

CHALLENGES AND STRATEGIES IN ROBOTIC PROCESS AUTOMATION
INTEGRATION: CRAFTING SUCCESS FRAMEWORK WITHIN BUSINESS
PROCESS MANAGEMENT

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Declaration on the Use of Generative AI

In preparing this thesis I made limited use of generative AI tools, in line with the SSBM Geneva Policy on the Use of Generative AI (GN10-08-01-POL). I used these tools to refine the language and clarity of text I had already drafted, to help organise and format the document, and to summarise published material that I then checked against the original sources. I did not use them to generate the research data, to run the statistical or thematic analysis, to create or select citations, or to form the interpretations and conclusions of the study. The research design, data collection, analysis, interpretation, and final judgement are my own, and I take full responsibility for the content of this thesis. A fuller account of this use is given in Appendix B.

Fahed Mrad Date: 31/ 05 / 2026

ABSTRACT

CHALLENGES AND STRATEGIES IN ROBOTIC PROCESS AUTOMATION
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RPA has become extensively implemented for efficiency enhancement in BPM. However, there are some common issues such as implementation failures, integration problems, and scalability constraints experienced by most companies, which can be attributed to technical, organizational, and governance concerns. The current research conducted an empirical investigation aimed at developing a validated evidence-based framework for forecasting and enhancing the successful integration of RPA into BPM environments. For this purpose, a sequential explanatory mixed-methods approach was employed. In the first stage, quantitative survey of 309 BPM/RPA practitioners was conducted. The results revealed satisfactory reliability of the measuring instrument (Cronbach's Alpha = 0.612 – 0.879). Moreover, exploratory factor analysis provided strong evidence on the presence of construct validity (KMO = 0.829; Bartlett's Test, $p < 0.001$). Quantitative data were analysed using descriptive statistics, Spearman correlation, ordinal regression, multiple regression, and Kruskal–Wallis tests. Phase II was a set of semi-structured interviews with eight experienced RPA practitioners and automation leaders, analysed through thematic analysis. The findings indicated that technical integration challenges are widespread and do not differ significantly by organisational size. Process Selection Maturity ($\rho = 0.314$, p

< 0.001), Executive Sponsorship Quality ($\rho = 0.277$, $p < 0.001$), and Governance Structure and Centre of Excellence Effectiveness ($\rho = 0.270$, $p < 0.001$) were significantly and positively related to RPA implementation success. Digital Maturity was the strongest predictor: the ordinal regression model fitted the data well ($\chi^2 = 44.509$, $p < 0.001$; Nagelkerke $R^2 = 0.171$) and showed a significant positive effect ($\beta = 1.466$, $p < 0.001$). The change management model was significant overall ($R^2 = 0.148$, $F = 17.614$, $p < 0.001$) but change management effectiveness and organisational change readiness did not have significant direct effects on implementation outcomes. The qualitative results highlighted the role of user acceptance, organizational readiness, process standardization, API-integration, and Centres of Excellence governed from the center in enabling sustainability of automation. The study resulted in development of the SUCCESS framework that provides organizations with practical guidance to evaluate their automation readiness and reduce risks associated with automation adoption.

Keywords: Robotic Process Automation, Business Process Management, Digital Transformation, Process Selection Maturity, SUCCESS Framework

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LIST OF ABBREVIATIONS

Abbreviations	Full Form
RPA	Robotic Process Automation
BPM	Business Process Management
CoE	Centre of Excellence
HR	Human Resource
BDA	Big Data Analytics
AI	Artificial Intelligence
SCM	Supply Chain Management
IPA	Intelligent Process Automation
ERP	Enterprise Resource Planning
CPI	Continuous Process Improvement
BPR	Business Process Reengineering
ML	Machine Learning
EMR	Electronic Medical Record
GVR	Grand View Research
NLU	Natural Language Understanding
RL	Reinforcement Learning
HRM	Human Resource Management
CSFs	Critical Success Factors
TOE	Technology-Organisation-Environment
STS	Socio-Technical Systems
E2E	End-to-End
IT	Information Technology
IA	Intelligent Automation
SLR	Systematic Literature Reviews
BPO	Business Process Outsourcing

KPIs	Key Performance Indicators
TAM	Technology Acceptance Model
PU	Perceived Usefulness
PEOU	Perceived Ease of Use
EFA	Exploratory Factor Analysis
PCA	Principal Component Analysis
SPSS	Statistical Package for The Social Sciences
NLP	Natural Language Processing
DL	Deep Learning

CHAPTER I: INTRODUCTION

1.1 Introduction

RPA has quickly found its footing in the world of business and has started transforming the manner in which organisations operate, particularly in respect of their repetitive activities, which are rule-based (Chaurasia et al., 2024). In an ideal scenario where the RPA is seamlessly aligned with BPM tools, the process can be made much faster and more efficient, thereby leaving the human resource with the task of attending to the strategic aspects of the process. Nonetheless, many organisations implementing RPA continue to face challenges. The obstacles are technology mismatch, change resistance, poor process standardisation and lack of proper governance structures, among others (Shamsuzzoha & Pelkonen, 2025). With digital transformation being mandatory for survival, it is very important that organisations know the barriers and how they affect the performance of the organisation. The increased complexity signals the necessity of a methodical, evidence-driven framework that will not only identify the primary issues but also evaluate the factors favourable to the successful adoption and lead organisations in developing their automation strategies. The research aims to fill the voids and offers a complete success framework that allows enterprises to overcome risks, lessening the utilisation of resources and ensuring RPA's continuous and green integration into BPM ecosystems, thus supporting their quest for operational excellence (Costa et al., 2022) As its main purpose.

1.2 Background

Organisations increasingly use “Robotic Process Automation” (RPA) as a strategic tool to support “Business Process Management” (BPM) for operational improvements due to the rapid growth of digital transformation. RPA enables organisations to achieve major

performance gains through its capability to automate all repetitive work tasks that follow established rules while allowing employees to concentrate on essential business activities. The challenges stem from both technical difficulties with system integration and three factors, which include process misalignment, insufficient governance, and workforce opposition to RPA implementation. Organisations must assess RPA implementation through both technological and non-technological factors. Effective RPA deployment within BPM requires organisations to assess their existing operational, procedural, and strategic frameworks.

RPA is transforming BPM very rapidly by deploying the monotonous tasks are carried out by software bots, so that the corporations are able to improve precision, stream work and reduce operational costs (Chinthamu et al., 2025). Nevertheless, many firms continue to struggle to achieve the full benefits of RPA due to such issues as misalignment of processes, integration challenges, governance, and employee resistance, leading to project delay, cost rise, or project failure. It is harder to anticipate the success of RPA integration and enhance it because there are no robust, quantitative, evidence-based frameworks. Since more companies are resolving to automation in their operations, systematic and data-driven methods which can enable them to measure the challenges involved, identify the key success factors, review their preparedness and review their implementation plans are of paramount importance. The present work is a reaction to this state of things and aims at developing a more comprehensive analytical framework that will not only make predictive decision-making easier and the optimisation of the resources but also enhance the domains of intelligent automation and BPM strategies both in terms of theoretical and practical perspectives (Patrício, Varela, Silveira, et al., 2025).

1.3 Research Problem

In 2024, the global RPA market is predictable to influence USD 22.79 billion with a CAGR of 43.9% till 2030; however, still 30–50% of RPA projects do not give the expected results due to technical and organisational difficulties during the integration with the existing BPM systems (Camara, 2025). Different issues, like process standardisation being of poor quality, lack of good governance, resistance from employees, and the mismatch of objectives between automation and business strategy, are just some of the reasons that hinder organisations from capturing the full value of RPA; the outcome is the same as before: inefficient operations, high costs, and partly completed digital transformation. A high level of unsuccessful project implementation indicates the importance of a comprehensive study of the obstacles, success factors, and actions that determine the outcome of RPA adoption. Granting that RPA may prove to be a great asset in terms of cost reduction and accuracy, its deployment is still mostly done through isolated efforts owing to the lack of a well-defined success framework. Present research tends to prioritise the technological aspects rather than the dynamics of organisational and process management, hence the need for a greater understanding of the interrelationship between RPA and BPM. Creating this knowledge is vital for constructing a model that is backed by evidence, and that would ensure both successful integration and the realisation of automation value that is long-lasting and sustainable (Altarazi & Santos, 2024; Herm et al., 2023; Hofmann et al., 2020).

1.4 Purpose of Research

The determination of this research is to observe the main challenges and success factors when integrating RPA within BPM. Even though companies are using automation more and more, they still encounter difficulties, and the study will present the reasons why this is the case. The research will also show how the different characteristics of the organisation, the practices during implementation and RPA outcomes are related, and the

result will be evidence-based insights that will improve decision-making and decrease risks during the implementation process. Moreover, the study will devise a predictive success model aimed at assessing the organisations' readiness to implement RPA and predicting their chances of obtaining successful and sustainable adoption. Combination of theoretical perspectives and empirical facts shall be applied; thus, academic findings as well as practical tools that could help implement effective and strategically oriented RPA shall be delivered (Lacity & Willcocks, 2018; Plattfaut & Borghoff, 2022).

Primary Objective:

For developing and validating a comprehensive and quantitative framework to predict and improve RPA integration success in BPM environments using empirical analysis of barriers, success factors, and organizational characteristics.

Specific Objectives:

- **O1:** To systematically identify, categorise, and quantify the prevalence and impact severity of key challenges faced by organisations during RPA integration in BPM frameworks, establishing a statistical baseline for implementation risk assessment.
- **O2:** To determine and rank-order the most statistically significant critical success factors influencing successful RPA implementation, developing weighted importance scores based on quantitative evidence and correlation analysis.
- **O3:** To analyse and model the predictive relationships between organisational characteristics (size, industry sector, digital maturity, geographic location) and RPA integration success rates, creating organisational readiness assessment criteria.

- **O4:** To quantitatively evaluate and compare the measurable effectiveness of various implementation strategies and change management approaches in overcoming RPA integration challenges, focusing on metrics including process efficiency gains (%), cost reduction percentages, timeline adherence rates, and user adoption scores.
- **O5:** To identify and validate quantitative predictive indicators for long-term RPA sustainability and scalability within BPM frameworks, establishing benchmarks for continuous improvement and expansion planning.
- **O6:** To create and check a decision-making tool based on statistical methods, which helps companies assess how ready they are for robotic process automation, estimate how likely they are to succeed with it, and use their resources better to get more value from their investments.

1.5 Research questions

The following research questions will guide the research.

- **RQ1:** What are the primary difficulties that organisations encounter when integrating RPA within BPM frameworks, and how do these difficulties differ according to organisational traits and implementation maturity?
- **RQ2:** What are the critical success factors that show the highest statistical correlation with the successful outcome of RPA implementation in BPM settings, and how are they ranked according to their importance?
- **RQ3:** How do organisational characteristics (size, industry sector, digital maturity level, and geographic location) statistically predict the likelihood of successful RPA integration outcomes in BPM frameworks?
- **RQ4:** What quantitative impact do different implementation strategies and change management approaches have on overcoming RPA integration

challenges, measured through process efficiency improvements, cost reduction percentages, and implementation timeline adherence?

1.6 Significance of the Study

The value of the study is that it provides an impact on the academic literature and applied business research in RPA and BPM integration. Although RPA has come to be a fundamental pillar of digital transformation, there are numerous organisations that are not clear about the aspects that define the successful implementation of RPA (Legito, 2023). The given research fills that gap by offering a quantitative and evidence-based evaluation of the obstacles and success factors that affect RPA integration. The results will enhance available literature by correlating the success of RPA to organisational, technological(Willcocks, 2017), and management aspects, and provide a systematic approach that can be employed to conduct future studies and theory advancement in the automation and process management fields.

