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Abstract

This master thesis presents a comprehensive analysis of the multifaceted impacts of outsourcing on different phases of Business Process Automation (BPA) implementation. Through interviews with specialists involved in BPA outsourcing, valuable insights were obtained regarding the experiences, perspectives, and challenges faced by organizations during various stages of BPA implementation. The study identified key findings in each phase, highlighting the importance of involving external vendors from the start, establishing effective communication channels, and addressing regulatory hurdles. Additionally, concerns related to knowledge loss and dependency on external vendors were explored, emphasizing the significance of documentation and knowledge transfer practices. The findings align with existing literature on outsourcing and BPA, while also providing unique contributions by emphasizing the establishment of a specific vocabulary, linking outsourcing to regulatory challenges, and offering practical insights for managing outsourcing risks. The implications for theory suggest the need for careful management and coordination throughout the outsourcing process, as well as the significance of early vendor engagement. Practically, the study offers recommendations for organizations, including the involvement of external vendors from the beginning, proactive planning for potential challenges, and the adoption of specific strategies to enhance vendor relationships and project monitoring. The study acknowledges limitations and suggests future research directions, such as exploring different industries and regions, incorporating quantitative data, examining decision-making processes, and investigating the long-term sustainability of outsourcing arrangements. Overall, this master thesis provides a nuanced understanding of the impacts of outsourcing on BPA implementation, offering practical recommendations for organizations seeking successful outcomes in their automation journey.

Key words	Outsourcing, Business process automation
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**UNIVERSITY
OF TURKU**

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Economics

**THE IMPACTS OF OUTSOURCING ON BUSINESS
PROCESS AUTOMATION IMPLEMENTATION
A COMPREHENSIVE ANALYSIS**

Master's Thesis
in International Management of Infor-
mation Technology

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The originality of this thesis has been checked in accordance with the University of Turku quality assurance system using the Turnitin Originality Check service.

TABLE OF CONTENTS (ESIMERKKI TÄLLE DOKUMENTILLE)

1	INTRODUCTION.....	7
1.1	Background	7
1.1.1	Problem Statement.....	7
1.1.2	Company Introduction	8
1.2	Research Motivations and relevance.....	9
1.2.1	Research motivations.....	9
1.2.2	Research question	10
1.2.3	Research Relevance	10
1.2.4	Structure of the research	11
2	LITERATURE REVIEW.....	13
2.1	Business Process Automation services	13
2.1.1	Definition of Business Processes.....	13
2.1.2	History of Business Processes	14
2.1.3	Definition of Automation.....	16
2.1.4	Definition of Business Process Automation	17
2.2	Outsourcing and Business Process Automation.....	19
2.2.1	Definition of Outsourcing.....	19
2.2.2	Definition of Business Process Automation	21
2.2.3	The Importance of Outsourcing and BPA in Modern Business Operations	22
2.2.4	Challenges of Outsourcing and BPA	23
2.3	Previous analysis of the Relationship between Outsourcing and Business Process Automation: Implications and Factors	25
2.3.1	Case Studies of Outsourcing and BPA	25
2.3.2	Factors Affecting the Relationship between Outsourcing and BPA..	27
2.3.3	Analysis of Factors Contributing to Success or Failure	29

2.4	Theoretical framework.....	31
2.4.1	Initialization Phase:	32
2.4.2	Implementation Phase:.....	33
2.4.3	Scaling Phase:	34
2.4.4	Focus of this study	36
3	RESEARCH METHODOLOGY	39
3.1	Research Approach:	39
3.2	Study Design:.....	40
3.3	Data Collection	41
3.3.1	Participant Selection	41
3.3.2	Informed Consent	42
3.3.3	Interview Guide Development.....	43
3.3.4	Conducting the Interviews:.....	43
3.3.5	Saturation Point	43
3.4	Data Analysis:	44
3.4.1	Open Coding.....	44
3.4.2	Axial Coding.....	44
3.4.3	Selective Coding.....	44
3.5	Research Quality:	45
3.5.1	Reflexivity	45
3.5.2	Member Checking	45
3.5.3	Researcher's Positionality:	46
3.5.4	Data management plan	46
4	RESULTS	47
4.1	INITIALISATION PHSAE	48
4.2	IMPLEMANTATION PHASE.....	50
4.3	SCALING PHASE.....	52
4.4	Reflective Analysis and Improvement Recommendations.....	54

5	DISCUSSION	57
5.1	Key findings.....	57
5.2	Advices to the companies.....	58
5.3	Implications for Theory and Practice	60
5.3.1	Implications for Theory	60
5.3.2	Implications for Practice.....	60
5.4	Limitations and Suggestions for Future Research.....	61
6	CONCLUSION.....	63
	REFERENCES	65
	APPENDICES	72
	Appendix 1. Figure 9: Interview structure	72
	Appendix 2: RESEARCH DATA MANAGEMENT PLAN.....	74

LIST OF FIGURES (ESIMERKKI)

Figure 1: Descriptive IT Outsourcing Relationship Model	19
Figure 2: Risk Profiles of Application Development (line) and Infrastructure Management (dotted line) in Offshore Outsourcing Relationships	24
Figure 3: Consolidated framework for RPA implementation projects	31
Figure 4: Importance of Identified Impacts of Outsourcing on BPA during the Initialization Phase.....	33
Figure 5: Importance of Identified Impacts of Outsourcing on BPA during the Implementation Phase.....	34
Figure 6: Importance of Identified Impacts of Outsourcing on BPA during the Initialization Phase.....	36
Figure 7: Theoretical framework of the study	37
Figure 8: function description of interviewees and suitability for the thesis	41
Figure 10: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the Initialization phase	49
Figure 11: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the implementation phase.....	51
Figure 12: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the scaling phase	53
Figure 13: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation	56
Figure 9: Interview structure.....	72

1 INTRODUCTION

1.1 Background

In today's dynamic business environment, organizations are increasingly leveraging automation technologies, including Business Process Automation (BPA), to enhance operational efficiency, improve productivity, and gain a competitive edge (Oliveira et al., 2021). BPA involves the utilization of software systems to automate and streamline business processes, reducing manual effort and minimizing errors (Marshall et al., 2019). However, implementing BPA initiatives is a multifaceted undertaking that demands meticulous planning, resource allocation, and effective management (Lacity et al., 2017).

One approach that organizations often contemplate for BPA implementation is outsourcing, which entails delegating specific tasks or processes to external service providers (Pereira et al., 2019). Outsourcing BPA initiatives can offer several potential benefits, including access to specialized skills, cost savings, and increased operational flexibility (Chou et al., 2020). However, it also introduces various challenges and impacts that require careful consideration and management to ensure successful outcomes (Lacity et al., 2019).

By examining the interplay between BPA implementation and outsourcing, organizations can gain valuable insights into the complexities associated with this strategic decision-making process. Understanding the potential benefits, challenges, and impacts of outsourcing BPA initiatives is essential for organizations to make informed choices and devise effective management strategies.

1.1.1 Problem Statement

The multifaceted impacts of outsourcing on the different phases of Business Process Automation (BPA) implementation, including initialization, implementation, and scaling, have not received comprehensive exploration in the existing literature (Koh et al., 2020). As organizations increasingly consider outsourcing BPA initiatives, they encounter uncertainties and a lack of clear guidelines on how to effectively manage these impacts (Li et al., 2019). Consequently, there is a pressing need for in-depth research that

delves into the intricate interplay between outsourcing and BPA, offering valuable insights and practical recommendations to organizations grappling with this complex landscape (Xu et al., 2021).

The dearth of empirical studies investigating the specific impacts of outsourcing on BPA implementation across its various phases presents a knowledge gap in the field. By examining the implications of outsourcing on BPA initialization, implementation, and scaling, researchers can shed light on the challenges, benefits, and strategies for managing outsourcing arrangements in the context of BPA (Lacity et al., 2020). Such research endeavors are crucial for informing organizations' decision-making processes and guiding them in effectively navigating the complexities associated with outsourcing BPA initiatives.

1.1.2 Company Introduction

This research is conducted as part of the researcher's master's degree internship at Bosch Home comfort Belgium. The company agreed to take part in this thesis. As a leading provider of home comfort solutions, Bosch Home Comfort has established a strong reputation for delivering high-quality products and services to its valued customers. In its pursuit of continuous improvement and operational excellence, the company recognizes the potential benefits of implementing Business Process Automation (BPA) to enhance its operational efficiency and ultimately elevate customer satisfaction.

In this context, Bosch Home Comfort aims to contribute to the existing body of knowledge by conducting a comprehensive study on the impacts of outsourcing BPA on the different phases of implementation. By shedding light on the interrelationships between outsourcing and BPA, the research aims to provide valuable insights and practical recommendations that can guide organizations, including Bosch Home Comfort, in effectively managing the impacts of outsourcing on BPA implementation.

By examining case studies, analyzing factors affecting the relationship between outsourcing and BPA, and evaluating the success or failure factors, the research will generate valuable insights that can enhance the understanding of the implications of outsourcing BPA on different phases of implementation. The findings will not only

benefit Bosch Home Comfort but also contribute to the broader academic and professional communities seeking to navigate the complexities of outsourcing and BPA.

1.2 Research Motivations and relevance

This research project is undertaken during my internship as a Sales Processes and Tools Intern at Bosch Home Comfort in Belgium. Throughout my internship, I have had the valuable opportunity to interact with employees within the Business Intelligence department as well as other departments. Bosch has been supportive by providing access to interviews and insights from their employees. By focusing on a practical subject that resonates with everyone facing similar challenges, I anticipate a higher response rate and more comprehensive data, as the context is more aligned compared to studying different companies individually.

Working closely with Bosch Home Comfort has highlighted the importance of Business Process Automation (BPA) in the organization's operations. BPA has emerged as a powerful tool to enhance operational efficiency, streamline processes, and improve customer satisfaction. However, the implementation of BPA initiatives is a complex task that requires careful planning, resource allocation, and effective management. This realization has sparked my motivation to delve into the multifaceted impacts of outsourcing on the various phases of BPA implementation.

1.2.1 Research motivations

The motivation behind this research stems from the growing importance of Business Process Automation (BPA) in today's dynamic business landscape and the increasing interest in outsourcing as a strategy for its implementation. BPA has the potential to revolutionize the way organizations operate, leading to improved efficiency, reduced costs, and enhanced customer experiences. Furthermore, outsourcing certain aspects of BPA initiatives offers the opportunity to leverage external expertise and resources, allowing organizations to focus on their core competencies.

By exploring the impacts of outsourcing on the different phases of BPA implementation, this research aims to provide valuable insights into the challenges, benefits, and

strategies associated with outsourcing BPA initiatives. The findings will contribute to the existing body of knowledge by bridging the gap in understanding the complex interplay between outsourcing and BPA. Additionally, this research will provide practical recommendations for organizations, including Bosch Home Comfort, that are considering or currently engaged in outsourcing BPA initiatives depending on the departments and projects. These recommendations will help organizations navigate the complexities of BPA implementation while effectively managing the impacts of outsourcing.

1.2.2 Research question

The central research question of this study is: "What are the multifaceted impacts of outsourcing the various phases of Business Process Automation (BPA) implementation, including initialization, implementation, and scaling?"

By addressing this research question, we aim to shed light on the complex interplay between outsourcing and BPA. This investigation will explore the challenges organizations face when outsourcing BPA initiatives, such as ensuring a seamless transition during the initialization phase, effectively implementing BPA solutions during the implementation phase, and scaling BPA initiatives for long-term success. Additionally, we will examine the benefits organizations can reap from outsourcing BPA, including access to specialized expertise, cost savings, and increased flexibility. Through an in-depth analysis, this research will uncover the strategies organizations can adopt to manage the impacts of outsourcing and ensure successful BPA outcomes..

1.2.3 Research Relevance

The relevance of this research lies in its practical implications for organizations, including Bosch Home Comfort, that are considering or currently engaged in outsourcing Business Process Automation (BPA) initiatives. The findings of this study will provide valuable insights and recommendations to help these organizations navigate the challenges and complexities associated with outsourcing BPA.

By understanding the multifaceted impacts of outsourcing on the different phases of BPA implementation, organizations can make informed decisions regarding their out-

sourcing strategies. They can gain insights into the potential benefits, such as accessing specialized expertise, cost savings, and increased flexibility, while also being aware of the challenges that may arise. This knowledge will enable organizations to develop effective management strategies to mitigate risks, ensure a smooth transition, and maximize the success of their BPA initiatives.

The research findings will also contribute to the broader academic and business community by advancing the understanding of the interplay between outsourcing and BPA. This research will fill a gap in the existing literature by providing a comprehensive analysis of the impacts of outsourcing on BPA implementation in the context of different phases, including initialization, implementation, and scaling. By addressing this gap, the research will enhance the theoretical foundation of BPA and outsourcing studies, offering new perspectives and insights for future research in this field.

Furthermore, the practical recommendations derived from this research will serve as a guide for organizations in formulating their outsourcing strategies and managing the impacts of outsourcing BPA. The insights gained from this study can help organizations optimize their BPA initiatives, streamline processes, and achieve their desired operational efficiencies and customer satisfaction goals.

In summary, this research is relevant as it addresses the practical needs of organizations engaged in BPA implementation and outsourcing. By providing valuable insights, practical recommendations, and contributing to the academic knowledge in this area, this research aims to support organizations in making informed decisions, achieving successful BPA outcomes, and maximizing the benefits of outsourcing in the context of BPA implementation.

1.2.4 Structure of the research

This research is structured into several chapters to offer a comprehensive examination of the multifaceted impacts of outsourcing on BPA implementation and effective management strategies. The first chapter following this introduction is the Literature Review. This chapter will extensively review existing literature on BPA implementation, outsourcing strategies, and their impacts. It will establish a solid theoretical foun-

dition for the research, identify gaps in current knowledge, and set the stage for the study.

The subsequent chapter, Research Methodology, will outline the research approach, data collection methods, and analytical techniques employed in this study. This chapter ensures the rigor and validity of the research findings by providing a clear methodology framework.

