of the IT department. And also the part of the process scope and type and the process characteristics will be important. So if it's too complex or not, would definitely affect the success. And then I would also say the people and financial resources, so if you have the option to do a good thing or not. So I would say also the part of people that have BPM skills or not. So for me, I would say that are the most important ones. The maturity, the process characteristics, the people if they have BPM skills and if they have the resources to do it.</p> <p>Role of culture, change, readiness: BPM involves change. And so the company needs to be open to it. The culture needs to be open enough to embrace the change and not have employees that are resistant to it so this is one of the first important facts of how culture may impact any success because we can give you solutions, but if the company is not open to basically embrace the change, then nothing will happen.</p> <p>Communication, transparency: So the culture also affects BPM not just on the part of the resistance to change or not, the readiness that you have there, but also I would say the communication. So you can perform a good success BPM work if you are able to be open, tell the truth and trust your organization, trust the information that everyone gives you about the process and everyone can be involved in one single team without any fear, with the sense of collaboration to meet one single objective, one single goal, so be transparent, be a transparent communication channel with everyone, in order to facilitate the sharing of everything, our ideas, of practices among employees in the workers. So BPM culture will have a really strong impact on the phase, on the final phase, when is the part of changing things, but also in the middle of the process of BPM when we need the involvement of everyone in the company to provide to the project, the initiative and achieve an outcome.</p> <p>Important values – teamwork, collaboration: Have a cross functional teamwork, a culture that promotes collaboration and where we share ideas with everyone. Knowledge expertise among everyone to lead to effective BPM outcomes. So I would say collaboration.</p> |

So I was thinking about teamwork, so collaboration, culture of innovation is continuous improvement, innovation is already there and adaptability, readiness to change, have a clear leadership support, accountability and responsibility, empowering the employees. I say empowerment but you have their involvement, so its more or less that.

Most important success factors: I would just say, readiness to change, responsibility, involvement and continuous improvement.

Importance of values: I would say that overall for a BPM adoption are all of them generally important

Cultural change: BPM always requires change, even if it's a small one, otherwise we would not implement a BPM project. The culture may change, change for better, because BPM tries to implement optimization of the process and transparent solutions. So I would say that the culture at some point will change. For some companies might change a lot, in others maybe not so much, depends on how is the current structure of the company, if it's too strict or not. But I would say yes. So BPM always at some point changes the culture, and how the employees work in a company.

Methods – BPM tools: One thing is how to do a BPM project like, tools to perform BPM, to implement a BPM solution. And then you can have other tools to create a culture. So imagine if I focused on the tools to drive a BPM project, all of the tools you have there, all the analysis, definitions of KPI's, are all extremely important, are the way that we have to analyze any process, so modeling, analyzing with a different analysis, redesign, implement, constantly monitor the progress and the change because things change over time, so you need to constantly monitor everything. So these tools are the necessary ones to implement any BPM project.

Cultural methods: Regarding tools to create a BPM culture. So in terms of initiatives we could train employees. Give training to the employees to give them more skills about the BPM. Also establish a team from different functions. So a crossing of different teams, bring representatives of different departments of the organization and then provide a meeting with each other to become more transparent, to share ideas, to share histories, to learn from each other. One methods that could influence the culture will be also to provide the recognition of people. So people need to be recognized by their work. That's how they stay motivated. So also with feedback, people need to receive feedback, if you are doing great or you're not doing so great, how can I change without that, people don't change. So in terms of those types of methods, are all of them extremely important to keep a good culture in your organizations and later will affect the adoption of BPM and the BPM success.

Context-sensitive methods: Probably yes, depending on how the organization is structured, what are the goals, how it works now? How is the process that we are talking about? Yes, all the methods would be different. Even the techniques used, in terms of clear methods of BPM and also the techniques for the cultural approach can also be different, depends on the culture of the organization.

IT infrastructure, digital maturity: If we don't have a good IT infrastructure or digital maturity, we are not able to apply some BPM redesign solutions. So in terms of the final part of the BPM, the redesign, that needs to follow a different approach, because it depends on the organization conditions. Also if the the organization is able to provide training, also if the organization knows enough how the things work and we can create a good process discovery or not, and how our model will have quality enough depending on the knowledge of the people about the process. Also if we have good technology, so you can use data logs from companies to help us in the process discovery for example, to basically help us having the real true of the process or not, if it's just based on subjectivity at some point. So yes, I would say depending on some context, some methods would be applied differently.

Model improvement: So I would say besides what we discussed and some ideas, I would say that is very complete. So for now I don't see anything else that I could add that we didn't talk about before. I would change nothing. I believe it's OK.

Practical applicability: Basically, I would say that it would be very important because people don't know how to guide themselves when they want to implement a BPM initiative and they don't know what is extremely important

| |
|---|
| <p>that guides the success. So knowing what you need to have and what things may influence that success may people evaluate what they need to change, if they are good enough to have a good BPM project. So yes, it's like a good framework, a good guideline for companies to recognize if they are good and they are prone to implement a BPM project.</p> |
|---|



NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação

Universidade Nova de Lisboa