Having a practical perspective, the research can be of great importance to decision-makers, project managers, and technology leaders who want to deploy or expand RPA initiatives in their organisations(Patrício, Varela, Silveira, et al., 2025). This research would offer practical considerations that can be used to reduce the number of risks that face organisations in the process of automating businesses by creating a predictive success framework that would allow organisations to assess the level of preparedness, efficiently distribute resources, and reduce risks that come with automation projects. In addition, it provides strategic guidance in streamlining automation efforts in relation to the larger business goals(Chaurasia et al., 2024), which would be measured by improvement of process efficiency, both long-term sustainability and cost-effectiveness. In the end, the research helps in developing a roadmap that organisations can use to have more informed, data-driven, and successful data transformation journeys.

1.7 Definition of Key Terms

- **Robotic Process Automation (RPA):**

The term RPA denotes the application of software robots that simulate human actions for the purpose of carrying out digital system tasks that are repetitive and governed by rules. This technology, in turn, leads to the enhancement of accuracy, reduction of operational time, and thus improved efficiency in the overall business processes (Madakam et al., 2019).

- **Business Process Management (BPM):**

BPM is like a rigorous event that analyses, designs, implements, monitors, and keeps on improving an organisation's processes. BPM's ultimate objective is to make processes in tune with the organisational goals and to make sure operations are set for efficiency and effectiveness (Reijers, 2021).

- **RPA Integration:**

RPA integration will be the procedure of linking automation robots to the current systems and business procedures as far as the system of BPM. It would definitely require technical alignment, process re-engineering, and support of various parts of the organisation to make sure that the process of transitioning to automation goes well (Kitsantas et al., 2024).

- **Critical Success Factors (CSFs):**

Critical Success Factors refer to the elements that are definitely required, whether conditions or practices, which significantly impact on the success of the RPA under implementation. They allow organisations to know the primary factors, which result in the sought-after automation outcomes and, consequently, the creation of sustainable performance upgrades (Kim, 2022).

- **Implementation Challenges:**

The problem of implementation may be described as the diverse obstacles, such as technical, organisational, and process-oriented ones, which interfere with the real implementation of the RPA solutions. Examples of these include incompatibility of systems, employee resistance and the absence of governance systems and lack of standardisation of processes among others (Remlein & Nowak, 2025).

- **Organisational Characteristics:**

The organisational characteristics are the main traits that a company possesses, like the industry it works in, the number of employees, and the degree of digital maturity, and the location of its offices. These attributes have a great impact on the organisation's capability of adopting, carrying out, and expanding RPA projects (Simić & Matović, 2018).

- **Change Management:**

Change management is a systematic technique that is applied to ease transitions whenever the RPA technology is introduced to the organisation, along with other technologies. One of its main purposes is to reduce opposition, make workers aware of the upcoming changes in the processes, and thus obtain a good and effective adoption course(Pyłacz & Sasak, 2023).

- **Process Efficiency Gains:**

To put it simply, process efficiency gains are the benefits measured by the improvements made to the company's work through automation. These are: less time spent on processing, more accuracy, and fewer errors. With the help of these gains, the companies can count the money they made by implementing the RPA technology(Sutherland et al., 2018).

- **Predictive Success Model:**

A predictive success model is an analytical framework that is data-driven and designed to predict the success probability of RPA deployment based on the measuring variables. It is a tool that helps companies to assess their readiness and make smart decisions before the deployment of robotic process automation initiatives(Horsfall et al., 2025).

- **Sustainable Automation:**

Sustainable automation is the turning point of an organisation in maintaining, increasing, and upgrading its RPA systems over the years. It not only makes sure that automation is flexible and economical, but also that it supports the long-term business plans and is in sync with technological developments (Vashishth et al., 2025).

1.8 Summary

This chapter provided the fundamental background for the research by emphasising the increased contribution of RPA to BPM and describing the ongoing difficulties that companies encounter in obtaining successful automation integration. It proposed the research problem, which revealed the necessity of a quantitative and evidence-based framework to identify key barriers, evaluate the critical success factors, and determine the future results of RPA implementations. Another aspect of the chapter defined the research goal, conceptualised research questions and highlighted the study's importance in supporting the use of data-driven decision-making, resource savings, and adoption of sustainable automation practices. Furthermore, keywords were outlined in an important manner to ensure that the concepts were made clear and consistent throughout the study. Overall, this chapter helped to lay the ground for the further literature review and methodology that was going to focus on exploring the theoretical and empirical bases of RPA-BPM system integration. Overall, this chapter helped to lay the ground for the further

literature review and methodology that was going to focus on exploring the theoretical and empirical bases of RPA-BPM system integration.

CHAPTER II: REVIEW OF LITERATURE

2.1 Theoretical Framework

The theoretical components of the work are a mixture of the “Technology-Organisation-Environment” (TOE) framework, (Baker, 2018) BPM (Bruin et al., 2005) Maturity Model, the A theory, and the “Socio-Technical Systems” (STS) (Appelbaum, 1997) framework as a means of forecasting or elucidating the success of the RPA integration procedure in the context of BPM. The TOE framework serves as a broad lens through which the interaction of the technological readiness, organisational advantages and environmental pressure may be analysed in the context of the introduction and success of RPA. Some of the variables in this school of thought that can determine the success of the implementation include digital maturity, compatibility of infrastructure, commitment of the leadership and regulatory context. This is supported by the BPM Maturity Model that locates the RPA integration as a process standardisation and governance and measurement maturity process- it is postulated that organisations with greater BPM potential will encounter fewer obstacles to integration and greater efficiency returns. The combination of these models provides a structural and contextual interpretation of the nature of the interaction between the RPA implementation issues and success factors in the complex organisational ecosystems.

It is on this that the STS theory takes the analysis to the next level in regards of recognising the human and behavioural perspectives of mechanization. The integration of RPA does not only change the technical process but also employees, the dynamics of the communication patterns and types of choices. The STS approach therefore lays great stress on automation efficiency and less regard to workforce flexibility and participatory, which aligns with the change management and sustainability objectives. The combination of the

three theoretical approaches allows the development of the holistic framework, i.e. connection of the technological, organisational, environmental and human subsystems that jointly define the effects of the integration of the RPA. This cohesive model aids in the investigation's goal of developing and validating a quantitative model that can predict the success of RPA using empirical evidence of challenges, strategies, and organisational attributes.

2.1.1 Technology-Organisation-Environment (TOE) Framework

Baker (2018) created a theoretical model known as TOE to gain a deeper comprehension of how companies integrate new technologies into their operations. It suggests that organisational, technical, and environmental elements all play a part in decision-making and the effectiveness of technology integration. Internal elements such as organisational structure, leadership, resources, and culture make up the technological context; external forces such as market competition, regulatory constraints, and industry trends make up the environmental context; and the innovation's complexity, compatibility, and relative advantage make up the conditions of the technological context. By combining these three aspects, the TOE paints a complete picture of how internal and external forces interact to dictate the performance and acceptance of new technology.

The TOE framework is quite applicable to analysing the issues and the success determinants in the context of the RPA fusion into BPM systems. The differences in adoption due to the compatibility of the systems and willingness to adopt a particular system can be explained by the technological aspect, and the role of the leadership, resources and the abilities of employees should contribute to the success of RPA can be explained by the organisational aspect. The external forces, which include compliance, technological disruptiveness and competition concerns on automation strategies, are captured in the environmental dimension. The study systematically weighs up the

predictive and increasing impact of these interdependent factors on the success of RPA integration using the TOE outline, therefore, contributing to the establishment of a quantitative and evidence-based framework of the success of business process automation.

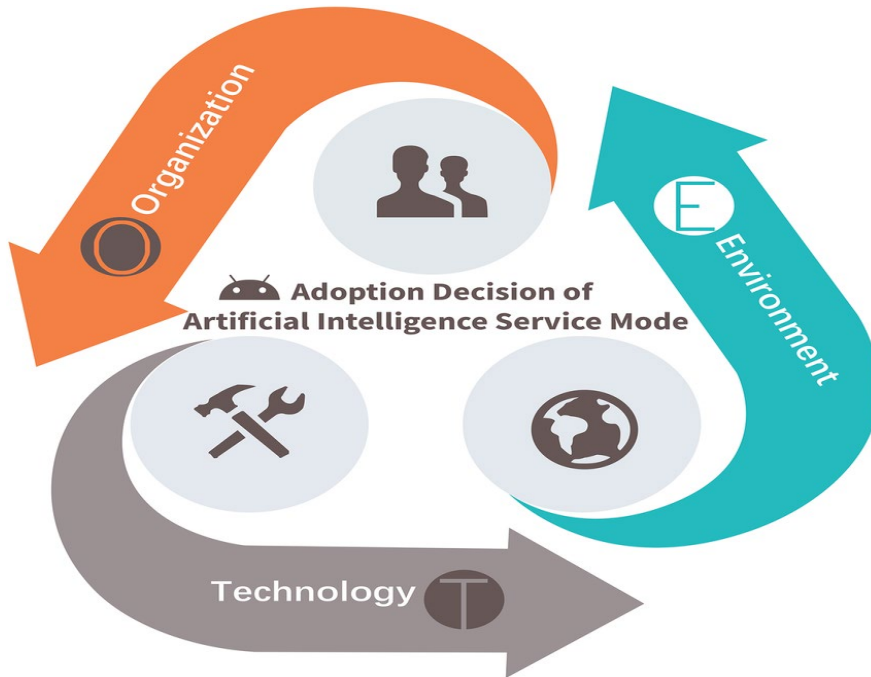


Figure 2.1
Basic “Technology-Organisation-Environment” (TOE) framework (Yang et al., 2022)

Success in implementing AI depends on the ever-changing relationship between three interrelated components, commonly referred to as the TOE framework. This picture shows a conceptual framework for the Adoption Decision of the AI Service Mode. External market conditions, competition, and regulatory forces are reflected in the Environment (E) factor, which is represented by the globe icon. Internal capabilities, resources, strategy, and culture are reflected in the Organisation (O) factor, which is represented by the people icon. The traits, complexity, and compatibility of the AI solution are addressed by the Technology (T) factor, which is represented by the tool’s icon. This model states that in order for a company to make a good decision and put an AI service mode into action, it has to strike a balance between the three most important factors.

2.1.2 Business Process Management (BPM) Maturity Model

The BPM Maturity Model was developed by Bruin et al. (2005) presents a methodical platform for evaluating the level of achievements by the organisations in regard to the development and institutionalisation of sound process management practices. It refers to maturity as a multidimensional construct, which presupposes that such dimensions as process governance, culture, performance measurement and technology enablement are considered. Organisations can grow to various levels of maturity between early process management practices that are ad hoc and smooth, and continuously evolving systems. Each of the stages reflects the standardisation of processes, integration and strategic appropriateness. The BPM Maturity Model may, therefore, be utilised as both a diagnostic and developmental tool for the organisations to be aware of their current capabilities in processes, but also where they are able to enhance their operational effectiveness and agility.

The BPM Maturity Model is crucial when it comes to RPA installation, and it is essential to evaluate the ability of the organisation to adopt the automation technologies effectively. Organisations that achieve high BPM maturity levels maintain documented processes that their teams follow through standard operating procedures to execute efficient RPA deployments. The low-maturity organisations experience process fragmentation problems, together with poor data quality and governance inefficiency, which create obstacles that prevent successful automation deployment. This research uses the BPM Maturity Model to investigate the effect of the difference in process maturity on RPA implementation costs, such as efficiency improvement, scalability, and longevity. The model helps to create a quantitative model of predicting the success of integration across various organisational settings by bridging the correlation between the measurable RPA performance metrics and the degree of BPM maturity.