The findings derived from the analysis of the collected data will be presented in the Results chapter. This chapter will delve into the impacts of outsourcing on the different phases of BPA implementation and offer valuable insights into effective management strategies. In the following chapter, the implications of the research findings will be discussed, drawing comparisons with existing literature and highlighting their significance in the context of BPA implementation and outsourcing. This chapter will provide a deeper understanding of the implications and potential future directions for research and practice.

Finally, the last chapter will summarize the key findings, draw conclusions based on the research outcomes, and provide practical recommendations for organizations seeking to outsource BPA initiatives. These recommendations will equip organizations with actionable insights to effectively manage the impacts of outsourcing and achieve successful BPA outcomes.

By following this well-structured format, the research aims to provide a comprehensive understanding of the impacts of outsourcing on BPA implementation and empower organizations with the necessary knowledge to effectively manage these impacts, ultimately leading to successful BPA outcomes.

2 LITERATURE REVIEW

Outsourcing entails the delegation of business processes or tasks to external vendors, while business process automation (BPA) involves leveraging technology to automate routine business tasks (Smith, 2020). This literature review aims to explore the interrelationship between outsourcing and business process automation. It begins by providing clear definitions of these terms, highlighting their significance in modern business operations, and examining the advantages and challenges they bring forth. Subsequently, the review will delve into the examination of the connection between business process automation and outsourcing. By acquiring a comprehensive understanding of these concepts, we can then proceed to develop a robust theoretical framework for our study.

2.1 Business Process Automation services

To begin, it is essential to provide a comprehensive delineation of the concept of Business Process Automation (BPA) and establish a clear understanding of its scope and nature.

2.1.1 Definition of Business Processes

Business processes are a fundamental concept in the management and organization of businesses. A business process is defined as a set of interrelated activities or tasks performed within an organization in order to achieve a specific goal or outcome. (Davenport, 1993).

One of the earliest definitions of business processes was provided by Davenport and Short (1990), who defined a business process as "*a structured, measured set of activities designed to produce a specific output for a particular customer or market.*" This definition emphasizes the structured nature of business processes, as well as their focus on producing specific outputs.

Another definition of business processes was provided by Hammer and Champy (1993), who defined a business process as "*a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer.*" This defini-

tion emphasizes the customer-focused nature of business processes, as well as the value that they provide to the customer.

In ISO 9001:2015 business process is defined as "*a set of interrelated or interacting activities that use inputs to deliver an intended result.*" This more recent definition, emphasizes the interconnected nature of business processes, as well as their focus on delivering intended results.

While these definitions capture several aspects of business processes, they share a common theme: a set of activities designed to achieve a specific outcome. However, there are also differences between the definitions. For example, Davenport and Short (1990) emphasize the structured nature of business processes, while Hammer and Champy (1993) focus more on the customer-focused nature of business processes.

In summary, a business process is a set of interrelated activities or tasks designed to achieve a specific outcome. These activities may be structured, customer-focused, or interconnected, depending on the definition used. However, they all share a common goal of achieving a specific outcome or delivering value to the customer.

2.1.2 History of Business Processes

Business processes have been a topic of interest among scholars and practitioners for decades. The concept of business processes has evolved over time, from simple descriptions of workflows to more complex models that consider organizational context and stakeholders.

One of the earliest works on business processes was by Adam Smith in his book, "The Wealth of Nations" (1776). Smith identified the division of labour as a key factor in improving efficiency and productivity in manufacturing, a concept widely adopted in modern business process management (Smith, 1776).

In the 20th century, management experts like Frederick Winslow Taylor and Henri Fayol developed theories on scientific management and administrative management, respectively. These theories aimed to improve efficiency in manufacturing and management processes by standardizing work processes and defining roles and responsibilities (Taylor, 1911; Fayol, 1949).

In the 1980s and 1990s, Michael Hammer and James Champy published their book, "Reengineering the Corporation," which introduced the concept of business process reengineering (BPR). BPR aimed to radically redesign business processes to achieve significant improvements in performance and customer satisfaction (Hammer & Champy, 1993).

In the late 1990s, the concept of business process management (BPM) emerged, which aimed to provide a more structured and comprehensive approach to managing business processes. BPM involves identifying, modelling, analysing, optimizing, and monitoring business processes (Davenport & Short, 1990).

Since the emergence of BPM, many scholars and practitioners have explored various aspects of business processes, including process improvement, process modelling, process measurement, and process governance. One key aspect of business processes that has received attention is process automation, which involves the use of technology to automate and streamline business processes (Vom Brocke, J., & Rosemann, M. 2010).

More recent literature on business processes has focused on topics such as process innovation, process digitization, and process mining. Process innovation involves the development of new and improved business processes, while process digitization involves the use of digital technologies to support and enhance business processes (Weske, M. 2012). Process mining, on the other hand, involves analysing event logs to discover and improve existing business processes (Rosemann & de Bruin, 2005).

The literature on business processes is vast and spans multiple disciplines, including management, information systems, and engineering. The concept of business processes has evolved over time, and many different approaches to managing and improving business processes have been proposed. Despite the diversity of perspectives and approaches, the importance of business processes in improving efficiency, productivity, and customer satisfaction remains a common theme throughout the literature.

2.1.3 Definition of Automation

Automation is the use of technology to perform tasks or processes that were previously done by humans. Automation has been a topic of interest among scholars and practitioners for many years, with research focusing on various aspects of automation, including its benefits, drawbacks, and impact on society.

Early studies on automation focused on its potential to improve productivity and efficiency. In the 1950s, researchers like James Bright and Joseph Johnson studied the use of automation in manufacturing, finding that it could increase productivity and reduce labour costs (Bright & Johnson, 1955).

In the 1970s and 1980s, researchers began to explore the impact of automation on employment. Some studies suggested that automation could lead to job displacement and unemployment, while others argued that it could create new job opportunities and increase productivity (Brynjolfsson & McAfee, 2014; Autor, 2019).

In the 1990s and 2000s, research on automation shifted towards the use of advanced technologies like artificial intelligence (AI) and machine learning. Studies explored the potential of these technologies to automate tasks that were previously thought to require human intelligence, such as decision-making and problem-solving (Brynjolfsson & McAfee, 2014).

More recently, the literature on automation has focused on topics such as ethical considerations, the impact of automation on work, and the role of automation in the digital economy. Studies have highlighted concerns about the ethical implications of automation, such as the potential for bias and discrimination in AI algorithms (Crawford et al., 2019).

The impact of automation on work has also been a topic of interest, with researchers exploring how automation is changing the nature of work and the skills required for diverse types of jobs. Some studies have suggested that automation could lead to the creation of new jobs in areas like AI development and maintenance, while others have

warned of the potential for job displacement in industries like manufacturing and transportation (Acemoglu & Restrepo, 2020).

Finally, the role of automation in the digital economy has been the subject of much debate. Some scholars have argued that automation is a key driver of economic growth and competitiveness, while others have raised concerns about the concentration of wealth and power in the hands of a few tech giants (Brynjolfsson & McAfee, 2014).

While the benefits of automation in terms of productivity and efficiency are well established, the impact of automation on employment, society, and the economy remains a topic of ongoing research and debate. As the use of advanced technologies like AI continues to grow, it is likely that the literature on automation will continue to evolve and expand.

2.1.4 Definition of Business Process Automation

Now that we have established a clear understanding of business processes and automation, we can delve deeper into the concept of Business Process Automation (BPA) to gain a comprehensive perspective.

Business Process Automation (BPA) is a crucial aspect of modern organizations, and it is gaining increasing attention in the academic literature. While there is no single definition of BPA, scholars and industry experts have offered various definitions to capture the essence of the concept.

BPA refers to the use of technology to automate routine business processes. This can involve the use of software applications, artificial intelligence, and robotic process automation to perform tasks that were previously carried out manually by humans (Davenport, 2018). Business Process Automation is often used to streamline processes and reduce errors, while also freeing up employees to focus on more strategic tasks.

One of the earliest definitions of BPA was provided by Davenport and Short (1990), who defined it as "*the use of technology to automate repetitive, rules-based business processes.*" Similarly, Hammer and Champy (1993) defined BPA as "*the redesign of business processes to achieve dramatic improvements in productivity, cycle*

times and quality." These definitions highlight the role of technology in BPA and the need for process redesign to improve organizational performance.

Another definition of BPA was provided by Kettinger et al. (1994), who defined it as "*the application of technology to support or automate a single or sequence of business activities or processes.*" This definition emphasizes the flexibility of BPA, as it can be applied to a single activity or a sequence of processes, depending on the organization's needs.

In a more recent definition, Lacity and Willcocks (2016) defined BPA as "*the use of technology to execute business processes with minimal human intervention.*" This definition highlights the role of technology in BPA, and the aim of reducing the reliance on human labour to execute business processes.

While these definitions capture various aspects of BPA, they share a common theme: the use of technology to automate or support business processes. However, there are also differences between the definitions. For example, Davenport and Short (1990) and Hammer and Champy (1993) emphasize the importance of process redesign in BPA, while Kettinger et al. (1994) focus more on the flexibility of BPA. Meanwhile, Lacity and Willcocks (2016) highlight the aim of minimizing human intervention in BPA.

In summary, BPA is a complex concept that has been defined in many ways in the literature. While there are differences between these definitions, they all emphasize the use of technology to automate or support business processes, with the aim of improving organizational performance.

2.2 Outsourcing and Business Process Automation

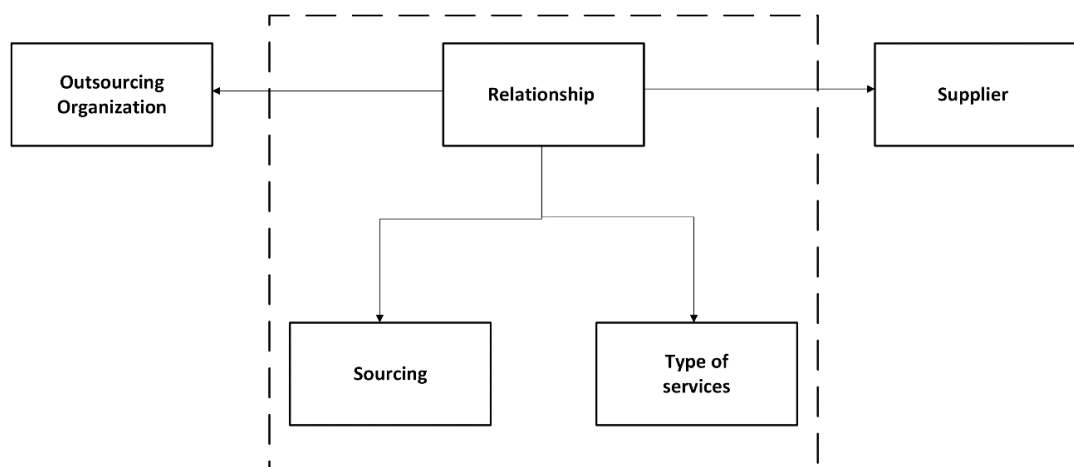
2.2.1 Definition of Outsourcing

Outsourcing is a widespread practice in modern organizations, and it is a topic of considerable interest in the academic literature. Scholars and industry experts have provided various definitions of outsourcing to capture its essence.

One of the earliest definitions of outsourcing was provided by Lankford and Parsa (1999), who defined it as *"the strategic use of outside resources to perform activities traditionally handled by internal staff and resources."* Similarly, Domberger (1998) defined outsourcing as *"the purchase from a supplier of a good or service that was previously provided internally"*. To visually illustrate the concept of an IT outsourcing relationship and its dynamics, the Figure 1 provides a simplified model depicting the key entities involved: the outsourcing organization, the supplier, and the collaborative entity representing their partnership.

Figure 1 serves as a visual framework to better understand the interconnectedness and interdependencies between these entities within an IT outsourcing relationship. It highlights the collaborative nature of the partnership, emphasizing the importance of effective communication, mutual understanding, and shared goals for successful outcomes.

Figure 1: Descriptive IT Outsourcing Relationship Model



Source: Mylene Struijk, IT governance and Strategic Sourcing Course, 2022

The outsourcing organization, depicted as one of the entities in Figure 1, typically seeks to leverage external expertise, resources, and capabilities by engaging a supplier to fulfil specific IT-related functions or services. The supplier, represented as the second entity, brings specialized knowledge, technology, and operational support to meet the outsourcing organization's requirements.

However, the true strength of an IT outsourcing relationship lies in the collaborative entity, symbolizing the partnership formed between the outsourcing organization and the supplier. This entity represents the shared responsibilities, trust, and coordination required to achieve desired outcomes. It signifies the need for effective governance structures, clear communication channels, and a cooperative mindset that promotes alignment and collaboration.

By visualizing the IT outsourcing relationship through Figure 1, we can better comprehend the interconnected dynamics between the outsourcing organization, the supplier, and the collaborative entity. This model encourages a holistic perspective, emphasizing the importance of collaboration and mutual understanding in driving successful outcomes within the IT outsourcing landscape.

Another definition of outsourcing was provided by Greaver (1999), who defined it as "*the strategic use of outside resources to perform activities that are traditionally handled by internal staff and resources, with the aim of improving organizational performance*" This definition highlights the strategic nature of outsourcing, and its aim of improving organizational performance.

Outsourcing can be defined as "the process of contracting out a business function to an external party, often to reduce costs and improve efficiency" (Lacity and Willcocks, 2013). It can involve both onshore and offshore providers, and may encompass a wide range of business processes, including IT services, finance and accounting, customer service, and human resources.

In a more recent definition, Agrawal and Kotabe (2018) defined outsourcing as "*the practice of contracting work to external suppliers, with the aim of leveraging the comparative advantage of the supplier, reducing costs, and improving flexibility and agili-*

ty." This definition emphasizes the role of outsourcing in leveraging the comparative advantage of the supplier and improving organizational flexibility and agility.

2.2.2 Definition of Business Process Automation

Our study is focus on the outsourcing of Business Process Automation. Business process automation (BPA) outsourcing is a growing trend in the business world, and it is important to understand its definition in order to properly discuss its implications. Scholars and industry experts have provided various definitions of BPA outsourcing to capture its essence.