Business Process Management Maturity Model

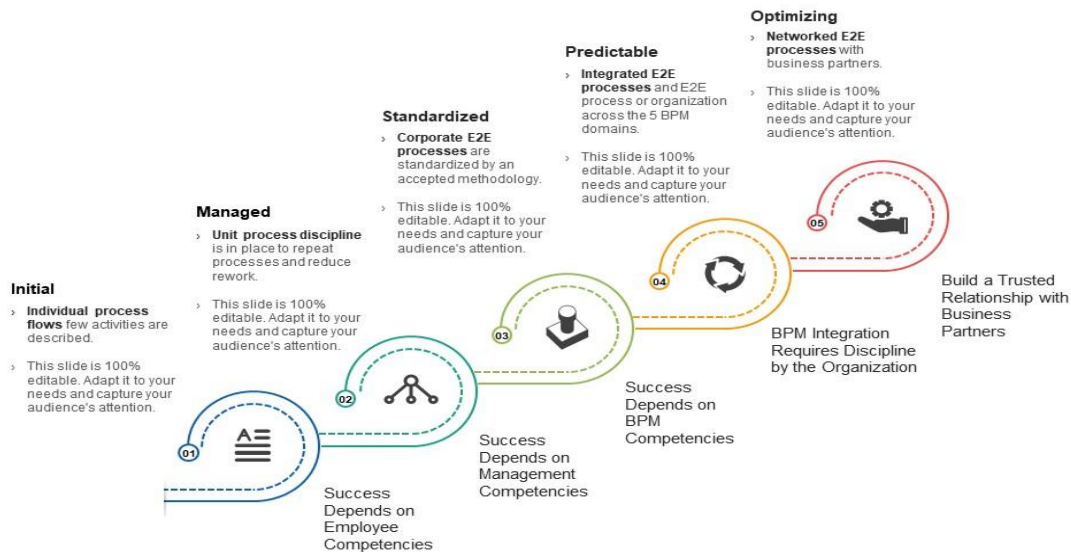


Figure 2.2

Business Process Management (BPM) Maturity Model (Slideteam, 2024)

This diagram shows the five phases that a company's process management skills go through as they develop over time, according to the BPM Maturity Model. The process starts at the Initial (01) stage, where Employee Competencies are the key to success and where there are few recorded activities and unstructured individual process flows. Management Competencies are required for success in Managed (02), which involves establishing unit process discipline to support repeatable operations. Standardised (03) is the third stage, and it involves standardising an approved technique for corporate end-to-end (E2E) operations. After that comes the Predictable (04) stage, when BPM Competencies determine if the organisation and its integrated E2E processes succeed across all BPM domains. At the very top level, optimising (05), organisations apply BPM discipline company-wide to constantly improve, eventually leading to the development of Trusted Relationships with Business Partners, through the implementation of Networked E2E processes with business partners.

2.1.3 Socio-Technical Systems (STS) Theory

“Socio-Technical Systems” (STS) theory is a theory that was created by Trist and Emery in the 1950s Appelbaum (1997), which states that any organisation includes two subsystems that cannot be separated: the social system (persons, culture, and relationships) and the procedural system (tools, knowledges, and processes). This theory underlines the fact that the best organisational performance comes when the two systems are designed and harmonised together as opposed to being developed separately. This combative strategy acknowledges that technological shifts inevitably influence human jobs, the design of work and the processes of making decisions. The concepts that STS theory advocates include empowerment of the employees, participatory design, and flexibility in a bid to find a balance between operational effectiveness and the welfare of the employees. The theory offers an insight into the co-evolution of human and technological factors in the current digitalised workplaces by concentrating on the human factor and technology.

The applicability of the STS theory to RPA implementation in BPM models can be explained in terms of its ability to understand the human and organisational dynamics that are observed when implementing automation programs. Although the effects of RPA are efficiency and accuracy, the tool also reinvents the job role, changes communication patterns and even the organisational culture. The STS theory assists in explaining these transitions as it underscores the importance of socio-technical agreement or alignment, that is, the automation should not replace human capabilities, but instead, it should enhance them. In the paper, the STS theory will be applied in analysing change management ideas, user acceptance and workforce flexibility as key determinants to the success of RPA. It is proposed that integrating socio-technical aspects will lead to the development of sustainable automation in this study, which will enhance the performance of the process and the involvement of employees in BPM settings.

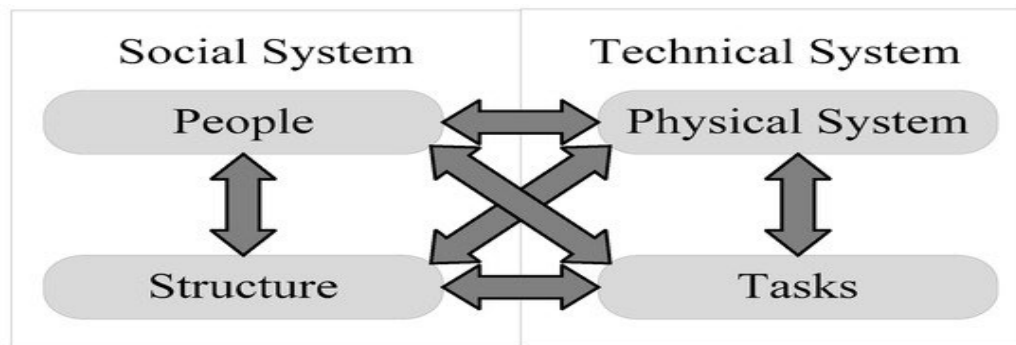


Figure
Socio-technical system (Ibl & Čapek, 2017)

2.3

Any organisational system, according to the STS theory, which is depicted in this graphic, consists of two interconnected and interacting components: The Social System and the Technical System. People (skills, knowledge, connections, values) and Structure (roles, processes, hierarchy) make up the Social System on the left, and the internal arrows show how these two parts impact each other. Both the Physical System (equipment, tools, physical layout) and the Tasks (processes and workflows to be conducted) are part of the Technical System (on the right), and their interdependence is also shown. The crucial concept is represented by the multiple diagonal and horizontal arrows connecting all four components across the social and technical divide, emphasising that the optimal performance of a system is achieved only when there is a simultaneous and joint optimisation of the human/social aspects and the technological/task aspects.

2.2 Foundations of Robotic Process Automation and Business Process Management

Nalgozhina et al. (2023) One well-liked method of automating processes, RPA uses computer programs to mimic human interaction through GUIs. The successful implementation of RPA is contingent upon a number of factors being in place. The well-established discipline of BPM, on the other hand, could provide the perfect setting for RPA to thrive. They provide a way to integrate RPA with BPM (RPABPM) so that the technology is in sync for useful automated business operations. By reducing spending on

management, the issue formulation process is achieved. There are five stages to the RPABPM approach that should be followed to maximise energy savings and business automation: design, modelling, execution, and optimisation. A sign of well-managed business processes is their ability to be carried out from start to end. The suggested RPABPM method has also been validated using data collected from three pilot projects. This preliminary study's main objective is to confirm the viability and validity of the approach used to evaluate the possible benefits, usefulness, significance, and integration of RPA with BPM. Determining the quality of the procedure is the aim of the second examination.

Zhang et al. (2023) When compared to previous IT systems, RPA has a number of characteristics that could have comparable and novel adoption impacts, including advantages and disadvantages. By detailing every step of RPA deployment in an accounting department, their work enhances the corpus of knowledge on both accounting and new technology. They employ an exploratory research strategy centred on case studies and built on top of an existing RPA system at an accounting company. Supplementing their findings are comparisons with other case studies of RPA installations in their early stages as well as interviews with professionals in the field. Personnel, "Information technology" (IT) governance, data protection, system viability in the long run, and RPA performance evaluation are the five challenges they categorise with RPA deployment in accounting duties. Included as well are a few key considerations that could facilitate the submission of RPA in accounting. Their findings illuminate the effects of RPA deployment on academics and businesspeople.

Herm et al. (2023) A game-changing technology, RPA can swiftly digitise and automate subprocesses and jobs that were previously done by hand, as well as whole business processes. RPA is a transportable technology that mimics human behaviour by

accessing only the presentation layer of IT systems. Some estimates put the failure rate of RPA projects at 50%, which is understandable given the technology's relative youth and the wide variety of methods used to put it into practice. An RPA project implementation framework grounded on design science research methodologies is their answer to this issue. In the end, they used 35 reports on real-world plans to create a fundamental sequential model. The next step was to hold a series of workshops and expert interviews to validate and refine their model. What you get is an adaptable framework with stages that can be used by companies of all sizes and in a wide variety of organisational contexts. The three stages of planning, executing, and expanding are its framework. They are a continuous cycle that spans various projects and consists of eleven stages that are significant during the project. They form a cohesive whole that specifies procedures for managing knowledge and supporting RPA deployment initiatives.

Dalsaniya & Patel (2022) The study investigates how “Intelligent Automation” (IA) enables process automation with the integration of automation robotic process technology and artificial intelligence. The original design of RPA systems to execute basic repetitive tasks creates challenges for their operation in complex business environments which require accurate task execution. Organizations can achieve process automation through intelligent selective adaptive learning systems which combine IA with technology for cognitive automation, machine learning, and natural language processing. The study looks at how AI affects organisational efficiency and how AI improves robotic process automation systems to better operational flexibility. The researchers demonstrate through their case studies and research findings and real-world examples how IA transforms operational performance and drives down expenses while increasing productivity and bettering decision-making across multiple fields of work. The research investigates how

artificial intelligence will impact organizational adaptability and competitive advantage while assessing its capabilities to manage automated processes.

Pramod (2022) The research aims to find out which sectors benefit from RPA and which sectors have adopted RPA technology. The first hurdle in using RPA is figuring out which tasks qualify. The study presents new research paths for RPA future studies while demonstrating the challenges various industries face. The study selected its publications from three major databases which included Google Scholar and SCOPUS and the Web of Science. The 113 publications that made it into the research were all selected using the PRISMA framework for “Systematic literature reviews” (SLR). The review and further study will be guided by three questions. Considering the findings of this investigation, RPA has shown to be very effective in banking and associated industries, while healthcare and manufacturing have seen moderate implementations, all of which have improved operational efficiency and productivity. Nevertheless, by capitalising on technological advances, there are many more prospects in other fields, and conjecture regarding possible future directions has led to the development of a research agenda. A fresh, holistic view on RPA application across domains is presented in the report. Despite extensive research on the potential uses, advantages, and disadvantages of the meta-themes, no encouraging studies have been identified. This study offers a summarizing overview of the research agenda and looks ahead to potential RPA-benefiting industries that have not yet investigated. Organisations planning to use RPA and individuals working on RPA approaches will find this study useful as a reference.

According to Siderska (2021) Findings from the study shed light on how 110 Polish service providers used RPA systems amid the COVID-19 epidemic. The goals of the CAWI survey, which was the initial study of its type in Poland, were to catalogue the RPA technology's elements, as well as the factors that have affected its adoption, the obstacles

that have stood in the way, and any connections between these factors. In addition, the statistical studies took into account any discrepancies in how different RPA technology aspects were assessed, primarily focusing on features' perceived utility, usability, security, and functioning. According to the survey, 60% of participants stated that robotization technologies helped keep company operations running during the epidemic. Criteria pertaining to the practicality of the RPA system were given the greatest possible rating. The investigation also revealed that, with several notable exceptions, the most commonly cited obstacles to technology deployment were procedures that were not streamlined, not standardised, and not digitalised. This study contributes to the corpus of information on process automation and has real-world consequences for those making decisions about using RPA applications. The outcomes can provide light on the possible factors that encourage or discourage businesses from using software robots, and they can serve as a crucial metric for managers concerned with deploying such solutions.

Fernandez & Aman (2021) To streamline their processes, businesses utilise a wide range of automation techniques. RPA is one of the tools available. Problems with the system's ineffective utilisation have recently come to light. By examining the barriers to RPA deployment in the GBS industry, this study seeks to close that knowledge gap. The study, which uses a case study technique and interviews with industry insiders, focuses on one of the largest oil and gas firms globally. The research found that both before and after using RPA technology, the company encountered a number of problems. Limitations on automatable tasks, system failure, and concerns about data privacy and security are all obstacles. In order to overcome the obstacles encountered by the company, the research recommended that thorough preparation prior to RPA installation and a robust security team be established.

2.2.1 RPA Foundations & Evolution

Digitization has been one of the persistent issues which the companies had to tackle and are still tackling, this was largely owing to the fast the technology moved along with its advancements. Amongst the various methods that have been put forward for application in automation studies, RPA could be one. Indeed, the financial services industry is only one of many that have been profoundly affected by the quick development of technology. RPA and AI are two of the many technological advancements that are altering how businesses operate (Harahap et al., 2023; Khan et al., 2022). Despite this, traditional accounting techniques still frequently involve a great deal of manual labour, which leaves them vulnerable to inefficiency and human mistake. In order to address these issues, businesses are integrating RPA and AI to automate data entry, reconciliation, and report production, freeing up employees to analyse and make strategic decisions. Despite this, traditional accounting methods still typically require a lot of manual work, which in turn makes them open to human error and inefficiency. To deal with these problems, companies are combining RPA with AI to automate data entry, reconciliation, and report generation so that the workforce is free to engage in analysing and making strategic decisions (Dhewanto et al., 2022) accounting performance significantly improves as a result of this change, however it also affects . Such a shift brings about a significant increase in accounting performance, but it also impacts the mood of the employees since they are now engaged in interesting and valuable work instead of just going through the motions.

Digital transformation in full scope is gaining popularity among companies. This will enable their infrastructures to cope with the constantly changing business surroundings and the requirements of the more demanding customers. Besides, customers constantly expect that the company's systems will be able to respond and be flexible enough to carry out their daily operations, as well as to provide extra information to support reliable decision-making (Syamsuddin et al., 2024). Corporate executives must be trained to be

better equipped to take into account the development of the information technology industry, as well as the implications thereof and simultaneously be able to formulate global answers where necessary. Moreover, businesses are driven to improve their efficiency due to financial and competitive constraints. This drives them to search seeking innovative practices and technology that could enable them to outperform rivals, save expenses, and enhance their operations (Adewumi et al., 2024). Companies in the accounting, financial, supply chain management, and IT industries have begun to use the technology. The increasing significance of high-class services and smooth operations may be one reason for the technology to gain more users in the business sector. In addition, numerous studies have looked at how technology might improve a company's structure (Ribeiro et al., 2021; Syed et al., 2020) and (Asatiani & Penttinen, 2016).

2.3 Challenges in RPA Integration within BPM Frameworks

According to Santos et al. (2025), Successful procurement procedures are essential to the long-term success of digital companies and need constant refinement via the use of automation, integration, and performance evaluation. The study investigates whether RPA and BPM can collaborate in the procurement process and concludes that they can. The objective is to streamline a labour-intensive procurement process by analysing and improving it to make it more effective, cut down on time-wasting interventions, and decrease costs and cycle time. This study offers a practical artefact that would enhance the procurement process by utilising Design Science Research Methodology. They created an artefact by utilising BPM methods and RPA frameworks. The implementation of BPM Redesign Heuristics into the preexisting process led to the RPA. Analyses of the cycle time reduction were conducted quantitatively, and a Confirmatory Focus Group of departmental specialists provided qualitative feedback as part of the mixed-method evaluation. Research shows that BPM and RPAs may work together to improve procurement procedures, free

up staff time for other endeavours, and decrease cycle times and burden associated with demanding manual operations. In addition to providing evidence of potential long-term benefits in efficiency and accuracy of the procurement process, the study offers helpful recommendations to any organisation interested in utilising automation technologies to enhance its procurement activities.

According to Kraus et al. (2024), the use of RPA technology to automate business processes has increased dramatically in recent years. Although a number of studies have looked at the possible advantages of RPA, the difficulties related to using the technology have received comparatively less attention. Consequently, organising and discussing issues related to RPA deployment activities is the goal of this research. They interviewed consultants who were involved in various RPA deployment initiatives, following an inductive process. Consequently, a thorough and comprehensive comprehension of the phenomenon being studied is enhanced by their wealth of experience and opinions. According to the findings, a number of factors, including those pertaining to processes, resources, psychology, and coordination, must be considered before beginning an RPA implementation project. By identifying and categorising these problems, this study contributes to the body of knowledge in addition to providing a new typology of hurdles and going into detail about each challenge.

Nalgozhina et al. (2023) RPA is an alternative widely used technology of process automation based on the use of software to simulate a human role in using the graphical user interface. RPA has a narrow scope, and it cannot be efficiently utilised without fulfilling several requirements. BPM, in its turn, is a rather developed field of study that can possibly offer good preconditions to the success of RPA. They are offering an effective method of integrating RPA with BPM to coordinate the technology to align with smooth automated business procurements. The process of problem formulation is done in order to

reduce the expenditures of the management. The optimal procedure for business automation and energy savings consists of five stages: planning, modelling, executing, and optimising. These phases will be incorporated into the RPABPM strategy. Applying an end-to-end process is the key to successful BPM. The usefulness and precision of the proposed RPABPM approach have also been established via the use of three empirical investigations. To validate the approach used to ascertain the degree of acceptability, potential, significance, and integration of RPA with BPM, the prime objective of the first study is to gather relevant data. Second, they look at whether or not the procedure is really of excellent quality. Thirdly, they run tests to see how effective the strategy is for evaluating and locating RPA-optimal BPM. They put the RPABPM to the test using a six-axis IRB140 industrial robot from ABB and a Flex Pendant, the teacher's pendant, running Windows CE. A Robot Ware 5.13.10371 IRC5 controller is required for operation. The already-installed.NET Compact Framework 3.5 is utilised by the application. Afterwards, the suggested strategy is tested against cutting-edge approaches to see how it performs in terms of efficiency and power use.

Uskenbayeva et al. (2022) Production and management expenses are always going down in every contemporary company structure. Every kind of business, from mom-and-pop businesses to multinational conglomerates employing thousands of people, actively use a unique set of management tools. These tools streamline and improve a plethora of operations involved in each transaction between a company and its client. The strategy may reveal aspects of the company that were previously unknown, in addition to financial gain. BPM is the most popular method of modernising and automating processes; however, there are many more. Despite the rise of RPA as a sort of workflow automation technology, BPM offers a more all-encompassing approach to automating and enhancing businesses' processes. Making the right tool selection calls for a review of current approaches and a

consequential analysis. Because they vary according to a set of characteristics and factors, it helps choose the right notation. Yet, a thorough familiarity with all of the business's operations is just as important as knowing and analysing techniques. These representational studies suggest that a logistic business process best exemplifies the robotic solution technique's introduction approach. The author shows the main features of BPM and RPA models and gives an in-depth examination of how they work together. In addition, literature to ascertain the present state of logistic business automation, research was done. The study specifically examines logistics systems and the differences and similarities between BPM and RPA. For the application of management and automation techniques in logistical systems, the author offers methodological suggestions.

König et al. (2020) one of the most popular types of process automation is RPA nowadays. It allows computers to take the role of people when it comes to controlling GUIs. Nevertheless, RPA is a narrow concept and to be successfully put into place, its surrounding has to satisfy numerous conditions. BPM is an older and more mature research field that could give RPA the space to flourish. They introduce the strategy to integrate RPA into BPM to connect the technologies and unite their methodical approach. The strategy enables RPA to add value through the capabilities and insights of BPM.

2.3.1 Industry-Specific Challenges in RPA

The healthcare sector is experiencing a major shift brought about by a technological revolution and the very intelligent and human-like machinery solutions that correspond to this revolution, that is, the use of AIs and RPAs. Recent studies conducted in the market confirm the presence of huge growth and the ability of machines to automate healthcare technology and processes. The usage of automation tech is causing a stir in the entire healthcare sector by removing inefficiencies in both the administrative and clinical processes. A vast amount of written material backs up the standpoint that the complete

integration of technology will bring about a significant rise in healthcare delivery efficiency, which will be realised in the present day through the advanced capabilities of process management, decision support, and patient care (Yachamaneni, 2025). The alliance of AI with RPA tech is a multi-strategy approach that serves to cope with the added variety of healthcare ecosystem problems. This tech gives man through the machine way out of the loop via cutting-edge making solutions for the supervision of intricate processes, handling of information, and repositioning of functions. With the help of smart automation, the healthcare sector can change its delivery of services model, thereby increasing the effectiveness of operations and also the quality of patient care (Jin et al., 2025). This academic research study scrutinises the wide-ranging effects of AI and RPA technologies in health care, their strategic use, potential advantages, and changing abilities being the focus of the study and, of course, also being the main theme of the paper (Ghobakhloo et al., 2023). This study is designed to give a thorough examination of the components, such as technology changes in healthcare infrastructure, operation, and service delivery, which are going on at the same time.

Through the use of shared services, Following "centralisation, standardisation, optimisation, migration to efficient locations," this research delves into RPA's usage in shared service organisations (Willcocks & Lacity, 2016), on top of implementing ancillary technological systems. While standard ERP systems, self-service websites, as well as basic automation technologies like screen scraping and scripting have historically been *used* by shared service organisations as enabling technologies, RPA is cutting-edge software that makes secure process automation possible for businesses. By studying these early adopters, we can see that RPA provides many benefits for businesses, including a (Willcocks et al., 2015) fewer FTEs needed, more output with fewer inputs, higher-quality service thanks to robots doing repetitive tasks accurately, faster service delivery, and happier workers as

their jobs change to involve more empathy, judgment, and social interaction. But good leadership is essential to bring these economic benefits to execution. Based on the findings of this study Lacity & Willcocks (2016), ideal procedures for attaining monetary gains for the company, which include a plan for automating services that has the backing of upper management, monitoring of company operations and shared services, training for employees to excel in new roles, and preparing for changes brought about by automation through change management. Shared services are a great way to use RPA for business benefits (Lacity & Willcocks, 2012). According to this research, RPA works best when used in place of "swivel chair" procedures that involve humans.

The integration of RPA along with “Natural Language Understanding” (NLU) poses a revolutionary effect on automating business processes the way RPA is regarded as the kind, it is a very powerful robot dealing with structured data and predictable workflows, however at the same time, it has to struggle quite a lot with unstructured inputs that require contextual understanding (Choudhary & Karmel, 2022). The difference in technologies has limited the application of automation in several areas, with unstructured data as the main data source, such as customer support, medical documentation, and compliance with financial regulations. However, NLU has advanced significantly in recent years, especially in the field of transformer-based models, which have proven to be highly effective unrecognising the meaning of human language (Devlin et al., 2019). The integration of these features into traditional RPA frameworks serve as an excellent solution to automate processes which required human mental abilities. RPA now enables companies to automate workflow processes which include multiple document types and free-text communication and require situational decision making through its development of contextual awareness and language processing abilities (Litman, 2016). The combination of multiple technologies creates new automated systems which can understand user intent and detect

relevant items while maintaining their social connections throughout intricate data environments. The very fact that, besides this, the incorporation of “Reinforcement Learning” (RL) methods does bring about the possibility of continuous enhancement in the performance of the process, allows the RPA systems to become more skilled over time through experience rather than to be upgraded once and for all via coding (Willcocks, 2017). The shift from rule-based models to contextual and adaptive automation is a significant transformation in the realm of automated knowledge-intensive workflows requiring a fine understanding of unstructured material, which is the main reason for the change in the companies' mindset regarding and use of such methods. Academic and professional communities have begun to pay more and more consideration to RPA technologies in the last several years (Asatiani et al., 2023). RPA is the name of a certain class of software that mimics human error detection and correction through the use of computer systems' user interfaces. Despite the technology's long history of usage in businesses, very little is known about the difficulties that companies have during RPA deployment initiatives. As a result, there has been a current push for more research into these difficulties (Fernandez & Aman, 2021). Prior research was carried out in highly specialised settings, like accounting and auditing or shared service centres organisations. Although that research produced some intriguing findings on difficulties, it's not obvious if those findings apply to other kinds of organisations. So, to identify and explain the issues in detail, their primary study purpose is to give a thorough explanation of the phenomena being studied. They use an interpretative qualitative research strategy because of the field's dynamism and the limited amount of knowledge available to them (Lincoln & Guba, 1985), which corresponds to their primary study aim. It is possible to develop the following enquiries for research: First, what kind of problems arise during RPA implementation projects? The second is, how can these problems be organised into broader themes?