One of the earliest definitions of BPA outsourcing was provided by Davenport and Short (1990), who defined it as "*the use of technology to automate business processes and the strategic use of outside resources to perform activities that are traditionally handled by internal staff and resources.*" Similarly, Kettinger, Teng, and Guha (1994) defined BPA outsourcing as "the use of technology to automate business processes, and the strategic use of outside resources to perform those activities."

Another definition of BPA outsourcing was provided by Tallon et al. (2000), who defined it as "*the transfer of responsibility for the design and implementation of automated business processes to an external provider*" This definition emphasizes the role of an external provider in the design and implementation of automated business processes.

In a more ancient definition, Di Romualdo and Gurbaxani (1998) defined BPA outsourcing as "*the use of external service providers to manage and execute a company's technology-enabled business processes*" This definition emphasizes the role of external service providers in the management and execution of technology-enabled business processes.

While these definitions capture several aspects of BPA outsourcing, they share a common theme: the use of technology to automate business processes and the strategic use of outside resources to perform those activities. However, there are also differences between the definitions. For example, Tallon et al. (2000) emphasize the transfer of responsibility for the design and implementation of automated business processes, while Di Romualdo and Gurbaxani (1998) focus more on the role of external service providers in the management and execution of technology-enabled business processes.

In summary, BPA outsourcing is a complex concept that has been defined in many ways in the literature. While there are differences between these definitions, they all emphasize the use of technology to automate business processes and the strategic use of outside resources to perform those activities. However, some definitions also emphasize the role of external service providers in the design, management, and execution of technology-enabled business processes.

Outsourcing and Business Process Automation (BPA) are two important aspects of modern business operations. While outsourcing involves delegating a company's non-core business processes to third-party providers, BPA is the use of technology to automate business processes. In recent years, there has been a growing trend towards combining outsourcing and BPA in order to streamline business processes, reduce costs, and improve overall efficiency. The primary objective of the remaining sections of this literature review is to delve into the intricate relationship between outsourcing and Business Process Automation (BPA), shedding light on how outsourcing can either enable or hinder the successful implementation of BPA initiatives. To accomplish this, we will explore empirical evidence and case studies that provide valuable insights into the factors that contribute to the effectiveness of this relationship and those that pose challenges. By examining these real-world examples, we can gain a deeper understanding of the nuances surrounding the outsourcing-BPA dynamic, allowing us to identify patterns, best practices, and potential pitfalls that organizations encounter when navigating this complex interplay.

2.2.3 The Importance of Outsourcing and BPA in Modern Business Operations

Outsourcing and BPA have become increasingly important in modern business operations due to a number of factors. One of the primary drivers is the need to remain competitive in a global marketplace. By outsourcing certain business processes or automating routine tasks, companies can reduce costs, increase efficiency, and improve the quality of their products or services (Lacity and Willcocks, 2013). Additionally, outsourcing and BPA can help companies to scale their operations more easily, by providing access to specialized expertise and technology without the need for significant investment.

It provides access to specialized expertise and technology (Smith, J., & Johnson, A. 2018). Outsourcing providers often have the expertise and experience needed to imple-

ment BPA solutions effectively. They can also provide access to specialized technologies that may not be available to the client company. This can enable the client company to automate its business processes more effectively and efficiently, leading to cost savings and improved performance. (Morrison, R. J., & Davis, B. 2019)

For example, a study by Lacity and Willcocks (2013) found that outsourcing business processes for innovation can lead to significant improvements in business process automation. The study examined a number of companies that had outsourced their innovation processes to third-party providers and found that these companies were able to access innovative technologies and expertise that they would not have been able to afford on their own. As a result, they were able to automate their business processes more effectively and achieve better performance outcomes.

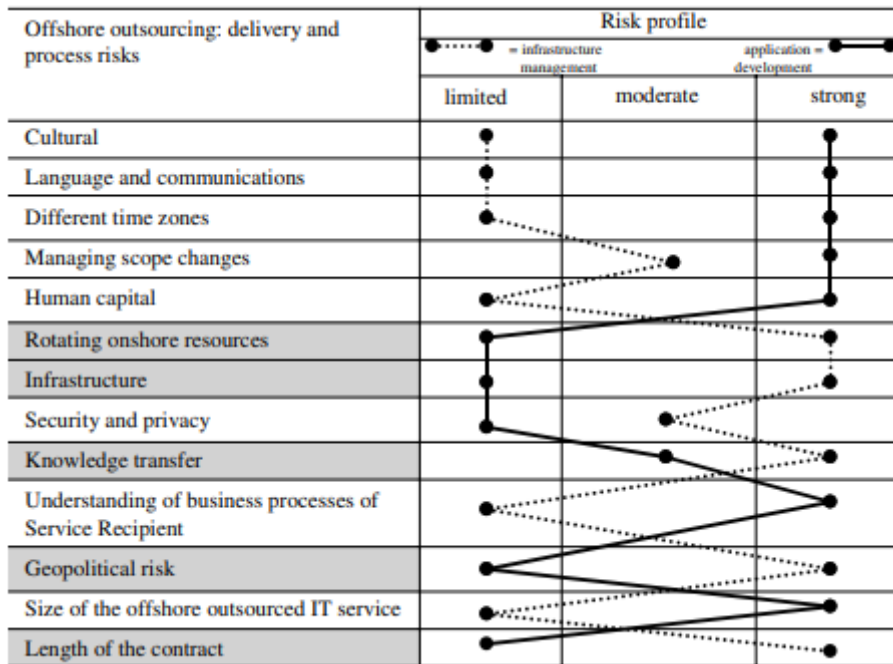
Another key driver of outsourcing and BPA is the increasing complexity of business operations. As companies grow and expand, they often find that their internal processes become more complex and difficult to manage. Outsourcing and BPA can help to simplify these processes and reduce the risk of errors or inefficiencies (Davenport, 2018). In addition, outsourcing and BPA can help to improve compliance with regulatory requirements, as external vendors often have greater expertise in these areas than internal staff (Lacity and Willcocks, 2013).

2.2.4 Challenges of Outsourcing and BPA

While outsourcing can enable BPA, it can also hinder it, it is true that BPA offer numerous benefits, there are also several challenges associated with these practices.

The study conducted by Beulen (2004) serves as the primary source for defining the challenges associated with outsourcing Business Process Automation (BPA). Additional sources have been incorporated to augment the reliability and credibility of the information presented. Notably, Figure 2, derived from Beulen's study, provides an insightful overview of the Risk Profiles in Outsourcing Relationships, offering valuable insights into the potential risks and their implications within the context of BPA outsourcing.

Figure 2: Risk Profiles of Application Development (line) and Infrastructure Management (dotted line) in Offshore Outsourcing Relationships



Beulen, E., Van Fenema, P., & Currie, W. (2005).

One of the primary challenges is the risk of losing control over key business processes or data. When companies outsource or automate certain tasks, they may be ceding control over critical functions that are central to their competitive advantage (Dav- enport, 2018). When a company outsources its business processes, it is essentially dele- gating control to a third-party provider. This can create challenges in the implementa- tion of BPA solutions, as the outsourcing provider may not have the same level of un- derstanding of the client company's business processes as the client company itself.

Another major challenge associated with outsourcing and BPA is the potential for miscommunication or coordination problems. When tasks are delegated to external ven- dors or automated using technology, there is a risk that valuable information may be lost or misinterpreted, leading to errors or delays in the process (Lacity and Willcocks, 2013). Communication and coordination between the client company and the outsourc- ing provider is one of the main challenges. This can create a barrier to effective BPA implementation. For example, if the client company and the outsourcing provider do not

have a clear understanding of each other's business processes, this can lead to miscommunication and mistakes in the implementation of BPA solutions.

Outsourcing and BPA can also create challenges related to data security and privacy. When companies share sensitive data with external vendors or rely on automated systems to handle confidential information, there is a risk of data breaches or other security incidents (Davenport, 2018).

2.3 Previous analysis of the Relationship between Outsourcing and Business Process Automation: Implications and Factors

Outsourcing and business process automation (BPA) have become increasingly important in modern business operations. As a result, many companies have implemented outsourcing and BPA to increase efficiency, reduce costs, and improve quality. However, the success of outsourcing and BPA implementation is not guaranteed, as some companies have struggled to achieve their desired outcomes.

2.3.1 Case Studies of Outsourcing and BPA

This part of the literature review will present case studies of companies that have successfully implemented outsourcing and BPA, as well as those that have struggled, and analyse the factors that contributed to their success or failure.

There is a growing body of empirical evidence and case studies that support the relationship between outsourcing and BPA. For example, a study by Davenport (2018) found that the use of Artificial Intelligence (AI) in outsourcing can lead to significant improvements in business process automation. The study examined a number of companies that had implemented AI-based solutions for their outsourcing processes and found that they were able to achieve significant cost savings and improvements in efficiency.

Similarly, a case study by Accenture (2017) found that outsourcing can enable BPA by providing access to specialized expertise and technology. The study examined a large pharmaceutical company that had outsourced its drug development processes to a third-party provider. The outsourcing provider had developed a specialized software

tool that allowed the client company to automate its drug development processes more effectively, leading to significant improvements in efficiency and cost savings.

One example of a company that has successfully implemented outsourcing and BPA is IBM. IBM outsourced its finance and accounting operations to a third-party provider, which implemented BPA to improve the efficiency and accuracy of these processes. This led to a 50% reduction in transaction processing time and a 30% reduction in costs (Cognizant, n.d.).

Another example is Coca-Cola. Coca-Cola outsourced its supply chain management to a third-party provider, which implemented BPA to optimize inventory management and logistics. This led to a 25% reduction in inventory costs and a 20% reduction in transportation costs (Infosys, n.d.).

But on the other hand, there are example of companies that struggled with outsourcing and BPA implementation and a good example is Nike. Nike outsourced its manufacturing operations to third-party providers, which implemented BPA to improve production efficiency. However, Nike faced communication and coordination challenges with its providers, which led to delays and quality issues (Wharton School of the University of Pennsylvania, 2013).

Another example is Walmart. Walmart outsourced its HR operations to a third-party provider, which implemented BPA to improve the efficiency of HR processes. However, Walmart faced resistance from its employees, who were concerned about job security and the accuracy of BPA tools (Deloitte, 2016).

In conclusion, outsourcing and Business Process Automation are increasingly important practices in modern business operations. The relationship between outsourcing and BPA is complex and multifaceted. These practices offer numerous benefits, including cost savings, increased efficiency, and improved compliance with regulatory requirements and while outsourcing can enable BPA by providing access to specialized expertise and technology, it can also hinder it because of several challenges associated with outsourcing and BPA, including the risk of losing control, creating communication and coordination challenges. The empirical evidence and case studies presented in this literature review suggest that the relationship between outsourcing and BPA is largely

positive, but that there are potential challenges that need to be addressed in order to fully realize the benefits of outsourcing and BPA.

2.3.2 Factors Affecting the Relationship between Outsourcing and BPA

Outsourcing and Business Process Automation (BPA) have become increasingly important in modern business operations. While outsourcing enables companies to access specialized expertise and technology, BPA helps to optimize business processes and enhance productivity. However, as observed before the relationship between outsourcing and BPA is not always straightforward. Several factors can affect this relationship.

The **nature of the process** can greatly affect the decision to outsource and implement BPA. Some processes are simple and routine, while others are complex and require specialized knowledge and expertise. Simple and routine processes are easier to outsource and automate, as they are usually standardized and do not require a high level of customization. On the other hand, complex processes may require more collaboration and communication between the company and the vendor, which can make outsourcing and BPA more challenging (Dibbern et al., 2014).

Cost is another principal factor that affects the decision to outsource and implement BPA. Outsourcing can be costly, especially if the vendor is located in a different country or if the process requires a high level of customization. Similarly, BPA can be expensive, especially if the company needs to invest in innovative technology or software. However, the cost of outsourcing and BPA must be weighed against the potential benefits, such as increased efficiency, improved quality, and reduced labour costs (Lacity & Willcocks, 2016).

The **availability of qualified vendors** is another factor that can affect the relationship between outsourcing and BPA. If the company is unable to find a vendor with the necessary skills and expertise, outsourcing and BPA may not be feasible. Additionally, if the vendor lacks the necessary resources, such as technology or personnel, the quality of the outsourced process may be compromised. Therefore, it is important for companies to carefully evaluate potential vendors and ensure that they have the necessary qualifications and resources to provide quality services (Kumar & Hillegersberg, 2018).

The relationship between outsourcing and BPA might be significantly impacted by the influence of **strategic objectives**, which is indeed another relevant parameter. One factor that can influence a company's decision to outsource or implement BPA is its alignment with core competencies. If a particular process or activity is not a core competency of the company, it may make sense to outsource it or automate it through BPA. This can free up resources and allow the company to focus on its core competencies, which can lead to increased competitiveness and profitability (Aron and Singh, 2005).

Another factor that can influence the decision to outsource or implement BPA is the potential for **cost reduction**. If a company's strategic objective is to reduce costs, outsourcing or implementing BPA can be an effective way to achieve this goal. Outsourcing can reduce labour costs and BPA can reduce the need for manual labour, which can result in significant cost savings over time (Chauhan and Singh, 2013).

Strategic objectives related to **innovation and agility** can also influence the decision to outsource or implement BPA. If a company's strategic objective is to innovate quickly and respond to changing market conditions, outsourcing, or implementing BPA can provide access to modern technologies and specialized expertise that can facilitate innovation and agility (Lacity and Willcocks, 2013).

Finally, strategic objectives related to **risk management** can also influence the decision to outsource or implement BPA. Outsourcing or implementing BPA can help companies mitigate risks related to factors such as labour shortages, regulatory compliance, and data security. By outsourcing or automating certain processes, companies can shift some of the risk to third-party vendors or technology providers (Pralhad and Krishnan, 2002).