The accounting profession is currently experiencing a transformation of remarkable proportions, which is largely attributed to the combined use of AI, RPA and big data analytics. These different technologies not only automate routine tasks but moreover, they actively shape the new processing, interpreting and using of financial data for the purpose of making strategic decisions. AI has already been identified as the supercharged capacity of an organisation to carry out its activities through the transformation of humans/machine interactions done via the possible use of AI in tasks that were initially performed by humans, which includes fraud monitoring, detection and processing of regular transactions, among others (Othman, 2025). At the same time, RPA has resulted in noticeable enhancements in the fundamental accounting functions like account reconciliation, auditing within the company, and the preparation of financial statements, because it has cut down the processing time and human error to a great extent (Langmann & Kokina, 2021; Yi et al., 2023).

RPA could be defined as follows : “A software instance that has previously been set up to carry out a variety of procedures, activities, transactions, and tasks in one or more unrelated software systems using business rules and predetermined activity choreography to provide a result or service without the need for human participation” (Deloitte., 2017). The purpose of these bots is to act like humans. Back-office tasks include data extraction, processing, record keeping, report generation, and many more are all within their programmable capabilities, as are interactions with other computer systems, applications, and data sources (Suri et al., 2017). As a result, robots will take over routine, repetitive jobs, and only decision-making involving higher-level human knowledge will remain. Even though RPA has been around for a while, it is still undergoing a lot of change and is becoming more popular as more and more companies see its value. It will soon be an indispensable tool for any manager's toolbox. Strategic goals, staff productivity, and

customer service have all been positively affected by organisations that have effectively used RPA and efficient business processes (Lacity & Willcocks, 2016). A lot of media attention has gone to these companies because of how quickly and cheaply they can complete procedures. Therefore, RPA is highly appealing to industries like banking and insurance that have a history of swiftly embracing new technology, as it allows them to automate procedures and operations that have previously relied on human labour.

The existing studies show that RPA implementation faces multiple challenges which stem from its technological limitations and its need for organisational readiness and process maturity and human skill development. The existing barriers demonstrate that organisations need to implement complete BPM solutions instead of using separate technical methods to achieve successful automation. Organisations need a systematic method which enables them to evaluate their readiness and select priority processes while creating stakeholder alignment because automated systems face danger of developing into uncoordinated efforts which lack ability to expand or produce important business outcomes. The organisation needs an integrated success framework which uses evidence-based methods to help them progress from testing to complete RPA implementation across their entire business.

2.4 Critical Success Factors Influencing RPA Implementation

The source is Ge *et al.* (2025) In order to find out what really matters when it comes to RPA deployment in the hotel business, this qualitative study is going to look at the CSFs that are causing its acceptance. Thematic analysis of the interview data using NVivo revealed the major factors influencing RPA adoption in the hotel industry in China and Pakistan, respectively 14 software. The pre-implementation phase centres on creating a committed project team. The implementation phase involves standardising processes. The post-implementation phase involves developing the project strategy. New, context-specific

data on RPA's application in the hotel sector is also provided by the study, which aims to educate lawmakers and practitioners on the subject.

Huda *et al.* (2025) With RPA, businesses can automate repetitive and regulated tasks with little to no human intervention, making it a shining star in the service sector. In a service-based company, this study looks at how RPA installation impacts overall performance and efficiency. We used a mixed-methods approach to gather quantitative data from 50 service organisations that have used RPA technology. We augmented this with qualitative data from interviews with managers. The results show that operational efficiency can be considerably improved by RPA through lessening the time of process cycles, errors, and cutting the cost of operation. The improvements in productivity are one of the main reasons that can explain the better financial results together with the rise in client satisfaction, which are the primary indicators of the company's performance. The study goes on to say that educating employees, executing change, and integrating technology are the essential elements of success in relation to RPA adoption. The upfront investment costs and the workforce's flexibility are, however, both brought up. In addition to offering a plethora of real-world data for service sector organisations contemplating RPA deployment, this report emphasises the possibility of smart implementation leading to long-term competitive advantages. This research contributes to the body of knowledge on digital transformation by offering actionable guidance to legislators and managers who are looking to get the most out of automation solutions by connecting RPA technology to quantifiable productivity and company performance.

In a current education by Waqar *et al.* (2023), It is crucial to have safety management in place since construction is risky. RPA is a helpful method for enhancing the management of risks in building projects. A number of things work against RPA. The authors of the research used a multi-pronged approach, analysing the technical, financial,

legal, privacy, and resource concerns of RPA as it pertains to managing safety in high-rises. A total of 231 Malaysian professionals filled out the entire questionnaire, with 161 participating in the pilot study. The data was examined using EFA and SEM. Unfortunately, RPA was unable to oversee the security of high-rise buildings because to constraints in technology, finances, laws, privacy, and available resources. Recent this investigation was driven by theoretical and empirical discoveries in RPA deployment and construction safety management. The study explains the primary challenges of using RPA to manage safety in high-rises. The results show where the money should go and how to invest in order to break down the obstacles. The management implications of the study can be useful to the project managers, business owners, and managers of construction safety. The building industry may apply the findings to develop RPA safety management for high-rise constructions in order to solve challenges. This study has implications for the theory and practice of employing RPA for safety management in high-rise structures since it recognised and addressed the primary issues of RPA deployment and construction safety management. The problems that have prevented RPA from being used for safety management on building sites may be solved by this research.

As stated by Sandström (2022), automating routine operations by means of a computer programme that communicates over predefined protocols is known as RPA. Many private organisations like it because it may enhance business outcomes and facilitate corporate change. Remote process automation is more of a "add-on" than a standalone solution. For government agencies that aren't always up-to-date with technology, this is a great option because it's compatible with historical systems. Some types of workers may grow resistant to automation's modifications to their work routines since this technology automates some once manual processes. Resistance to change is a major cause of unsuccessful implementations in the field of organisational change organisation. This is

mainly the case in government agencies, where employees value continuity more than novelty. Furthermore, public organisations lack the motivation to innovate because they are not for-profit. The CSFs are a collection of important operational areas that, when functioning correctly, boost the organisation's prospects of growth and success. A manager or strategist must be able to identify these areas in order for the organisation to have a chance of succeeding. It is challenging for public enterprises to achieve complete success with RPA adoption due to a lack of research on CSFs and change management. Thus, it is crucial to be familiar with the CSFs of change management in order to use RPA in a public business. The study's central inquiry is: Based on applicable theories of change management, what are the most important criteria for the successful application of RPA in Swedish public organisations? Theoretical framework development was bolstered by a theoretical examination. The model is based on prior research on change management in public organisations and a variety of change management frameworks. The next step was to conduct survey research to put this paradigm to the test. The survey was filled out by nineteen Swedish public sector personnel with expertise in RPA implementation. A descriptive statistical analysis was performed on the collected data. The results show that during the implementation phase, the majority of the CSFs from the framework were present. Nevertheless, two CSFs from outside the company were shown to have an effect on the implementation. None of the change management models that were considered or even discussed in the prior literature even remotely addressed these external issues. The findings also indicate that RPA appears to have an operational advantage. This study fills a gap in the existing literature and has real-world consequences for RPA in Swedish government agencies.

Camo et al. (2021) Banking and financial industries have found RPA to be a very helpful new lightweight IT solution for automating digital but manual business procedures.

Despite the growing interest in RPA and the mounting pressure on enterprises to use technology to their advantage in order to stay competitive, research indicates that more than half of RPA installations end in failure. This study sought to analyse what obstacles need to be overcome and how RPA installation may be made easier, building on previous problematizations of failed RPA implementations and academic calls for additional studies in the field. Reviewing project materials, interviewing managers and knowledgeable consultants in a semi-structured manner, and reviewing the literature, which included current implementation frameworks. Existing theory and the respondents' experiences were found to have some parallels and discrepancies. Respondents highlighted nearly every problem and concern that pertains to the difficulty of accomplishing proper change management, communication, RPA education, process selection, automation, post-implementation, and scaling up. It is possible that contextual preconditions are responsible for the respondents' lack of experience with some of the commonly reported problems and difficulties in theory, such as technical factors. Creating internal groups for RPA stewardship and scale-up, carefully selecting which processes to automate, explaining new procedures, their advantages, and the rationale behind their deployment, and expanding technological expertise are prioritised actions for facilitating RPA. They discovered and analysed contextual preconditions that were likely to facilitate the RPA deployment for the example firm. These criteria are possible success factors for RPA implementation. Based on the study, implementation frameworks should prioritise change management, communication, and education, and give equal weight to the initialisation and post-implementation phases. Despite this, the current implementation framework was accurate and helpful in comparison to the case. A methodical strategy with well-defined project milestones was deemed crucial. The study's shortcomings are discussed at the end, along with recommendations for areas that warrant additional research.

Sobczak (2021) The widespread adoption of digital knowledge will cause massive shifts in how many different kinds of businesses operate. When these developments occur, it's called the electronic revolution. Automating business processes is essential to the digital transformation process. Financial, insurance, business process outsourcing (BPO/SSC), and telecommunications companies are among the many that are embracing RPA-related information technology solutions. Here, the word "robot" denotes software rather than a tangible item. Large-scale RPA implementations should not be considered IT projects. The business units of the organisation, rather than the IT department, often handle this type of business change project, which has a technological component. It will eventually cause an increase in digital innovations at businesses, which will occur with the widespread use of cognitive RPA. There are four research questions that the study aims to address: The first research question concerns the foundations upon which businesses build their RPA systems. Questions two and four, respectively, concern the organisational perspective on RPA deployment, the domains of enterprise business activities that make use of RPA, and the elements that determine the success of RPA. This study presents the findings from a survey of 238 Polish businesses that employed the literature review methodology. According to the findings, the questioned businesses are only getting their feet wet in the world of large-scale RPA, but there's no going back now because of the cutthroat competition.

2.4.1 Theoretical Critical Success Factors (CSFs)

The “Robotic Process Automation” (RPA) technology has gained a lot of acceptance in various productions, yet there are still great obstacles that companies must overcome to implement it successfully. The main application of RPA is to get rid of human inefficiencies and errors while saving money, but most of the time, the process is not that simple (Costa et al., 2022). The combination of four main obstacles, which include

compatibility problems, lack of support, people's resistance and unsuitable processes, leads to RPA implementation being a complicated social technical transformation process, comparable to a basic IT system upgrade. The main obstacle to RPA implementation exists because organisations face both technical and infrastructure restrictions. Most organisations depend on outdated legacy systems, which do not work with current technology because these systems lack both standard interfaces and application programming interfaces and stable data structures, which create difficulties for bot integration (Aldajani, 2026). RPA bots demonstrate high sensitivity toward all three types of system changes, which include user interface modifications, system upgrades, and data format transformations. The situation becomes more challenging because poor quality data, fragmented databases, and insufficient security measures create additional obstacles to overcome (Kraus et al., 2024). The automation process needs to create enterprise-wide transformation, yet suffers from integration problems which affect both ERP systems, CRM systems, and document management systems.

The success of RPA is largely hindered by organisational and governance-related barriers. Quite a few companies launch RPA projects without having a precise strategic vision, delineated ownership structure, or comprehensive automation roadmaps for the long run (Prokhorov & Vagner, 2017). Insufficient governance models result in ungoverned bot creation, overlapping work, and the absence of responsibility. Moreover, the lack of agreement between IT departments and business units often causes slow rollout and weak project results. In certain firms, RPA is seen as a temporary measure for reducing costs instead of a long-term capability, which, in turn, restricts the growth and integration of RPA into the main business framework (Szwed, 2023).

RPA initiatives are immensely dependent on process-related barriers, which we can say are overcome through RPA success-oriented processes. RPA is good for use in

processes that are uniform, stable, and governed by rules (Flechsigt et al., 2022). On the other hand, it is still the norm for companies to implement RPA without preceding their processes with optimisation or documentation. Poorly structured workflow with frequent exceptions and high variability in processes will certainly bring down automation potential and raise the rates of failure. Inadequate process selection, in addition, often leads to the automation of bad practices rather than their improvement, which in turn results in minor performance gains and main investment returns that are still considered unsatisfactory (Flechsigt et al., 2022).