In conclusion a company's strategic objectives can play a significant role in the decision to outsource or implement BPA. By aligning outsourcing and BPA decisions with strategic objectives, companies can improve their competitiveness, reduce costs, innovate more quickly, and manage risk more effectively. However, it is important to carefully evaluate each decision in light of the company's unique circumstances and strategic goals. Overall, the decision to outsource and implement BPA should be based on a careful analysis of the process, cost considerations, strategic objectives, and the availa-

bility of qualified vendors. By considering these factors, companies can optimize their business processes and gain a competitive advantage in the marketplace

2.3.3 Analysis of Factors Contributing to Success or Failure

The success or failure of outsourcing and BPA implementation can be influenced by several factors. One crucial factor is the quality of the relationship between the company and its outsourcing provider. Successful outsourcing relationships require clear communication, effective collaboration, and shared goals (Apte & Mason, 1995). Companies that establish strong relationships with their outsourcing providers are more likely to achieve their desired outcomes.

Another important factor is the quality of the BPA tools and technologies used in outsourcing. Companies that choose advanced and reliable BPA tools are more likely to achieve their desired outcomes (Davenport, 2013). Additionally, companies that invest in training and development for their employees are more likely to successfully implement BPA (Wharton School of the University of Pennsylvania, 2013).

The case studies presented in this literature review demonstrate that outsourcing and BPA can be successful if implemented correctly. IBM and Coca-Cola's successful implementation of outsourcing and BPA highlights the benefits of increased efficiency and cost savings, while Nike and Walmart's struggles demonstrate the importance of clear communication, effective collaboration, and quality BPA tools. Companies considering outsourcing and BPA implementation should prioritize building strong relationships with their providers, investing in advanced and reliable BPA tools, and providing adequate training and development for their employees.

In conclusion, the literature review has provided a comprehensive understanding of Business Process Automation (BPA) and its relationship with outsourcing in modern business operations. The review has encompassed various aspects, starting with the definition of business processes and their historical background. The concept of automation was also explored, leading to a clear definition of Business Process Automation.

The literature review has highlighted the significance of outsourcing and BPA in contemporary business settings. Outsourcing allows organizations to delegate business

processes to external vendors, while BPA leverages technology to automate routine tasks. This combination provides access to specialized expertise and technology, leading to improved efficiency, cost savings, and enhanced performance.

However, the review has also shed light on the challenges associated with outsourcing and BPA. Factors such as communication gaps, quality control, and vendor selection pose potential risks to the successful implementation of BPA initiatives. These challenges need to be carefully managed to ensure positive outcomes.

Through the examination of case studies and the analysis of factors affecting the relationship between outsourcing and BPA, the literature review has provided valuable insights. The identified factors, such as strategic alignment, vendor capabilities, and effective governance, contribute to the success or failure of outsourcing BPA initiatives. Understanding and managing these factors is crucial for organizations seeking to optimize the benefits of outsourcing and BPA.

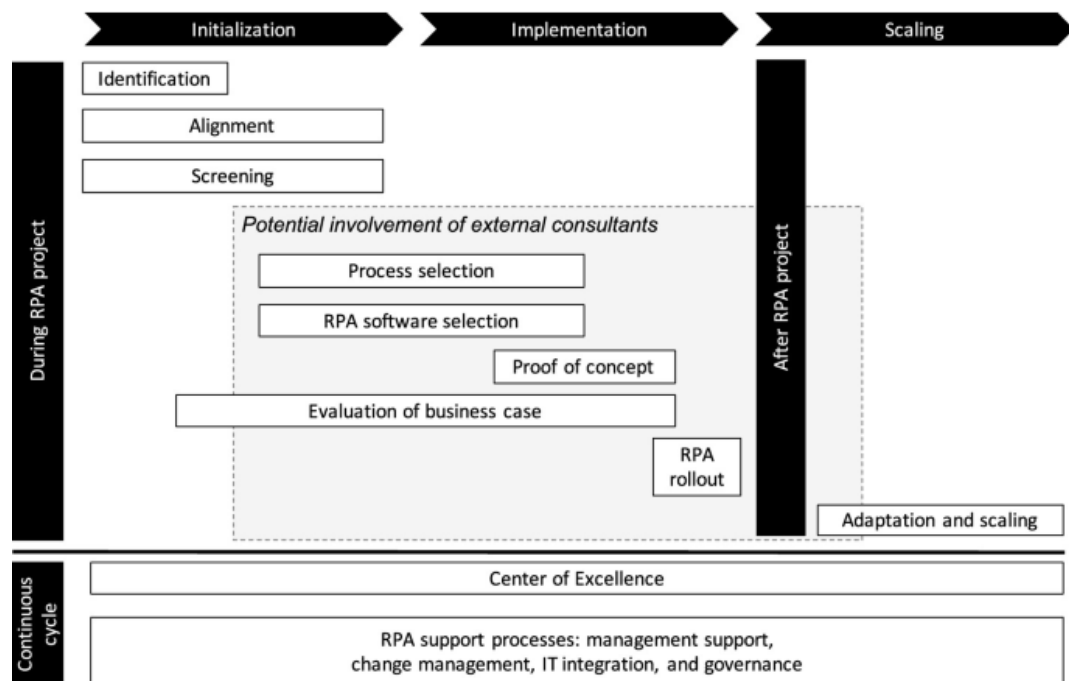
Based on the findings of the literature review, a theoretical framework can be developed to guide further research and exploration in the field of outsourcing and BPA. This framework will consider the identified factors and their interplay in order to provide a structured approach for organizations to effectively manage the relationship between outsourcing and BPA. Overall, the literature review has laid the foundation for the subsequent research, emphasizing the importance of outsourcing and BPA in achieving successful business process automation. By addressing the challenges and understanding the implications and factors involved, organizations can navigate this dynamic landscape and unlock the full potential of outsourcing and BPA for their operations.

2.4 Theoretical framework

Business Process Automation (BPA) implementation involves various phases, and the impacts of outsourcing on each phase can significantly influence the overall success of BPA initiatives. This section presents a theoretical framework that explores the multi-faceted impacts of outsourcing on distinct phases of BPA implementation and proposes strategies for effectively managing these impacts to achieve successful BPA outcomes. The framework is informed by the key study of Herm, LV. et al. (2020).

Below, in Figure 3, we can observe the framework utilized in this study, providing an overview and chronological depiction of the phases and stages involved in implementing Robotic Process Automation (RPA) projects.

Figure 3: Consolidated framework for RPA implementation projects



Source: Herm, LV. et al. (2020).

The framework encompasses three distinct phases: initialization, implementation, and scaling. While certain stages occur once during a project, others are repeated iteratively. By following this three-phase framework, organizations can effectively implement RPA projects and realize the benefits of increased efficiency, accuracy, and productivity. The initialization phase ensures a solid foundation for successful implementation, the implementation phase focuses on deploying and optimizing RPA tech-

nology, and the scaling phase allows for the widespread adoption of RPA across the organization, leading to transformative outcomes.

This framework serves as a comprehensive model that facilitates the structured design, development, and evolution of RPA projects. Importantly, it offers flexibility, enabling adaptation to the unique contextual factors within individual companies and industries. Moreover, it supports the integration of external consultants, allowing for a more sophisticated implementation of RPA. These compelling attributes substantiate our decision to employ this framework as the foundational basis for our study.

This framework provides a comprehensive overview of the business process automation procedure, making it an ideal choice for examining the impacts of outsourcing on BPA implementation. In the subsequent sections, we will delve into each phase of the framework and explore the specific impacts that have been selected for study. By doing so, we aim to gain a deeper understanding of how outsourcing influences various stages of the BPA implementation process.

2.4.1 Initialization Phase:

During the initialization phase, organizations lay the foundation for successful BPA implementation. This phase focuses on identifying suitable processes for automation, assessing their feasibility, and creating a business case. It involves conducting a comprehensive analysis of existing processes, understanding their complexities, and determining their compatibility with BPA technology. Additionally, organizations establish the necessary infrastructure, including selecting appropriate BPA tools and platforms, and creating a governance structure to oversee the implementation process.

To summarise during the initialization phase is a decisive step and involves analysing and designing processes for automation. Given the significance of this phase in understanding and selecting processes, we deemed it essential to concentrate our study on two key types of impacts of outsourcing: technological impacts and social and cultural impacts (refer to Table 4). These impacts were deemed particularly relevant due to their direct relevance to the goals of this phase. The technological impacts encompass the effects of outsourcing on the technological aspects of process analysis and design, while

the cultural impacts encompass the influence of outsourcing on the cultural dynamics and considerations during this phase.

By focusing on these impacts, we aim to gain deeper insights into the challenges and opportunities associated with outsourcing during the initialization phase of BPA implementation. It is important to note that while studying these impacts, we acknowledge that they are not the only impacts during this phase and other factors may also influence the outcomes.

Figure 4: Importance of Identified Impacts of Outsourcing on BPA during the Initialization Phase

Impacts	Importance
Technological Impacts	Integration challenges may arise when coordinating outsourced/offshore resources with the organization's process analysis and design efforts (source: Lacity et al., 2019).
Cultural and Societal Impacts	Cultural differences and varying work practices can impact the alignment of processes during the analysis and design phase (source: Doh et al., 2021).

2.4.2 Implementation Phase:

In the implementation phase, organizations transition from planning to actual deployment of RPA technology. This phase emphasizes the detailed documentation of processes and the creation of process maps to guide the development of BPA workflows. Collaboration between process owners, subject matter experts, and the IT department is crucial for ensuring a seamless integration of BPA into existing systems. The implementation phase includes the configuration and programming of BPA bots to automate identified tasks, followed by iterative testing and refinement to optimize their performance. It also involves training employees and implementing change management initiatives to facilitate the successful adoption of BPA within the organization.

The implementation phase is a crucial stage that entails the development and integration of automated processes. Given the significance of building and integrating processes during this phase, we deemed it valuable to center our study on two specific types of impacts of outsourcing: cost impact and organizational impact (refer to Table

5). These impacts were considered particularly relevant due to their direct relevance to the goals of this phase. The cost impact encompasses the financial considerations associated with outsourcing this essential phase, while the organizational impact examines the broader organizational implications and consequences of outsourcing during the development and integration phase. By focusing on these impacts, we aim to gain a deeper understanding of the challenges and opportunities associated with outsourcing during the implementation phase of BPA implementation.

Figure 5: Importance of Identified Impacts of Outsourcing on BPA during the Implementation Phase

Impacts	Importance
Cost Impacts	<p>Outsourcing or offshoring decisions can influence development and integration costs, including software development, system integration, and quality assurance activities (source: Smith et al., 2020)</p> <p>Outsourcing or offshoring decisions may influence testing and deployment costs, including test planning, execution, and user acceptance activities (source: Apte et al., 2017).</p>
Organizational Impacts	<p>Effective coordination and management of distributed development teams are essential to ensure smooth execution and integration (source: Lacity et al., 2018).</p> <p>Effective coordination and communication between in-house and outsourced/offshore teams are crucial for successful testing and deployment (source: Lacity et al., 2018).</p>

2.4.3 Scaling Phase:

Once initial RPA implementation proves successful, organizations move on to the scaling phase. In this phase, the focus shifts towards expanding the deployment of RPA across additional processes and departments within the organization.

Herm et al. (2020) emphasize the importance of establishing a centralized RPA Center of Excellence (CoE) or similar governance structure to ensure consistent standards and practices across the organization. This includes defining guidelines for bot de-

velopment, maintenance, and security, as well as implementing mechanisms for monitoring and evaluating the performance and benefits of deployed bots. The scaling phase also involves identifying opportunities for process improvement and automation beyond the initial scope, leveraging the knowledge and experience gained during the implementation phase.

During the scaling phase, an essential aspect involves the monitoring and evaluation of the implemented automated processes. With the objective of comprehensively studying this phase, we have chosen two impacts of outsourcing that are particularly relevant: organizational impact and security and risk impact (refer to Table 6).

These impacts have been selected due to their direct relevance to the goals and challenges encountered during the scaling phase. The organizational impact focuses on the broader organizational implications of scaling and managing automated processes, including aspects such as resource allocation, workforce adjustments, and change management. The security and risk impact examines the potential risks and security considerations associated with scaling and maintaining automated processes, emphasizing the need for robust guidelines for bot development, maintenance, and security.

By studying these impacts, we aim to gain insights into the multifaceted challenges organizations face when outsourcing during the scaling phase of BPA implementation. It is important to acknowledge that while focusing on these impacts, other factors may also contribute to the outcomes of the scaling phase.

Figure 6: Importance of Identified Impacts of Outsourcing on BPA during the Initialization Phase

Impacts	
Organizational Impacts	Coordinating monitoring and evaluation efforts between in-house and outsourced/offshore teams may require effective communication and collaboration (source: Lacity et al., 2018).
Risk and Security Impacts	Ensuring the security of data, systems, and processes during monitoring and evaluation becomes crucial when outsourcing or offshoring (source: Khan et al., 2019).