The successful execution of RPA projects gets disrupted by four main factors which include technical complexity and inadequate organizational readiness and human resistance and insufficient process development. The testing process prevents RPA projects from advancing further because of these challenges which result in only minor benefits. The understanding of these challenges requires systematic study because this method enables organizations to evaluate RPA viability and develop efficient automation methods for modern business operations.

2.5 Organisational Characteristics and Their Influence on RPA Integration Success

Brás *et al.* (2025) RPA is one of the major innovations that came to help the professional world in the period of rapid technological progress. Companies seek to automate processes as a means to achieve more efficient and productive performance, to have better control over expenses, and to minimise the occurrence of mistakes. RPA software is designed to perform those monotonous, rule-based activities that are a routine part of an employee's work program while also raising this unit's productivity. RPA's ability to boost productivity depends on how well a company integrates its organisational, social, and technological components. By combining semi-structured interviews with a PRISMA-guided multivocal assessment of grey and peer-reviewed sources of

practitioners, they were able to get real insight and a variety of opinions. Questions around RPA policy, auditing, and governance arise from the fact that these stages occur simultaneously. The research outlines the connection between IT and business processes, and it gives management the tools they need to standardise procedures, comply with regulations, engage employees, define roles clearly, and manage changes efficiently. This increases the likelihood of RPA projects succeeding while tactfully reducing risks.

Durão & Reis (2025) Organisational development, productivity, competitiveness, and survival in today's cutthroat market hinge on the application of information technology. In order to attain or sustain competitiveness, automation technologies like RPA are becoming increasingly important. There have been studies on RPA, but most of them have focused on the technology and its features rather than how businesses may benefit from adopting and using the technology to boost their performance. This study focuses on RPA adoption and usage trends. The Diffusion of Innovation and the Technology Organization Environment theoretical frameworks were used to examine organisational receptivity to RPA uptake and deployment. This study used a mixed-methods strategy. Interviews were carried out during the initial phase to augment the data collected from the literature. Making a model that could assess the inclination to use RPA was the main goal. Following that, they combined the results of the preliminary research with theories drawn from the existing literature. Results from surveys administered to 141 different organisations were utilised to appraise the planned model and test the premises. Two of the most crucial technological context antecedents in deciding the possibility of RPA acceptance and deployment, according to research, are relative advantage and compatibility. From both a practical and a scientific standpoint, they examine the consequences of these results.

According to Schlegel *et al.* (2024), RPA, an automated mundane business operation software, has been rapidly spreading and is being extensively applied in recent

years. The failure of many RPA implementation projects is due to the pre-existing literature lacks an in-depth evaluation or synthesis of the factors that promote, impede, or support the application of RPA. The purpose of this study is to identify the factors that businesses should consider while managing an RPA project. Ten interviews with RPA experts and the findings of a systematic literature review (SLR) served as the foundation for the study's qualitative methodology. The method of inductive coding is used to develop a thorough model of key elements. According to the findings, human, organisational, and technological considerations were found to be critical towards a smooth rollout of RPA. The aspects of data security, staff competence and capacity, and approaches to project management are all important components. Other than supporting the previous results with new qualitative and empirical data, by combining the various bits of information into a single system, the study advances knowledge. Moreover, the things peculiar to RPA are observed through the prism of the continued problems in the evolution of information systems.

According to Bagheri & Wetering (2024) A growing number of companies across a variety of sectors are embracing RPA a cutting-edge digital technology for automating business processes. Unfortunately, not all businesses reap RPA's benefits; this is mostly due to a lack of preparedness on the part of the businesses in question. This study finds seventeen organisational readiness indicators for RPA deployment after conducting an extensive assessment of the literature and in-depth interviews with sixteen RPA experts from eight distinct sectors. These elements can be divided into five sections according to their RPA-ready framework for businesses: change valence, change effectiveness, technological context, organisational context, and environmental context. Their findings highlight the necessity to update and expand the existing set of organisational readiness criteria to better suit the RPA-specific environment, since these criteria are often applied

to other digital technologies. Specifically, RPA-related considerations include four areas: RPA strategy, RPA governance, RPA process fit, and exception management. On top of that, the amount of organisational preparedness needed to successfully adopt RPA could change depending on a number of factors. Fifteen out of sixteen experts ranked RPA governance, RPA process fit, and higher management support as the most important aspects. Using the proposed organisational RPA preparation framework may help managers with RPA adoption activity planning, prioritisation, and decision-making.

The research carried out by Katiyar et al. (2024) originate that modern businesses rely heavily on RPA to keep up with the ever-changing business landscape. RPA automates routine, rule-based tasks. Since 30% to 50% of RPA programs fail, this study aims to offer implications on the BRKSFs that are suitable for RPA projects. This research follows a three-pronged methodology: first, it identifies the primary BRKSFs; second, it builds a hierarchical connection model for BRKSFs; and third, it uses two case studies to demonstrate the practicality of BRKSFs. Based on the results, the most important BRKSF is maintaining a well-defined, consistent process. This is because it has a significant impact on other elements. Choosing the correct process to automate, change management, and ensuring that the RPA initiative's goal is in line with the organisation's strategic goals all have high reliance powers but low driving powers. It is important to prioritise the advantages that may be acquired via the RPA effort. A feasibility study should be performed. It is necessary to put together a cross-functional team. Having a team leader and getting senior management's backing are five variables that have strong driving and reliance capabilities. This study provides academics and business people with valuable insights into the interdependencies between BRKSFs. It helps them prioritise the factors that must be addressed for RPA efforts.

The researchers Nielsen *et al.* (2023) found that digital sourcing has increasingly replaced offshore personnel sourcing in centralised service delivery models as businesses undergo ongoing transitions. The use of software robots with RPA is one of the most important and quickly developing skills of the past several years. Using a mixed-methods approach, this study first surveyed individuals before conducting interpretive interviews and narrative analysis. The main drivers of RPA installations, such as financials, employee impact, and dangers, are examined by experts involved in the implementation of IA technologies at a few Nordic companies in this exploratory empirical study. The results stress the importance of operational advantages, such as improving organisational efficiency, compliance, and quality and relieving employees of the most tedious, non-value-generating tasks. It is worth mentioning that the example organisations that were analysed did not prioritise the strategic and external (customer) implications while making decisions about RPA. A lack of focus on RPA's strategic and external impacts, such as those on customers and service quality, suggests that the technology is primarily seen as a tool for automating and improving internal operations. This lines up with the strategy for determining benefits, which primarily considers reductions in labour expenses.

Costa *et al.* (2022) According to predetermined criteria, RPA is growing in popularity among businesses as a way to allow humans to concentrate on higher-value, more sophisticated work while computers do lower-value, more repetitive chores. The need for a summary that can extract the more broadly applicable ideas and notions regarding these software robots has been sparked by the increasing number of articles describing methodology and test cases. This is a result of the increased interest in the topic. In order to assemble data from pertinent publications for this investigation, a SLR technique was utilised. To identify the most common deployment approaches, observable benefits, often encountered challenges, process aspects that are amenable to Research gaps in the existing

literature and RPA, they looked at successful RPA adoption cases. They present their results for two distinct purposes in this paper. Assisting organisations and enterprises in understanding what works about RPA is one objective. Second, by expanding upon what is already known and pointing researchers in interesting new directions, they want to inspire more research on the subject.

Sobczak (2022) The continuing digital revolution, hastened is seriously disrupting several industries due to the COVID-19 epidemic. RPA is one aspect of this change. It enables businesses to automate their operations by substituting intelligent software robots for people. Sorting various methods for implementing RPA in businesses was one of the study's objectives. The report also noted that RPA roles vary per industry. The author suggests a proprietary classification system for RPA placement techniques based on the literature review: conservative, efficiency improving, and strategic. To back this up, researchers conducted an empirical investigation using multidimensional correspondence analysis. In 2020, the author surveyed 238 Polish enterprises using the CAWI method, and the results were reliable and accurate. A multidimensional correspondence analysis was conducted using the empirical study's data to see how the author's proposed approaches to RPA positioning in businesses actually occurred in business practice. To extract qualitative information from the RPA categorisation, they used semi-structured interviews with professionals in the field. They set out to find out whether businesses are better able to weather digital storms when they strategically place RPA and use it for change. Research on RPA's impact on organisational resilience, as well as its implications at the research and application levels, is limited. A dearth of prior research in the subject is addressed in this article.

2.5.1 Impact of Strategies and Change Management on RPA Integration

The efficiency and precision of the operations department have greatly benefited from RPA, which has been acknowledged as a game-changing technology for the automation of laborious and straightforward rule-based business processes. On the other hand, the effective integration of RPA depends not just on the technical aspect but also on the efficient management of organisational change (Lindner et al., 2023). The RPA rollout will entail the alteration of the workflow, the job positions, and the structure of the decisional authority in the organisation, thereby making it necessary for the organisation to adopt the collaboration of the entire top management, the IT, the users, and the HR function strategy. Hence, RPA is not solely an HR-led initiative but rather requires the alignment of cross-functional teams to automate in a manner that supports the overall business objectives and the digital transformation plan (Kherwa & Bhatia, 2024).

Among the several challenges that human beings face in the automation of RPA is employee anxiety and resistance to automation. Authoritative voices claim that the automation process will lead to an overall reduction of the workforce, one way or the other and that the most affected by the change will be the employees doing the most menial of tasks, who will suffer the most in terms of job satisfaction (Schwabe & Castellacci, 2020). If the situation is not properly managed, such anxiety can cause disengagement, delay in the acceptance of the new digital technologies, and even create a silent resistance to the transformation of the organisation. Studies suggest that the presence of a properly outlined change program, employee involvement at an early stage, and providing reassurance through a clear workforce transition plan can all contribute to the reduction of psychological stress and the increase of acceptance of automation (Shah & Anderson, 2025).

Upskilling and reskilling are quite essential strategies for the management of the workforce for RPA adoption epochs. As automation comes into play for the repetitive

tasks, the employee's skill set has to be changed to include data analysis, digital process monitoring, system control, and decision support (Dube & DeSmet, 2019). The organisations that are investing in the learning that never stops, the digital literacy programs, and the changes in the job roles are the ones that experience higher adaptability of the workforce and stronger performance post-implementation. It is not the case that jobs are being abolished; on the contrary, the successful RPA strategies are handing over the employees to the higher value roles that are characterised by problem-solving, innovation, and human judgment (Gupta & Sharma, 2019).

An explicitly stated communication strategy is, to a far lesser extent, another important factor that will determine RPA change management success. To be open about the whole automation process indeed helps a lot in reducing fear and building trust among the staff (Tripathi & Gupta, 2020). The company should also maintain active communication to and from through various means like workshops, digital briefings, and feedback platforms. Employees were even more considered in the change process during the times of digital upheaval, e.g., when the COVID-19 pandemic hit, the companies using the open communication tactics were the ones that showed more resilience and got their employees more engaged (Chams-Anturi et al., 2022).

In the end, the journey of RPA has been very much like a snake that has shed its old skin; traditional organisational structures based on functions and specialisation in the latter have ceased to exist. The latest RPA applications integrate team-based work methods with process-based work methods. The organisation needs effective interdepartmental communication which must occur at regular intervals, to prevent different automatic systems from developing in separate sections while the organisation seeks to enhance its entire operational system (Lacity et al., 2016). The change management process requires top management backing along with workforce readiness and technology alignment

together with communication control to implement a unified transformation approach. The organisation will achieve operational efficiency through RPA deployment when all components receive proper treatment according to an organised framework (Siderska, 2021).

2.6 Implementation Strategies and Change Management Approaches in RPA Projects

The goal of this study by Ueasangkomsate & Boonsripornchai (2025) is to get a better understanding of the perspectives of Thai state enterprise employees on RPA's effects on their jobs, work-life balance, and opportunities for growth. A total of 171 employees who were involved in the RPA implementation were surveyed using a standardised questionnaire for this quantitative investigation. The researchers used a paired samples t-test together with descriptive statistics to analyse the collected data. The research results demonstrated that employees changed their opinions about job shifts and work-life balance after RPA systems were implemented. Workers experienced improved physical and mental well-being, together with reduced overtime, because their work-life balance had improved, which allowed them to work on more demanding projects. There were no statistically significant differences among the workers in their evaluation of dangerous work options, which they considered to be potentially hazardous. The research reveals how RPA technology affects workers in developing nations while offering businesses practical methods to manage workforce changes that automation will bring. The upcoming research should investigate how RPA affects worker productivity across different industries and cultural environments, according to the results obtained in this study.