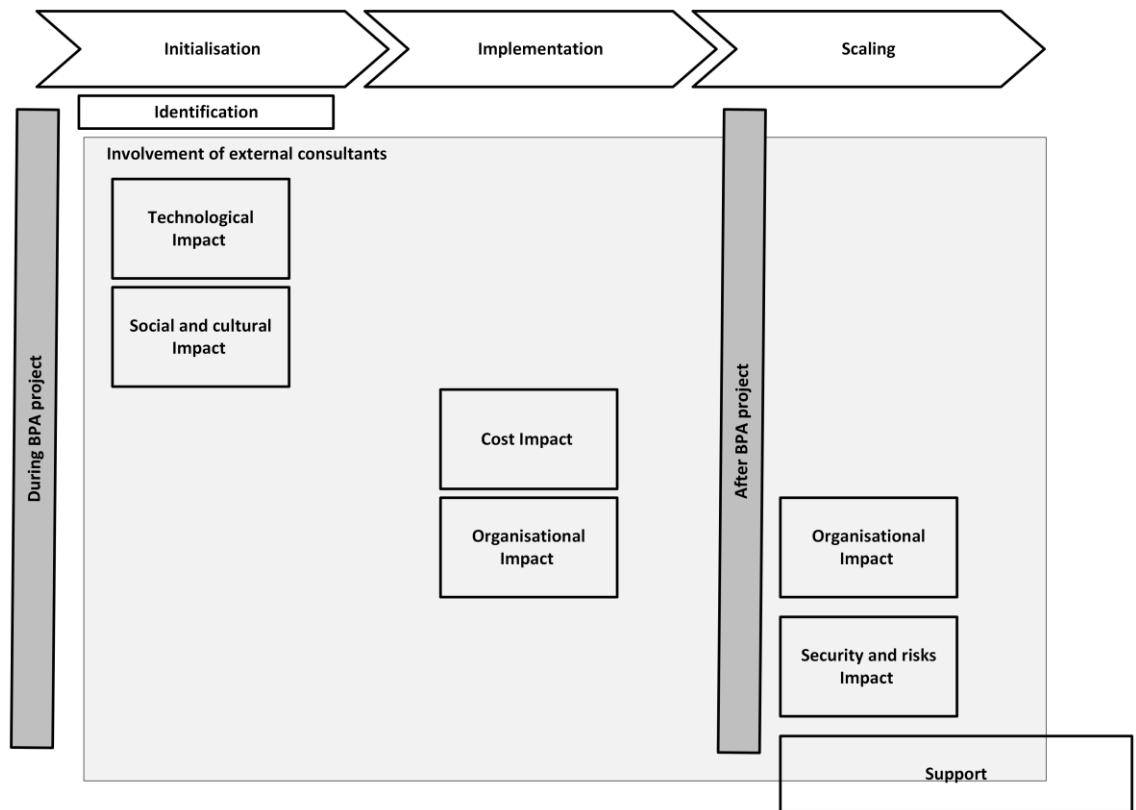
Strategies for managing these impacts include defining cost expectations, establishing effective monitoring and evaluation processes, ensuring data accessibility and availability, promoting cross-team collaboration, and implementing robust risk management and security measures.

2.4.4 Focus of this study

The focus of this study revolves around examining the impacts of outsourcing on different phases of Business Process Automation (BPA) implementation, as defined by the framework introduced in the previous sections, the framework of the work of Herm, LV. et al. (2020), encompasses three distinct phases: initialization, implementation, and scaling. Each phase plays a crucial role in the successful implementation and adoption of BPA within organizations.

Based on the comprehensive information provided earlier, a novel framework (refer to Table 7) has been developed by integrating the impacts we intend to study with the distinct phases of BPA implementation. This framework serves as a valuable tool for organizing and structuring our analysis, enabling a systematic examination of the interplay between outsourcing impacts and each phase of the BPA implementation process. By combining the selected impacts and their alignment with the corresponding phases, the framework facilitates a holistic understanding of the complex dynamics and implications of outsourcing on BPA implementation.

Figure 7: Theoretical framework of the study



As it is shown in the table 7, during the initialization phase our study concentrates on two key types of impacts of outsourcing: technological impacts and social and cultural impacts. By examining these impacts, we aim to gain a deeper understanding of the challenges and opportunities associated with outsourcing during the initialization phase.

Moving on to the implementation phase, our study explores two specific types of impacts of outsourcing: cost impact and organizational impact. The cost impact encompasses the financial considerations related to outsourcing during this crucial phase, while the organizational impact examines the broader implications and consequences of outsourcing on the development and integration phase. By analysing these impacts, we seek to gain insights into the challenges and opportunities organizations face when outsourcing during the implementation phase.

Lastly, during the scaling phase, our study focuses on two relevant impacts of outsourcing: organizational impact and security and risk impact. By examining these impacts, we aim to gain a comprehensive understanding of the multifaceted challenges

organizations encounter when outsourcing during the scaling phase of BPA implementation.

Throughout the study, it is important to note that while we focus on specific impacts of outsourcing in each phase, other factors may also contribute to the outcomes. By examining these impacts in depth, we aim to provide valuable insights into the complexities and considerations surrounding the outsourcing of BPA implementation.

3 RESEARCH METHODOLOGY

3.1 Research Approach:

This study employs a qualitative research method to investigate the multifaceted impacts of outsourcing on different phases of Business Process Automation (BPA) implementation and effective management strategies for achieving successful BPA outcomes. The use of qualitative research allows for a comprehensive exploration of the experiences, perspectives, and insights of specialists working in Bosch Home Comfort, providing a deep understanding of the phenomenon under investigation.

Qualitative research is well-suited for studying complex phenomena, such as the impacts of outsourcing on BPA implementation, as it emphasizes understanding the subjective experiences and perspectives of individuals within a specific context (Silverman, 2020). By utilizing qualitative methods, this study aims to go beyond surface-level observations and delve deeply into the unique challenges, opportunities, and strategies associated with outsourcing and BPA implementation in the context of Bosch Home Comfort.

The adoption of a qualitative research method enables the researcher to collect rich and detailed data through techniques such as interviews, observations, and document analysis. These data sources allow for a comprehensive exploration of the various factors influencing BPA implementation and the impacts of outsourcing on different phases of the process. By conducting in-depth interviews with specialists in Bosch Home Comfort, the study will capture their insights, experiences, and perceptions, providing a holistic understanding of the subject matter.

Furthermore, considering the nature of the research question and the need to explore the impacts of outsourcing on different phases of BPA implementation in a real-world context, the case study methodology also aligns well with this research. Case studies offer an in-depth examination of a specific phenomenon within its natural setting, allowing for a comprehensive analysis of contextual factors, processes, and outcomes (Yin, 2018). By employing a case study approach, this research can capture the unique dynamics and complexities of outsourcing BPA within the specific context of Bosch Home Comfort.

The combination of qualitative research methods and the case study approach provides a robust framework for investigating the multifaceted impacts of outsourcing on BPA implementation. It allows for an in-depth exploration of the experiences and perspectives of specialists, uncovering valuable insights that can inform the development of effective management strategies for achieving successful BPA outcomes within Bosch Home Comfort.

3.2 Study Design:

To address the research question, "What are the multifaceted impacts of outsourcing on the different phases of Business Process Automation (BPA) implementation?" a study design involving semi-structured user interviews with specialists working in Bosch Home Comfort will be employed. These specialists will possess expertise in outsourcing and Business Process Automation, ensuring a comprehensive exploration of the research topic. The interviews will provide rich qualitative data to investigate the impacts of outsourcing on different phases of BPA implementation and identify effective management strategies.

Semi-structured user interviews offer a flexible yet focused approach, allowing for an in-depth exploration of participants' experiences, perspectives, and insights (Kvale & Brinkmann, 2015). Through these interviews, the participants' expertise and first-hand experiences in outsourcing and BPA implementation will be tapped into, shedding light on the multifaceted impacts that arise during various phases of BPA implementation. The open-ended nature of the interviews will encourage participants to provide detailed and nuanced responses, enabling the researcher to gain a comprehensive understanding of the research topic.

By adopting a study design that includes semi-structured user interviews with specialists in Bosch Home Comfort, this research aims to uncover the multifaceted impacts of outsourcing on the different phases of BPA implementation. The findings will contribute to the existing body of knowledge on outsourcing and BPA, offering insights into effective management strategies that organizations can employ to navigate and address these impacts.

3.3 Data Collection

The data collection process will follow a systematic approach, encompassing the following steps:

3.3.1 Participant Selection

To ensure a comprehensive understanding of the research topic, a purposive sampling technique will be employed. Specialists working in Bosch Home Comfort, possessing experience and knowledge in outsourcing, offshoring, and Business Process Automation, will be selected as participants. This sampling approach allows for the inclusion of individuals with diverse perspectives and insights, contributing to the richness and depth of the data (Creswell & Creswell, 2017). The table (Table 3) below shows the interviewees' function and role description.

Figure 8: function description of interviewees and suitability for the thesis

Interviewee	Job	Job description	Length of service	Duration of outsourcing BPA
I1	Business data analyst	Responsible for assessing the worthiness of automation requests, creating automation steps, reporting on automation accuracy, and troubleshooting issues.	8 years	< 5 years
I2	Business data analyst	Responsible for assessing the worthiness of automation requests, creating automation steps, reporting on automation accuracy, and troubleshooting issues.	>5 years	< 5 years
I3	Sales process and tools coordinator	Responsible for standardizing and implementing sales processes and tools, specifically focusing on the partner portal and sales contracts.	7 years	< 5 years
I4	Automation IT Manager	The role involves providing strategic direction, implementing technological solutions, and ensuring the efficient operation of automation systems across different areas.	14 years	> 15 years
I5	Data team manager	Responsible for developing, overseeing, organizing, storing, and analysing data and data systems. Ensures that all of this is always done with the utmost security and confidentiality, and in a timely manner.	8 years	> 10 years

I6	IT project manager	Responsible for internal IT projects. Tasks include stakeholder meetings, communication, best practices, meeting deadlines, working with tools like SAP, Excel, Visio, and internal tools.	< 1 year	< 5 years
I7	After Sales Manager	Responsible for ensuring efficient and effective after-sales activities for both Belgium and the Netherlands in the Home Comfort Group. The role involves overseeing process like contact centre management, field service planning, and technical support.	>10 years	>10 years

3.3.2 Informed Consent

Prior to conducting the interviews, participants will receive detailed information about the research purpose, the confidentiality of their responses, voluntary participation, and their rights as participants. They will be asked to provide written informed consent, indicating their willingness to participate in the study (Polit & Beck, 2017). This process ensures ethical considerations are met and safeguards the rights and privacy of the participants.

At the beginning of each interview, the interviewer will explain the goal of the interview, which is to explore the multifaceted impacts of outsourcing on different phases of BPA implementation and to identify effective management strategies. The interviewer will also provide an overview of the interview structure, informing participants that the interview will consist of open-ended questions designed to elicit detailed and insightful responses (Gillham, 2018). This explanation ensures that participants have a clear understanding of the interview's purpose and structure, promoting their engagement and facilitating rich data collection.

By implementing these steps, the data collection process adheres to ethical guidelines, respects the rights of participants, and ensures that the research objectives are effectively communicated.

3.3.3 Interview Guide Development

An interview guide will be meticulously developed, consisting of open-ended questions aligned with the research objectives and themes. The questions have been designed to elicit detailed and insightful responses from the participants, enabling a comprehensive exploration of the multifaceted impacts of outsourcing on different phases of Business Process Automation (BPA) implementation. The interview guide will be pilot-tested and refined to enhance clarity and coherence (Creswell & Creswell, 2017). Figure 9 in the appendix 1 shows the sequence of questions asked and the purpose of each one.

3.3.4 Conducting the Interviews:

The interviews will be conducted in a semi-structured format, allowing for flexibility while ensuring the exploration of key research areas (Guest, Namey, & Mitchell, 2021). With participants' consent, the interviews will be audio-recorded to ensure accurate data capture. Additionally, detailed notes will be taken during the interviews to complement the audio recordings and capture non-verbal cues and contextual information (Creswell & Creswell, 2017).

3.3.5 Saturation Point

Data collection will continue until the point of data saturation is reached, whereby no new themes or insights emerge from the interviews (Guest et al., 2021). Saturation indicates that a comprehensive understanding of the research topic has been achieved, ensuring that data collection is sufficient to answer the research questions effectively.

By adhering to this rigorous data collection process, this study will gather rich qualitative data that captures the multifaceted impacts of outsourcing and offshoring on different phases of BPA implementation in Bosch Home Comfort.

3.4 Data Analysis:

The Gioia analysis, developed by Gioia, Corley, and Hamilton (2013), provides a systematic approach for analysing qualitative data. It is particularly suitable for exploring complex organizational phenomena, such as the multifaceted impacts of outsourcing on BPA implementation. The three steps of the Gioia analysis—open coding, axial coding, and selective coding—allow for a thorough examination of the data, enabling the identification of key themes, patterns, and relationships (Gioia et al., 2013).

The Gioia analysis employed as a rigorous and systematic three-step process for data analysis, allows a comprehensive exploration of the multifaceted impacts of outsourcing and offshoring on different phases of Business Process Automation (BPA) implementation.

3.4.1 Open Coding

The recorded interviews and detailed notes will be transcribed verbatim, and the data will be analysed using open coding techniques (Corbin & Strauss, 2014). During this phase of the analysis concepts will be build. Each line of the transcriptions will be thoroughly reviewed, and initial codes will be assigned to segments of data that represent meaningful units. This process will capture the diverse impacts of outsourcing and offshoring on various aspects of BPA implementation.

3.4.2 Axial Coding

In the next step, axial coding will be applied to organize the open codes into categories and subcategories (Corbin & Strauss, 2014). During this phase of the analysis themes will be build. Connections and relationships between codes will be identified, leading to the development of a coding framework. This framework will facilitate the exploration of patterns, themes, and relationships within the data, uncovering the multifaceted impacts of outsourcing and offshoring on BPA implementation.

3.4.3 Selective Coding

The final step of the Gioia analysis involves selective coding, which aims to refine and consolidate the categories identified in axial coding (Gioia et al., 2013). During this

phase of the analysis dimensions will be build. Through this process, the main themes and subthemes related to the impacts of outsourcing and offshoring on BPA implementation and effective management strategies will be established, providing a comprehensive understanding of the research phenomena.

By employing the Gioia analysis, this study ensures a rigorous and systematic approach to analysing the qualitative data obtained from the interviews, allowing for the identification of key patterns and insights regarding the impacts of outsourcing and offshoring on BPA implementation and effective management strategies.

3.5 Research Quality:

Ensuring research quality is of paramount importance in this study, and the following measures will be employed to enhance the rigor and validity of the research:

3.5.1 Reflexivity

The researcher will adopt a reflexive stance throughout the research process, acknowledging their own biases and assumptions that may influence data collection and analysis (Finlay, 2002). By critically reflecting on their positionality and potential preconceptions, the researcher will strive for objectivity and reduce potential bias in the interpretation of the data.

3.5.2 Member Checking

Findings and interpretations will be shared with the participants, allowing them to provide feedback and validate the accuracy and relevance of the research findings (Creswell & Poth, 2017). This iterative process of member checking ensures that participants' perspectives are accurately represented and adds to the credibility of the study.

3.5.3 Researcher's Positionality:

The researcher will provide a transparent account of their own background, experiences, and potential biases (Charmaz, 2006). By clearly stating their positionality, the researcher allows readers to evaluate any potential influence on the research process and findings.

These rigorous research methods and approaches, including triangulation, reflexivity, member checking, and transparency in positionality, will provide a robust framework for exploring the multifaceted impacts of outsourcing and offshoring on different phases of BPA implementation and identifying effective management strategies in Bosch Home Comfort.

3.5.4 Data management plan

This section draws upon a data management template developed by the University of Turku, which serves as a valuable resource for researchers in effectively managing the data utilized in this thesis. The researcher devoted careful consideration to the planning of data collection, ensuring appropriate measures were taken to obtain necessary permissions and consents from the interviewees. The safety and structure of data storage were also given significant attention, both during the research process and in its subsequent phases. For detailed information on the data management plan, please refer to Appendix 2: Research Data Management Plan.

4 RESULTS

The analysis and results section of this thesis focuses on investigating the multifaceted impacts of outsourcing on the various phases of Business Process Automation (BPA) implementation and exploring effective management strategies to achieve successful BPA outcomes. The research question aims to shed light on the complex interplay between outsourcing and BPA and provide insights into how organizations can effectively navigate these impacts.

In this qualitative study, specialists working in the department where the BPA are outsourced, will be interviewed to gather rich and in-depth data. The interviews provided valuable insights into the experiences, perspectives, and challenges faced by organizations during different phases of BPA implementation, including initialization, implementation, and scaling.

The Gioia method will be employed as the analytical framework to analyse the interview data. This three-step process, consisting of open coding, axial coding, and selective coding, will enable a systematic and comprehensive exploration of the data, facilitating the identification of key concepts, themes, dimensions and relationships that emerge from the interviews.

The objective of the analysis and results section is to present the findings derived from the application of the Gioia method. Through this rigorous analysis, the study aims to uncover the diverse impacts of outsourcing on BPA implementation across its various phases. The results will provide a nuanced understanding of the challenges, benefits, and strategies associated with outsourcing and its impact on BPA outcomes.

The insights derived from the analysis will contribute to the existing body of knowledge, offering practical recommendations for organizations seeking successful BPA outcomes while navigating the complexities of outsourcing.

Overall, this analysis and results section serves as a crucial component of this thesis, offering a comprehensive examination of the multifaceted impacts of outsourcing on different phases of BPA implementation. By delving into the experiences and perspec-

tives of specialists in the field, this section aims to provide valuable insights and practical implications that can guide organizations in effectively managing the impacts of outsourcing and achieving successful BPA outcomes.

4.1 INITIALISATION PHSAE

During the analysis of the collected data using the open coding process, several significant concepts emerged that were impacted by outsourcing of Business Process Automation (BPA) during the initialization phase. These concepts were reiterated by multiple interviewees, highlighting their significance in the context of outsourcing BPA.

One key concept that emerged is the importance of outsourcing BPA from the initialization phase to ensure a complete understanding of the business process automation. As emphasized by interviewee 1, "if you're going to outsource the scaling phase, it works better if the external vendors are involved from the start. For name of a confidential project, it was the external party who initiated it, and it increased the understanding." This concept underscores the value of involving external vendors from the beginning to enhance understanding and alignment.

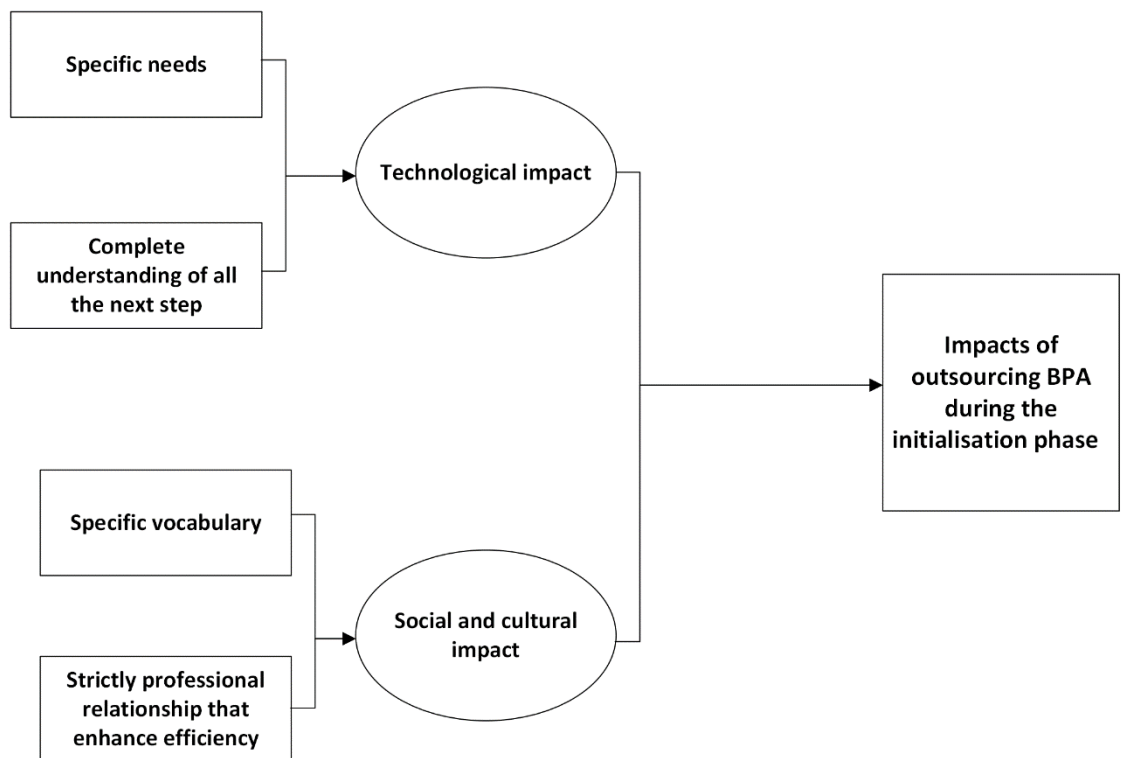
Furthermore, the analysis revealed the establishment of a specific vocabulary between organizations involved in BPA outsourcing. Interviewee 6 mentioned, "something that might be difficult is that you're talking with people that are used to programming and not accustomed to extensive communication. You have to find the right words and information because they want something very specific." This finding highlights the need for effective communication and understanding between parties with different backgrounds, emphasizing the significance of the established vocabulary.

Additionally, working with external partners in a strictly professional relationship was found to enhance efficiency, as emphasized by interviewee 3. They stated, "It's easier working with an external partner at the beginning and telling them exactly how you want to proceed because there are fewer constraints or restrictions compared to working with a direct colleague or another department. When you work with an external partner, you have the power of the money." This perspective emphasizes the benefits of a professional relationship with external partners during the initialization phase.

Another important concept that emerged is the recognition of the complexity of BPA implementation and the specific needs that are better addressed through outsourcing. Interviewee 5 highlighted this concept by stating, "Sometimes it's the knowledge; we don't have it in-house, and sometimes it's the complexity. We hope that someone else can guide us on how to manage that complexity." This sentiment was echoed by other interviewees, emphasizing the significance of outsourcing for managing complex BPA initiatives effectively.

Based on the open coding, we compiled the identified concepts in a diagram (Figure 10) to illustrate and summarize them, laying the groundwork for further analysis.

Figure 9: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the Initialization phase



The concept of complete understanding and the concept of specific needs were categorized under the theme of technological impact through axial coding. Similarly, the concept of using a specific vocabulary and the concept of a strictly professional relationship were grouped under the theme of social and cultural impact.

During the selective coding process, the findings were synthesized, and specific focus was placed on the theme of technological impact and the theme of social and cultural impact under the aggregate dimension of the impacts of outsourcing BPA on the initialization phase..

4.2 IMPLEMENTATION PHASE

During the analysis of the collected data using the open coding process, several significant concepts emerged that were influenced by outsourcing Business Process Automation (BPA) in the implementation phase. In this section, the impacts of outsourced BPA on BPA implementation during this phase were analyzed. These concepts were reiterated by multiple interviewees, demonstrating their significance in the context of outsourcing BPA.

One concept that emerged is the lack of local expertise in automation as a driving factor for outsourcing. Interviewee 5 emphasized this point by stating, "The main motive for outsourcing these projects is often a lack of capacity. You need to get something done quickly, and you don't have enough internal capacity." This quote exemplifies the immediate association interviewees make between outsourcing BPA and addressing the lack of in-house expertise, highlighting the impact on organizational choices.

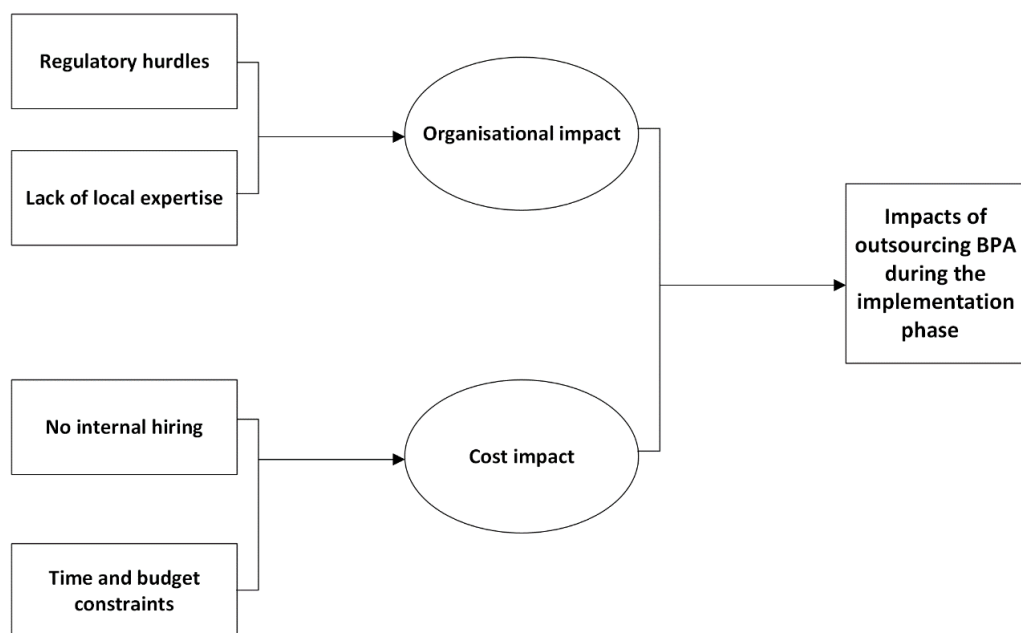
Another significant concept that emerged from the analysis is the close link between outsourcing and regulatory hurdles. Interviewee 3 highlighted this issue by stating, "The most difficult part is creating authorizations and access rights for external parties. Bosch has very strict security processes, so granting external access to databases or tools can be challenging." This example illustrates a concept that organizations may face when outsourcing BPA, as they navigate regulatory requirements and ensure compliance.

Additionally, working with external partners can present challenges in adhering to time and budget constraints. Interviewee 2 mentioned, "Respecting deadlines and setting realistic timeframes is always a challenge. We need to make sure that the changes or the project is completed within a timeframe that satisfies us." This example highlights the importance of effective communication and coordination with external partners to ensure timely and cost-effective project delivery. Timely delivery of BPA services by external partners is crucial for organizational efficiency and achieving desired outcomes.

Furthermore, the analysis revealed that organizations view outsourcing as a means to access specialized skills and competencies that may be challenging to maintain internally. Interviewee 6 expressed this perspective by stating, "Hiring an external resource increases costs because externals are expensive. If you hire a fixed position, someone coming with a fixed cost, and it's only one person working, it's not possible." This finding underscores the difficulty organizations face in maintaining in-house experts due to budget constraints, reinforcing the importance of outsourcing for accessing specialized skills.

To illustrate and summarize these concepts, we compiled the open coding results in the figure 11.

Figure 10: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the implementation phase



Through axial coding, the concept of potential lack of expertise and the concept of regulatory hurdles were categorized under the theme of organizational impact. Similarly, the concept of time and budget constraints and the concept of no need for internal hiring were grouped under the theme of cost impact.

In the selective coding process, the identified themes of organizational impact and cost impact were synthesized under the aggregate dimension of the impacts of outsourcing BPA on the implementation phase.

4.3 SCALING PHASE

During the analysis of the collected data using the open coding process, several significant concepts emerged that were influenced by outsourcing Business Process Automation (BPA) in the scaling phase. These concepts were reiterated by multiple interviewees, demonstrating their significance in the context of outsourcing BPA.

One concept that emerged is employee satisfaction, which serves as a measure of the success of an outsourced BPA service. Interviewee 6 emphasized the importance of employee satisfaction by stating, "In the end, employee satisfaction is important because it can affect the people working and their work. They need to be aware of the changes and understand them." This perspective highlights the significance of considering employee satisfaction as a key metric when assessing the success of outsourced BPA initiatives and the social and cultural impact during the scaling phase.

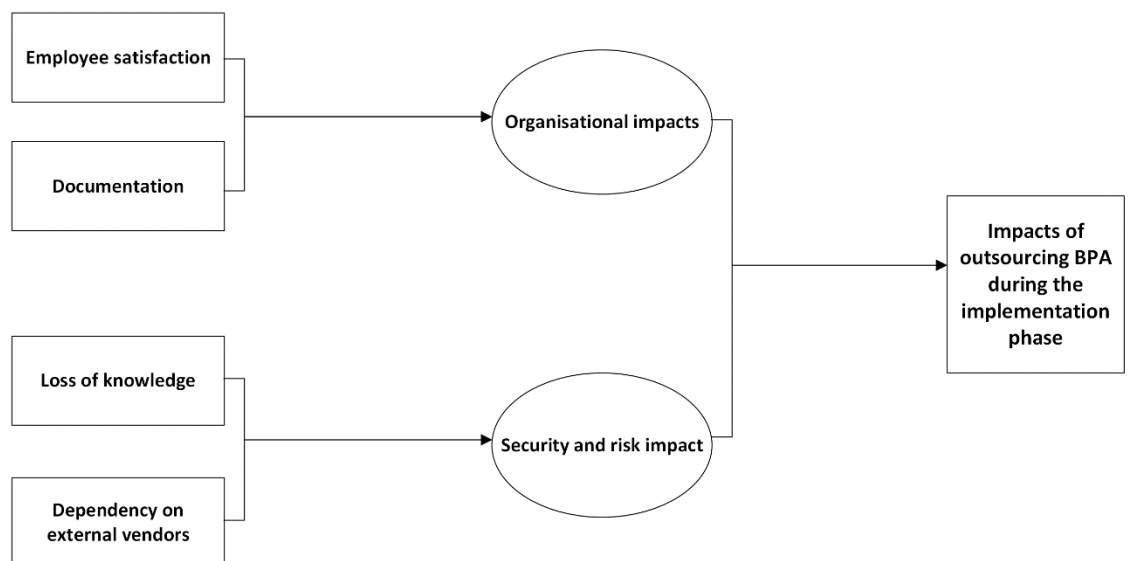
Another key concept that emerged is the potential loss of knowledge when heavily relying on external vendors. Interviewee 7 expressed this concern by stating, "We tend to push external vendors to move on to the next thing without leaving time to document their activities. The biggest risk is that we have no clue about how to fix a bug or do the maintenance." This insight highlights the potential risks during the scaling phase associated with limited knowledge transfer when outsourcing BPA.