Chaurasia et al. (2024) The major development which RPA delivers to companies that need multiple tasks to be done according to specific regulations reside in its capacity to automate these tasks. The process results in three benefits which include improved efficiency, reduced costs and increased precision. The study examines how RPA creates

opportunities for different business functions while showing the difficulties that arise during its implementation and providing solutions to execute RPA successfully. A literature study, case studies, and expert interviews make up this work's mixed-methods methodology. The study found that RPA may simplify processes and increase productivity across all industries. But businesses must ensure the process is appropriate, scalable, has good governance, and has change management in place before using RPA. Apart from broadening their comprehension of RPA, this study offers valuable insight for businesses looking to leverage this technology.

Stamoulis (2022) Among digital industries, RPA is growing in popularity as a means of to connect information systems more lightly and as a way to execute business processes more efficiently and effectively when tasks in a process are modelled with explicit knowledge, and humans aren't very useful at doing manual work. For RPA adoption, managerial problems are just as critical as the more apparent technical difficulties. In order to find out what works and what managers should think about when implementing RPA, this study surveyed professionals in the field and asked them questions about six key areas: (a) strategy, (b) staffing, (c) finances, (d) work and tool organisation, (e) design, and (f) production. In order to show that the respondents' views are consistent, they classify their responses by mean value and deviation; they also remark on some of the responses to see if they align with the findings of earlier research.

Flechsigt et al. (2022) As a promising and innovative technology that can automate human behaviour, RPA is gaining traction in the digital revolution. However, the field is still in its infancy, and very little study has been done on the possible advantages of PSM adoption, particularly in the public sector. Using data from 19 different public and private sector companies as case studies, this study fills that knowledge vacuum and offers a thorough analysis of RPA's possibilities, obstacles, appropriate procedures, best practices,

and components. The results show that the degree to which firms are prepared and mature in their digital procurement processes determines the rate of adoption. From the most basic operational and transactional aspects of the procure-to-pay procedure to more complex strategic use cases in areas such as supplier relationship management and sourcing, RPA may be applied to a wider range of jobs as it gains proficiency. Reduced staff workloads, decreased operating expenses, and improved operational quality and efficiency are all potential advantages. The numerous environmental, organisational, and technological obstacles they describe include internal communication, financial resources, support from higher management, organisational structures, supplier-related issues, governmental constraints, and the IT infrastructure and human resources. They also found that the public and private sectors use RPA differently, which is an important distinction to make. Here, they draw attention to the important points for future study on organisational practice and the ramifications for the emerging field of RPA studies.

Flechsigg et al. (2022) Producing beef in an environmentally friendly way is a major problem worldwide today. This study is about figuring out the most significant risks and obstacles of the lack of funds for embracing RPA in the sector of beef as a strategic way of meeting sustainability requirements. Improving beef production while keeping operating costs low is an ongoing challenge for the beef manufacturing industry, which must always find methods to balance sustainability with economic advantage. Research is lacking in this area since the financial aspects, challenges, and issues that influence RPA adoption in the beef supply chain are not well understood. To close that knowledge vacuum, a secondary study has been conducted to gather information about the financial aspects of RPA adoption in cattle supply chains. The study uses values or variables in Simul8 software to assess many scenarios based on financial factors, using a process model that was built in prior research. This study uses a simulation technique. Finding financial risks

related to RPA deployment and evaluating simulation results from a sustainability perspective are both made possible by the scenarios investigated in the analysis. Financial risks and obstacles to RPA implementation in beef supply chains are demonstrated via scenario analyses that focus on financial considerations. By pinpointing Income statements, carbon emission reports, business users' "key performance indicators" (KPIs), and the primary bottlenecks at various points in the cattle supply chain are created to aid in a comprehensive cost analysis. RPA supply has the potential to increase beef production, quality, and shelf life while streamlining the supply chain and increasing operational and financial efficiency. By assessing the various possibilities from a sustainability standpoint, this study significantly advances both professional practice and scholarly understanding. Besides, it helps the cattle industry by offering a systematic paradigm for managerial or stakeholder financial and ethical decision-making and at the same time facilitating the sector to adopt RPA more comfortably. The process model is flexible enough to be changed or used as is, depending on the financial situation and the needs of business users. Besides, it gives the people who make the decisions the information to get rid of or stop money problems that slow down the implementation of the RPA. A strong, widespread use utilising RPA enables supply networks for beef to do more significant productivity at lower costs, thus leading to the creation of sustainable value.

2.7 Sustainability and Scalability of RPA within BPM Frameworks

Patrício, Varela, & Silveira (2025) Published their findings. The study's main goal is to streamline operations within an Industry 4.0 environment through exploring the idea of green frameworks that merges RPA with Big Data. Over the past years, the necessity of the ground-breaking solutions has increased with the aspiration of various industries to become more operational and efficient without compromising on the sustainability. The paper analyses the technological merger and its influences on process optimisation and

ecology through PICO framework that involves Population, Intervention, Comparison, and Outcome. The research provides a real-life case study that illustrates the collaborative efforts of RPA and Big Data to ensure a more sustainable business process, reduced execution time, and operational errors. The results prove that, besides the enhancement of efficiency, the associated system can decrease the adverse social, environmental, and economic impacts of the organisation. The findings are in line with the hypothesis of the author that shows how the proposed framework contributes to reaching a compromise between environmental friendliness and technical development. Shedding light on how Industry 4.0 technologies can make operations more efficient and serve as a corporate responsibility instrument, the study provides new insights into how companies could integrate digital transformation and sustainability objectives. The research project deals with another cutting-edge aspect of interactions and utilisation of these technologies in the industrial sphere in a manner that is environmentally beneficial.

Lysenko & Makovoz (2025) On the one hand, businesses need to digitalise their businesses, and on the other hand, they need to attain sustainability objectives. Most of them, though, are left with the outdated BPM practices, which have not been able to keep pace with the lightning speed of technology advancement. This study will occupy the middle ground by examining how to harmoniously combine more modern technologies such as AI, cloud services, business intelligence/analytics, RPA, and agile with more traditional forms of continuous improvement, including agile, lean/six Sigma, and BPR. The end result is to have quantifiable efficiency, flexibility, and performance improvements in terms of ecology. The aim is to suggest and evaluate a single BPM framework that can underpin the operational excellence, sustainable development, and ensure that the enterprise is able to compete in the long-term. The research achieves this through systematic comparison of the reported cases as well as an integrated literature

review. The following metrics allowed them to compare the results of the process: throughput, flexibility, cycle time, mistake rate, cost, and correspondence to sustainability. Quantitative indicators were gathered where possible to assist in triangulation and qualitative evidence collected using theme analysis. The main implications of the integrated approach of the company are consistently reduced decision and execution cycles, decreased human labour and rework, and lower operating costs through analytics-driven automation and management. Lean/Six Sigma guarantees quality and stability during the process of digitization of elements, whereas agile processes accelerate learning and adaptation. Besides decreasing resource usage and enhancing traceability and resistance to hazards throughout the entire lifecycle, the structure is assisting the organisation to transform into a more environmentally friendly one. The researchers discovered that productivity, flexibility, and sustainability targets can be met by managers who combine the digital technologies with the classic BPM field. This integration provides a handy road map that has phases such as data-driven governance, incremental automation, redesign and diagnostic assessment. Although the findings are largely anchored on synthesis and comparative research study as opposed the suggested structure and indicators offer a transportable approach to multi-industry field testing platform to be implemented and evaluated. The research approach must be underpinned by case studies across the long term and across sectors and future studies must evolve adoption proposals to diverse organisational capacities and regulatory environments.

Collins et al. (2021) The purpose of this investigate was to identify the obstacles to enterprise-level bot adoption. Although bot deployments on a lower scale have often shown positive results, this research aimed to tackle the daunting—and perhaps impossible—problem of scaling up to the production levels observed in major organisations. To better understand the challenges associated with bringing bots up to enterprise-level production,

this case study aimed to provide an explanatory analysis. This study used Kotter's Change Management Model as its theoretical foundation. For the purpose of this illustrative case study, 269 people with expertise in RPA deployment at the corporate level were surveyed online. From the total number of 269, this study has drawn a random sample of 100 participants for the analysis. The research came to the conclusion that as a result of the barriers to implementation, the enterprise-level implementation of bots had become a formidable challenge. Challenges in leadership, difficulty in implementing and maintaining change, and gaps in requirements understanding are some of the obstacles. In order to overcome these obstacles, it is important to handle information, needs, resources, and change management during the implementation phase. Effective management of company processes, development of plans and strategies, utilisation of external resources, and organisational structure were all parts of the execution that produced positive results. Before businesses can successfully deploy bots at the corporate level, they must identify the obstacles they face and devise strategies to overcome them. By efficiently managing their information, demands, resources, and changes, businesses may overcome these challenges. If they look into the responses from the engineering, operations, and maintenance departments further, they can discover more about the challenges of scaling bots to enterprise-level production. Lastly, future studies should consider how RPA can be connected with AI subfields, including ML, DL, NLP, and ChatGPT, at the corporate level.

2.7.1 Conceptual Framework Development

If businesses are looking to implement automation projects for a long time and thus, enjoy the benefits, a success framework for the sustainable adoption of RPA must be imposed (Flechsigg et al., 2022). RPA is a knowledge that can be very beneficial in a lot of areas, but on the other hand, a double-edged sword in certain respects because the advantages of better efficiency, lower operating costs, and higher accuracy require proper

integration and management within the existing BPM frameworks. The success framework is a tool that gives a systematic way to recognise the important success factors, evaluate the organisation's preparedness, and secure the agreement of the automation goals with the overall business strategy (Oakland & Tanner, 2007). This kind of framework facilitates organisations to leave behind not only the short-term automation profits but also to build a resilient and adaptive automation ecosystem, which is constantly assisting in the digital transformation of the organisation, through the incorporation of aspects like governance, change management, scalability, and continuous improvement.

A sustainable RPA success framework allows the organisation to pass through each phase of the implementation of automation initiatives in an orderly manner, where the operational advantages of the automation cannot only be received but also the goals of the organisation are met at the same time (Flechsigt et al., 2022). The lack of such a framework usually leads to the isolation of the automation initiatives, which creates sparseness, leads to duplication of effort and, consequently, not much value is realised from it. The framework acts as a compass which directs the different organisations in determining the critical success factors, gauging their preparedness, and getting the necessary agreement of the stakeholders. The framework sets a standard methodology for the whole process of planning, doing, and monitoring RPA projects, thus benefiting the automation projects not only with short-term gains but also with a firm, flexible, and digitally advanced environment (Daase et al., 2023).

A successful RPA initiative to reach its full potential as an end-user tool involves first the establishment of a solid framework of governance and support, consisting of people, processes, and technology (Ge et al., 2025). Governance includes stakeholders' involvement in decision-making and the assignment of responsibilities for the management of different types of projects, as well as the prioritisation of automation initiatives. BPM

integration guarantees that automation benefits and supports the existing processes, thus avoiding fragmentation. Scalability planning allows organisations to roll out RPA in phases with minimal disruption, and at the same time, constant monitoring together with KPIs will be the ground to measure and evaluate the automation in terms of its effectiveness and impact(Santos et al., 2025). Last but not least, practices of continuous improvement will guarantee that RPA not only keeps pace with technical advances and changing business needs but also enables the organisation to

The cost of process improvement is gradually being reduced, while the precision level is slowly being raised.