Moreover, the analysis revealed the issue of dependency on external vendors. Interviewee 4 shared a specific example, stating, "The last programmer we hired left suddenly without documentation, and we did not have any backup people. That's always dangerous." Furthermore, interviewee 7 emphasized the dependency on external resources by stating, "We make ourselves very dependent on externals." These quotes underscore the potential risks and challenges organizations may face when heavily relying on external vendors for BPA initiatives during the scaling phase.

Documentation emerged as a significant concept based on the analysis. Interviewees stressed the importance and impact of documenting activities and processes to facilitate knowledge sharing. Interviewee 1 mentioned, "Having all activities documented and taking the time to write down what was done and how it was done is really game-changing. It ensures transparency and clarity for anyone taking over the project." This finding underscores the impact of the need for comprehensive documentation and knowledge transfer practices in outsourcing engagements during the scaling phase.

To illustrate and summarize these concepts, we compiled the open coding results in Figure 12.

Figure 11: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation during the scaling phase



Through axial coding, the concept of loss of knowledge and the concept of dependency were grouped under the themes of security and risk impacts. Additionally, the concept of employee satisfaction and the documentation concept were grouped under the theme of organizational impact.

In the selective coding process, the themes of security and risk impacts and the theme of organizational impact were grouped under the aggregate dimension of the impacts of outsourcing BPA on the scaling phase.

4.4 Reflective Analysis and Improvement Recommendations

The interviewees provided insights into aspirations and improvements for outsourcing Business Process Automation (BPA) initiatives. The inclusion of a reflective analysis on the impacts of outsourcing on BPA implementation proved to be a strategic decision, providing valuable content for discussing the study's results. This reflection allows for a deeper examination of the implications and consequences of outsourcing, enhancing the overall comprehensiveness of the study. By considering the broader context of outsourcing impacts, insightful perspectives contribute to the meaningful interpretation and discussion of the study's findings.

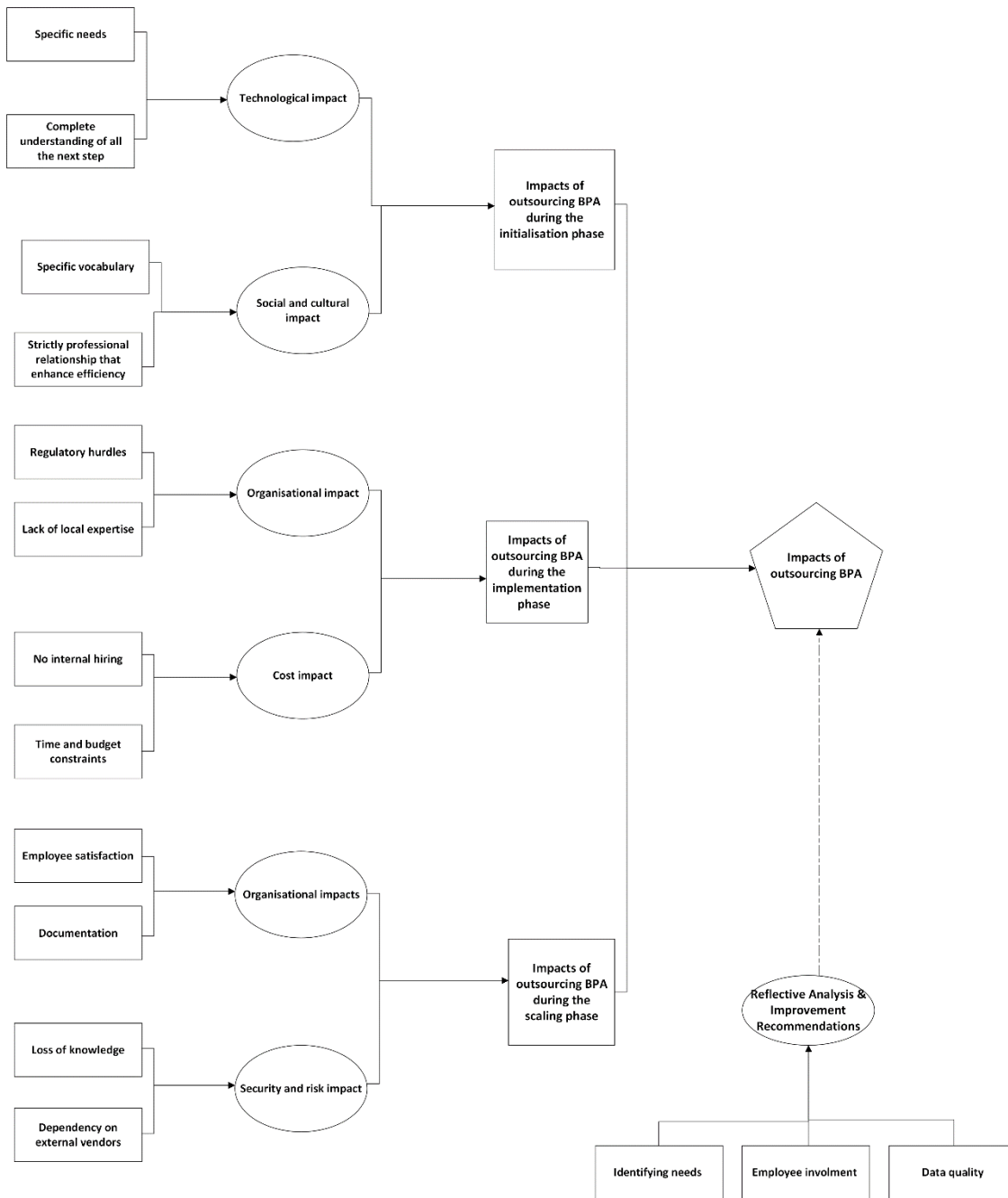
The analysis revealed the importance of effectively identifying needs before selecting an outsourcing solution. Interviewee 5 emphasized this concept by stating "You really have to be able to explain that this is the issue you have, and this is what you want to achieve.". this affirmation has been confirmed by the other interview and creating a comprehensive list of needs and clearly articulating goals is essential to align outsourcing strategies with organizational requirements.

One key improvement suggested several times by the interviewees was to involve employees in the automation process during the initialization phase. Interviewee 1 highlighted the significance of motivating employees to learn more about automation and be active participants in the transformation, stating, "So we need to motivate our employees to learn more about automation at the beginning of the process. Do not prejudge about automation, just try to understand, and just try to be part of this transformation. That is the important thing I think." This finding emphasizes the importance of engaging employees and fostering a collaborative approach to automation initiatives.

Moreover, the significance of data quality emerged as a recurring theme during the interviews conducted in the implementation phase. For instance interviewee 2 highlighted data quality as a key concept to consider when assessing the impact of BPA services. They emphasized the importance of data accuracy and reliability, stating, "Of course, data quality for me is a big KPI during the implementation [...] let's say the successful runs of a certain bots or automated process because if every run, even if it is automated, it still needs human intervention because it is encountering an error or whatever, it still needs manual input." This example underscores the significance of ensuring high data quality standards in the context of BPA initiatives.

To provide a visual representation of these concepts, we have compiled these open coding and the complete impact analysis in Figure 13. This comprehensive figure offers an organized and holistic view of the identified impacts of outsourcing on BPA implementation, along with the corresponding insights derived from the open coding process. By presenting the findings in a visually accessible format, Figure 13 serves as a valuable resource for quickly grasping the key concepts and implications of the impact analysis.

Figure 12: Comprehensive Analysis of the Impacts of Outsourcing on BPA Implementation



Through axial coding, we systematically organized the concept of effectively identifying needs, involving employees, and ensuring data quality in outsourcing BPA initiatives under the comprehensive themes of Reflective Analysis and Improvement Recommendations. These valuable insights shared by the interviewees offer practical guidance for organizations aiming to enhance their outsourcing of BPA. These themes are intricately connected to the impacts of outsourcing BPA, further enriching our understanding of the subject matter.

5 DISCUSSION

This discussion section presents a comprehensive analysis and interpretation of the findings derived from the analysis of the multifaceted impacts of outsourcing on different phases of Business Process Automation (BPA) implementation. The aim is to compare these findings with existing literature, explore their implications for theory and practice, and acknowledge the limitations of the study while providing suggestions for future research.

5.1 Key findings

The analysis of the multifaceted impacts of outsourcing on various phases of Business Process Automation (BPA) implementation revealed several key findings. Through interviews with specialists involved in BPA outsourcing, valuable insights were obtained regarding the experiences, perspectives, and challenges faced by organizations during different phases of BPA implementation.

In the initialization phase, the importance of involving external vendors from the start was emphasized. This ensured a complete understanding of the BPA process and enhanced alignment. Effective communication and the establishment of a specific vocabulary between organizations involved in outsourcing were identified as crucial factors. Additionally, a strictly professional relationship with external partners was found to enhance efficiency. Outsourcing was recognized as a valuable strategy for managing complex BPA initiatives effectively.

During the implementation phase, the lack of local expertise in automation was identified as a driving factor for outsourcing. Regulatory hurdles and the need to navigate compliance requirements were also highlighted. Effective communication and coordination with external partners were crucial in adhering to time and budget constraints. Outsourcing was viewed as a means to access specialized skills and competencies that may be challenging to maintain internally.

In the scaling phase, employee satisfaction was identified as a measure of the success of outsourced BPA services. The potential loss of knowledge when heavily relying

on external vendors and the issue of dependency on them were significant concerns. The importance of comprehensive documentation and knowledge transfer practices in outsourcing engagements was emphasized to facilitate transparency and clarity.

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From the reflective Analysis and Improvement Recommendations point of identifying needs before selecting an outsourcing solution was seen as a crucial improvement. Involving employees in the automation process during the initialization phase was recommended to foster a collaborative approach. Data quality emerged as a recurring theme, emphasizing the importance of ensuring accurate and reliable data for BPA services.

Overall, these findings provide a nuanced understanding of the impacts of outsourcing on different phases of BPA implementation. They offer practical recommendations for organizations seeking successful BPA outcomes while navigating the complexities of outsourcing. By considering these key findings, organizations can make informed decisions and implement effective strategies for managing outsourcing and achieving desired BPA outcomes.

5.2 Advices to the companies

To maximize the benefits of outsourcing BPA, firms should actively involve external vendors right from the initialisation phase of the implementation process. This ensures a comprehensive understanding of the BPA process and enhances alignment between the organization and the vendor. The advice would be to emphasize the importance of early vendor engagement and collaboration during the initialization phase to establish effective communication channels and a specific vocabulary between the parties involved.

Secondly, firms need to be aware of and proactively manage the regulatory challenges associated with outsourcing BPA initiatives during the implementation phase. This includes understanding compliance requirements and establishing effective communication and coordination with external partners. The advice would be to provide guidance on navigating regulatory hurdles during BPA implementation, emphasizing the need for proactive planning and robust compliance strategies.

During the scaling phase, firms should address the potential loss of knowledge and dependency on external vendors. Comprehensive documentation and knowledge transfer practices should be established to facilitate transparency, clarity, and reduce dependency risks. The advice would be to highlight the importance of knowledge management and transfer practices, providing specific recommendations for documenting processes and ensuring smooth knowledge transfer during the scaling phase.

Firms should proactively plan for challenges that may arise during BPA implementation, such as resistance to change, loss of control during the scaling phase. Investing in change management initiatives, establishing robust governance mechanisms, and fostering a culture of collaboration can help firms effectively address these challenges. Instruction: Provide actionable advice on planning and mitigating challenges during the scaling phase, focusing on change management, governance, and fostering collaboration.

To ensure the success of outsourced BPA services, firms should establish strong vendor relationships and implement continuous evaluation and performance monitoring mechanisms. Regular performance evaluations should be conducted to assess the effectiveness of the outsourcing arrangement and identify areas for improvement. Leveraging technological tools for monitoring and control can provide real-time insights into BPA progress. Instruction: Advise firms on establishing effective vendor relationships, implementing performance evaluation processes, and utilizing technology for monitoring and control during the scaling phase.

In conclusion, the advice provided for firms considers the specific instructions for each phase of BPA implementation. By involving external vendors from the initialization phase, addressing regulatory hurdles, managing knowledge and dependency during scaling, proactively planning for challenges, and implementing continuous evaluation and performance monitoring, firms can optimize their outsourcing strategies and achieve successful outcomes in their automation journey..

5.3 Implications for Theory and Practice

The findings of this study have several implications for both theory and practice in the field of Business Process Automation (BPA) and outsourcing. The following subsections discuss these implications in detail.

5.3.1 Implications for Theory

This study contributes to the existing theoretical understanding of the relationship between outsourcing and BPA implementation. By exploring the impacts of outsourcing on the different phases of BPA, this research expands the theoretical knowledge base, highlighting the complexities and challenges that organizations face in managing outsourced BPA initiatives. The findings challenge previous assumptions that outsourcing BPA can lead to streamlined implementation and instead emphasize the need for careful management and coordination throughout the process.

Additionally, this study extends existing theories related to the role of external vendors in BPA implementation. The findings suggest that involving external vendors from the initialization phase can lead to more successful outcomes in terms of understanding the business processes and aligning the goals of both the organization and the vendor. This insight contributes to the literature on vendor management and provides a theoretical basis for organizations to consider when embarking on outsourced BPA projects.

Moreover, the identification of key challenges and strategies during the different phases of BPA implementation offers a theoretical framework that can guide future research. This study opens up avenues for investigating the effectiveness of specific management strategies in mitigating the identified challenges and further understanding the dynamics between outsourcing, BPA, and organizational performance.

5.3.2 Implications for Practice

The findings of this study have practical implications for organizations implementing or considering outsourcing their BPA initiatives. The insights derived from the analysis provide valuable guidance for managing outsourced BPA projects effectively and maximizing the benefits while mitigating the challenges.

Firstly, organizations should carefully consider the involvement of external vendors from the initialization phase. This study highlights the importance of early engagement and collaboration with vendors to ensure a thorough understanding of the business processes and alignment of goals. By establishing clear communication channels and sharing knowledge, organizations can enhance the effectiveness of outsourced BPA projects.

Secondly, organizations should pay close attention to the challenges identified in each phase of BPA implementation. Understanding the potential obstacles, such as resistance to change, loss of control, and coordination issues, enables proactive planning and appropriate mitigation strategies. For instance, organizations can invest in change management initiatives, establish robust governance mechanisms, and foster a culture of collaboration to address these challenges effectively.

Furthermore, the strategies identified in this study can serve as practical recommendations for organizations. For example, establishing strong vendor relationships, conducting regular performance evaluations, and leveraging technological tools for monitoring and control can help organizations navigate the complexities of outsourced BPA projects.

Overall, the findings of this study provide practitioners with practical insights and recommendations for managing outsourced BPA initiatives, enabling them to make informed decisions and achieve successful outcomes in their automation journey.

5.4 Limitations and Suggestions for Future Research

This study is not without limitations, and several avenues for future research can be explored to further enrich the understanding of outsourcing's impact on BPA implementation. Firstly, the research was conducted within a specific industry and geographic context, which may limit the generalizability of the findings. Replication studies in different industries and regions could provide a more comprehensive understanding of outsourcing's impact on BPA.

Secondly, this study relied on qualitative interviews, and their perspectives may not represent the entire range of stakeholders involved in BPA implementation. Future research could incorporate quantitative data and involve a broader set of participants, including employees concerned by the use of the business process automated, and external vendors, to capture diverse perspectives.

Additionally, the study focused on the impacts of outsourcing on BPA implementation, but it did not delve deeply into the underlying mechanisms or the specific factors that influence outsourcing decisions. Further research could explore the decision-making processes, criteria, and contextual factors that organizations consider when outsourcing BPA initiatives.

Finally, this study primarily focused on the impacts of outsourcing on BPA implementation, but the dynamic nature of outsourcing relationships and their long-term effects on organizations warrant further investigation. Future research could explore the long-term outcomes and sustainability of outsourcing arrangements in the context of BPA implementation.

Overall, addressing these limitations and pursuing further research in these areas will contribute to a more comprehensive understanding of the impacts of outsourcing on BPA implementation and provide valuable insights for organizations in effectively managing their outsourcing strategies to achieve successful automation outcomes.

Based on the comprehensive analysis conducted on the impacts of outsourcing on Business Process Automation (BPA) implementation, several key findings and insights emerge that can provide valuable advice for firms considering or currently engaged in outsourcing their BPA initiatives.

6 CONCLUSION

The present study offers a comprehensive analysis of the multifaceted impacts of outsourcing on different phases of Business Process Automation (BPA) implementation. Through interviews with specialists involved in BPA outsourcing, valuable insights were obtained regarding the experiences, perspectives, and challenges faced by organizations throughout various stages of BPA implementation. The key findings shed light on the importance of involving external vendors from the initialization phase, addressing regulatory hurdles, managing knowledge and dependency, and proactively planning for challenges during scaling. These findings contribute to the existing literature on outsourcing and BPA, while also providing practical implications for theory and practice.

The findings align with and extend existing literature on outsourcing and BPA. They emphasize the significance of early collaboration, effective communication, and establishing a common understanding between organizations and external vendors. Furthermore, the study highlights the driving factors for outsourcing, such as the lack of local expertise in automation and the need to navigate regulatory hurdles. It also addresses concerns related to knowledge loss and dependency on external vendors during the scaling phase.

One important implication for theory is that the study expands the theoretical understanding of the relationship between outsourcing and BPA implementation. By uncovering the complexities and challenges associated with outsourced BPA initiatives, this research challenges the assumption that outsourcing automatically leads to streamlined implementation. It emphasizes the need for careful management, coordination, and vendor involvement from the initialization phase onwards. The study also contributes to theories related to vendor management by emphasizing the benefits of early engagement and collaboration.

From a practical standpoint, the findings provide valuable guidance for organizations considering or implementing outsourcing in their BPA initiatives. The insights derived from the analysis offer practical recommendations for managing outsourced BPA projects effectively while maximizing benefits and mitigating challenges. Organizations are advised to involve external vendors from the early stages, establish clear

communication channels, and share knowledge to enhance project effectiveness. Proactive planning and appropriate mitigation strategies are recommended to address challenges identified in each phase of BPA implementation. Establishing strong vendor relationships, conducting regular performance evaluations, and leveraging technological tools for monitoring and control are practical strategies for managing outsourced BPA projects successfully.

However, it is important to acknowledge the limitations of this study. The research was conducted within a specific industry and geographic context, which may limit the generalizability of the findings. Future research should replicate the study in different industries and regions to provide a more comprehensive understanding of outsourcing's impact on BPA. Additionally, the study relied on qualitative interviews, and further research incorporating quantitative data and a broader range of participants could provide more diverse perspectives.

In conclusion, this study contributes to the existing literature by providing empirical evidence and specific insights into the impacts of outsourcing on different phases of BPA implementation. The findings offer practical implications for organizations seeking successful BPA outcomes while navigating the complexities of outsourcing. By considering the recommendations provided, organizations can make informed decisions and implement effective strategies for managing outsourcing and achieving desired BPA outcomes. Further research in the identified areas will continue to enrich our understanding of outsourcing's impact on BPA implementation and provide valuable insights for organizations in effectively managing their outsourcing strategies to achieve successful automation outcomes.

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APPENDICES

Appendix 1. Figure 13: Interview structure

Thematic	Questions	Objectives
Personal background	For how long have you been working at Bosch? What are your main responsibilities and tasks?	This question aims to gather information about the participants' experience and roles within the organization. Understanding their level of expertise and responsibilities provides context for their perspectives on outsourcing and business process automation (Miles, Huberman, & Saldaña, 2020).
Department situation with Outsourcing BPA	For how long your company outsourcing BPA services?	This question seeks to capture the duration of BPA outsourcing in the organization. It provides insights into the organization's experience with outsourcing and allows for analysis of its long-term impacts (Buckley et al., 2020).
Individual experience with outsourcing BPA	To what extent outsourcing BPA services has been implemented? What were the types of processes that were automated through outsourcing?	These questions aim to explore the scope and nature of BPA outsourcing within the organization. Understanding the extent of implementation and the specific processes automated through outsourcing provides a comprehensive overview of the organization's approach (Lacity & Willcocks, 2019).
	What were the main motives for outsourcing BPA services? What were the reasons for outsourcing business process automation in your department?	These questions seek to identify the motivations behind BPA outsourcing in the organization. Examining the drivers and reasons for outsourcing helps understand the strategic objectives and expected benefits (Quelin & Duhamel, 2003).
	Could you describe your experience with outsourcing business process automation?	This question encourages participants to provide a detailed account of their experiences with BPA outsourcing. It allows for a qualitative exploration of the practical implications, challenges, and successes related to outsourcing initiatives (Poppo & Zenger, 2002).
Examination	What would you consider as key	This question aims to identify the par-

of the complexities	performance indicators for the success of outsourcing and automation? (Productivity, quality, customer satisfaction, and profitability, other)	participants' perspectives on key performance indicators (KPIs) associated with BPA outsourcing. It helps determine the metrics used to evaluate the impact of outsourcing on organizational performance (Quinn, Cooke, & Krisjanous, 2009).
	Could you describe any challenges that arose from outsourcing and automation, and how they were addressed?	This question explores the challenges encountered during BPA outsourcing and the strategies employed to overcome them. It allows for an examination of the complexities and potential barriers associated with outsourcing and automation initiatives (Dibbern et al., 2014).
Reflection on the outcome of BPA	Overall, would you say that outsourcing enable or hinder the business process automation within your company?	This question seeks to gather an overall assessment of the impact of outsourcing on BPA within the organization. It provides insights into the participants' perceptions of the cooperation or conflict between outsourcing and automation (Lacity & Willcocks, 2015).
	Could you suggest any improvements to the outsourcing and automation process to enhance the overall performance of the company?	This question aims to gather participants' suggestions for enhancing the outsourcing and automation process. Their recommendations can provide valuable insights for improving future initiatives and achieving better outcomes (Cullen et al., 2005).
	What are your recommendations for companies looking to outsource and automate their business processes?	This question seeks to gather participants' expert recommendations based on their experiences with BPA outsourcing without the boundaries or limits that their company could present. Their insights can offer practical guidance for organizations considering similar initiatives (Dibbern et al., 2014).

Appendix 2: RESEARCH DATA MANAGEMENT PLAN

Research data

Research data refers to all the material with which the analysis and results of the research can be verified and reproduced. It may be, for example, various measurement results, data from surveys or interviews, recordings or videos, notes, software, source codes, biological samples, text samples, or collection data.

In the table below, list all the research data you use in your research. Note that the data may consist of several different types of data, so please remember to list all the different data types.

List both digital and physical research data. Research data type

	Contains personal details/information*	I will gather/produce the data myself	Someone else has gathered/produced the data	Other notes
User interviews		x		
Validation interview		x		
Literature review			x	

* Personal details/information are all information based on which a person can be identified directly or indirectly, for example by connecting a specific piece of data to another, which makes identification possible. For more information about what data is considered personal go to the Office of the Finnish Data Protection Ombudsman's website

Processing personal data in research

If your data contains personal details/information, you are obliged to comply with the EU's General Data Protection Regulation (GDPR) and the Finnish Data Protection Act. For data that contains personal details, you must prepare a Data Protection Notice for your research participants and determine who is the controller for the research data.

I will prepare a Data Protection Notice** and give it to the research participants before collecting data

The controller** for the personal details is the student themselves the university

My data does not contain any personal data

** More information at the university's intranet page, Data Protection Guideline for Thesis Research

Permissions and rights related to the use of data

Find out what permissions and rights are involved in the use of the data. Consult your thesis supervisor, if necessary. Describe the use permissions and rights for each data type. You can add more data types to the list, if necessary.

Self-collected data

You may need separate permissions to use the data you collect or produce, both in research and in publishing the results. If you are archiving your data, remember to ask the research participants for the necessary permissions for archiving and further use of the data. Also, find out if the repository/archive you have selected requires written permissions from the participants.

Necessary permissions and how they are acquired

User Interview: Asked consent too interviewees to store audio recording of interview on researcher's personal laptop for 5 years (no personal information, anonymized), recording will be deleted after

Data collected by someone else

Do you have the necessary permissions to use the data in your research and to publish the results? Are there copyright or licencing issues involved in the use of the data? Note, for example, that you may need permission to use the images or graphs you have found in publications.

Rights and licences related to the data

Literature review: data collected through literature review is publicly available

Storing the data during the research process

Where will you store your data during the research process?

In the university's network drive In the university-provided Seafile Cloud Service Other location, please specify: On the researcher's personal laptop, and a copy of it on the researcher's external hard drive

The university's data storage services will take care of data security and backup files automatically. If you choose to store your data somewhere other than in the services provided by the university, please specify how you will ensure data security and file backups. Remember to make sure you know every time where you are saving the edited/modified data.

If you are using a smartphone to record anything, please check in advance where the audio or video will be saved. If you are using commercial cloud services (iCloud, Dropbox, Google Drive, etc.) and your data contains personal data, make sure the information you provide in the Data Protection Notice about data migration matches your device settings. The use of commercial cloud services means the data will be transferred to third countries outside the EU.

Documenting the data and metadata

How would you describe your research data so that even an outsider or a person unfamiliar with it will understand what the data is? How would you help yourself recall years later what your data consists of?

Data documentation

Can you describe what has happened to your research data during the research process? Data documentation is essential when you try to track any changes made to the data.

To document the data, I will use:

A field/research journal A separate document where I will record the main points of the data, such as changes made, phases of analysis, and significance of variables A readme file linked to the data that describes the main points of the data Other, please specify:

Data arrangement and integrity

How will you keep your data in order and intact, as well as prevent any accidental changes to it? I will keep the original data files separate from the data I am using in the research process, so that I can always revert back to the original, if need be.

Version control: I will plan before starting the research how I will name the different data versions and I will adhere to the plan consistently.

I recognise the life span of the data from the beginning of the research and am already prepared for situations, where the data can alter unnoticed, for example while recording, transcribing, downloading, or in data conversions from one file format to another, etc.

Metadata

Metadata is a description of your research data. Based on metadata someone unfamiliar with your data will understand what it consists of. Metadata should include, among others, the file name, location, file size, and information about the producer of the data. Will you require metadata?

I will save my data into an archive or a repository that will take care of the metadata for me.

I will have to create the metadata myself, because the archive/repository where I am uploading the data requires it.

I will not store my data into a public archive/repository, and therefore I will not need to create any metadata.

Data after completing the research

You are responsible for the data even after the research process has ended. Make sure you will handle the data according to the agreements you have made. The university recommends a general retention period of five (5) years, with an exception for medical research data, where the retention period is 15 years. Personal data can only be stored as long as it is necessary. If you have agreed to destroy the data after a set time period, you are responsible for destroying the data, even if you no longer are a student at the university. Likewise, when using the university's online storage services, destroying the data is your responsibility.

What happens to your research data, when the research is completed?

I will store all data for 05 years.

If you will store the data, please identify where: on the researcher's personal laptop and a copy of it on the researcher's external hard drive.