The existing research shows that RPA can transform business processes, but its implementation in BPM systems faces obstacles because of technical issues, organisational problems, immature processes, and difficulties with change management. The existing research indicates a lack of complete quantitative predictive models that organisations require to achieve sustainable automation results because existing studies focus on particular sectors or qualitative research. The existing gap requires an organised approach which uses evidence to assess readiness and to determine important success factors while connecting RPA projects with BPM goals. The research aims to establish an analytical success framework which will help organisations make better decisions, distribute their resources efficiently, and create value through RPA-based business process transformation.

2.8 Summary

The chapter gives a complete insight into the conceptual, theoretical, and empirical basis of integrating RPA and BPM frameworks. The three theoretical frameworks on which the argument was based consisted of the TOE Framework, the BPM Maturity Model and the STS Theory, which described the complex nature of RPA adoption and success. The

above theories highlighted the importance of technological preparedness, organisational design, pressures of the environment and socio-technical alignment on the outcome of automation. Subsequently, the chapters discussed the fundamentals of RPA and BPM, understanding that they are fundamentally connected and play a crucial part in improving a process's efficiency and digital transformation.

The review also looked at empirical data regarding the obstacles, success factors, organisational characteristics, and strategic approaches that impact RPA integration. It was discovered that while RPA would help with process efficiency, cost reduction, and operational agility, its implementation is hampered by data quality issues, employee resistance, legacies, and governance issues. The review of the literature has shown that the use of systematic plans, ongoing change management, and maturity-based scalability are important to attaining sustainable automation results. Overall, the knowledge gap identified in the current literature can be addressed with an inclusive, quantitative framework that can predict and enable the success of RPA integration in various organisational settings. The gap creates the grounds of the present study, which will aim at creating and testing an evidence-based model of success in BPM settings.

3.1. Introduction

This section offers a detailed exposition of the techniques and approaches used to look at the issues and solutions in the field of RPA-BPM integration. It outlines the research design and sampling, instruments, pilot testing, and data analysis processes that were instrumental in establishing the validity, reliability, and methodological rigour of the study.

3.2 Research Methods and Design(s)

A mixed-method research strategy is used in this study. Quantitative research design is very powerful in finding out the hardships, successes, and strategic actions related with the use of RPA in BPM frameworks (Flechsigt et al., 2022). It was chosen on the basis of widely accepted theories such as the “Technology Acceptance Model” (TAM) and the Trust-Risk Framework, which were designed to yield objective measurements capable of being later subjected to statistical analysis of the said variables (Schorr, 2023). This kind of research design not only indicates the factors perceived as useful, the readiness of the organisation, trust, and risk, but also their interactions, which together are the determinants of RPA's success when applied to BPM.

Besides the quantitative stage, a qualitative field test would be carried out to check the practicality of the proposed SUCCESS framework and its strength. Eight experts will participate in semi-structured interviews as part of the study's qualitative phase in the industry that have personal experience of RPA implementation in BPM settings (Shrivastava & Shrivastava, 2023). The interviews would focus on assessing the effectiveness, clarity, relevance, and completeness of the theoretical framework in a realistic organizational setting. The insights of the experts would be analysed thematically

with an aim of showing where the framework needs improvement, context specific conditions for its applicability, and how it could prove its practicality. The field validation stage will ensure that the theoretical framework not only proves to be reliable in statistics but is also applicable in practice.

The methodology adopted for this study involved a process of moving from facts to theory development and hypothesis testing through the collection of data from RPA and BPM experts (Bhardwaj, 2023). The choice of study design underlines the necessity of reliability, validity, and reproducibility and consequently, the claim that the findings can be applied to larger organisational contexts. By evaluating the relationships among technological and managerial factors, the research not only intends to validate the theoretical model but also to create a successful framework in practice.

3.2.1 Operationalisation of Theoretical Constructs

This theoretic basis is based on TAM and the Trust-Risk Framework, which are operationalised to investigate the way organisations perceive, adopt and sustain RPA in BPM systems (Durão & Reis, 2025). “Perceived usefulness” (PU), “perceived ease of use” (PEOU), trust, and perceived risk are constructs that are measured as the Likert-scale items included in the questionnaire. All of these constructs contribute to measuring the degree to which the organisational members consider the rationality of the RPA integration, its reliability, and its general preparedness (Maria & Mm, 2023). Every theoretical facet is also associated with measurable indicators, i.e. process efficiency, cost reduction, and user adoption, to enable empirical testing of hypothesised relationships between trust, selection capabilities, governance structures, structured change management and technical integration.

In order to improve measurement accuracy, abstract concepts are broken down into particular sub-constructs that are consistent with the aims of the study. An example is the

operationalisation of trust based on the dimension of leadership support, transparency in communication (Hahn et al., 2025), and confidence in the reliability of automation, whereas the aspect of risk is summarised into the perceived uncertainty, data security worries, and potential disruption of the process. These variables are measured on validated scales of previous RPA and digital transformation research and modified to the BPM scenario (Bhardwaj, 2023). This operationalisation values the fact that theoretical constructs are empirically testable, statistically reliable, and conceptually congruent with the overall aim of establishing a predictive success framework of successful RPA adoption (Mubarik et al., 2025).

The objective of this study is to objectively identify, analyse, and model the key obstacles, success factors, and strategic facilitators that impact the integration of RPA systems into BPM systems. The study's research questions provided the framework for creating and testing hypotheses which investigated the elements that determine RPA integration success. Specifically, the hypotheses were theoretically aligned with the research questions as follows: RQ1 (challenges in RPA integration across organisational contexts) informed H_{1.3}, which examines differences in technical integration challenges by organisational size. RQ2 (critical success factors influencing RPA success) guided H_{1.2}, H_{1.5}, and H_{1.6}, focusing on executive sponsorship, governance structures, and process optimisation capabilities as determinants of successful outcomes. RQ3 (organisational characteristics predicting RPA success) underpinned H_{1.1}, which evaluates the impact of digital maturity levels on integration success. Finally, RQ4 (effectiveness of implementation strategies and change management approaches) informed H_{1.4}, which assesses the influence of structured change management on RPA integration performance. This structured alignment ensured theoretical coherence between the research questions and the empirical hypotheses tested in the study.

Hypothesis 1:

- **H_{1.1}:** Organisations with higher digital maturity levels demonstrate significantly higher RPA integration success rates compared to organisations with lower digital maturity levels.
- **H_{0.1}:** There is no significant difference in RPA integration success rates between organisations with high and low digital maturity levels.

Hypothesis 2:

- **H_{1.2}:** Executive sponsorship is positively correlated with RPA project success metrics (process efficiency gains, cost reduction percentages, and timeline adherence).
- **H_{0.2}:** There is no significant correlation between executive sponsorship and RPA project success metrics.

Hypothesis 3:

- **H_{1.3}:** Technical integration challenges are significantly more prevalent in large organisations (1000+ employees) compared to small to medium organisations (fewer than 1000 employees).
- **H_{0.3}:** There is no significant difference in technical integration challenges between large and small to medium organisations.

Hypothesis 4:

- **H_{1.4}:** Organisations implementing structured change management approaches achieve significantly better RPA integration outcomes than those without structured change management approaches.
- **H_{0.4}:** There is no significant difference in RPA integration outcomes between organisations with and without structured change management approaches.

Hypothesis 5:

- **H_{1.5}:** Clear governance structures and Centre of Excellence (CoE) establishment are positively associated with RPA project success rates.
- **H_{0.5}:** There is no significant association between governance structures/CoE establishment and RPA project success rates.

Hypothesis 6:

- **H_{1.6}:** Process selection and optimisation capabilities are positively correlated with successful RPA implementation outcomes.
- **H_{0.6}:** There is no significant correlation between process selection capabilities and RPA implementation success.

3.3 Population and Sample

There are two study populations and samples: (a) organisational population and sample, and (b) stakeholder population and sample.

Organisational population

The study's target population is an estimated 500+ organisations that use "Robotic Process Automation" (RPA) in "Business Process Management" (BPM) systems and operate in the information technology, financial, healthcare, manufacturing, and shared service sectors in various parts of the world (Bhardwaj, 2023). The particular population has been selected since the sectors selected are examples of industries that employ RPA technology to increase efficiency and drive digitization initiatives.

Organizational Sample

From the targeted population of over 500 organizations that have been exposed to various operations in different parts of the globe, a sample size of 55 (N = 55) organizations has been selected for this research work. The sampled organizations operate in different sectors where BPM systems use "Robotic Process Automation" (RPA). Information

technology and IT services, manufacturing, healthcare, "Banking, Financial Services and Insurance" (BFSI), retail and e-commerce, telecommunications, government services, and other sectors make up the sector-based organisational sample. Such an allocation ensures that the survey has industry coverage and includes regions where RPA technologies have traditionally been utilized to increase efficiency, automate business processes, and leverage digital transformation. A wide range of organizations from different sectors increases the generalizability of findings and permits a comparison of how RPA has been adopted across different environments.

Stakeholder population

The population of stakeholders for this research has been chosen from the sample of organisations based on the professionals that have knowledge about RPA and BPM initiatives in their respective organisations. It would include around 5000+ people who have experience and expertise in areas such as project management, information technology professionals, business analysts, automation consultants, and senior management officials who participate in the process of planning and implementing automations in their respective organisations. The selected population possesses technical and organisational knowledge that can help in giving valuable insights on BPM system automation.

Sample of stakeholders

The target of research included professionals who were involved directly in implementing and managing RPA and BPM in the above-mentioned organizational sample throughout the different stages of the lifecycle planning, implementation, and evaluation process.

Qualitative approach. From the organizational sample (N=55), eight industry experts (N=8) were selected for taking part in the qualitative validation procedure of the

current study. These particular experts were deliberately chosen since they had direct experience in managing and supervising RPA projects in their organizations.

The sample included: Project Managers, IT specialists, business analysts, automation consultants, RPA developers, Process improvement managers, digital transformation managers, senior operations managers. Their duties and tasks included overseeing the implementation of RPA projects, business process analysis and reengineering to automate business processes, RPA solution development and implementation, integrating systems in Business Process Management (BPM), automation performance monitoring, operational performance, and aligning RPA initiatives with the strategies of digital transformation in organisations.

These specialists were contacted to provide informed information on the technical, organisational, and strategic issues of RPA implementation, including adoption barriers, governance, workforce, and performance results. Their professional contributions supported the qualitative validation of the study's outcomes and helped evaluate its quantitative findings (Vicci, 2024).

Quantitative method. To achieve the strength of quantitative analyses such as correlation and regression methods, 309 (N=309) study participants were selected. The participants were RPA Developers, Software Engineers, Process Analysts, Operations Executives, Business Process Associates, IT Support Engineers, Automation Testers, Data Analysts, Functional Consultants, Team Leaders, and Middle-Level Managers who were chosen based on the industry sectors. Their functions mainly included implementation of automated processes, system integration, monitoring automated processes, operational performance analysis, and contribution towards the day-to-day. RPA adoption has an impact on business process operations.

The selection of these positions was that employees who are directly involved with automated systems have realistic knowledge of how RPA can be used, the consequences of operational efficiency, and how the organisation process can be modified. The answers they gave were quantitative data on how the introduction of RPA affected organisational performance and effectiveness of processes. The stratified random sampling was used to have equal representation in terms of organisational size, industry sector and geographic region and this also increases the generalisability and reliability of the research findings (Taherdoost, 2018). It can be said that this method effectively eliminates the bias associated with sampling and, at the same time, allows for generalisation of the results to a larger professional population. In case of correlation studies, the number of samples starts from 200 for Pearson analysis, while 309 offers stability across strata with no high costs. Stratified sampling increases the accuracy of results by distributing proportionally among subgroups, thereby reducing variance when compared to simple random sampling while still providing sufficient power (e.g., 80% for medium effects) (Stehman & Wagner, 2024).

Table 3.1
Inclusion and Exclusion Criteria

Criteria Type	Inclusion	Exclusion
Professional Role	Individuals directly involved in RPA or BPM projects (e.g., project managers, IT professionals, analysts, automation leads).	Individuals with no direct role or decision-making responsibility in automation or process management.
Experience Level	Minimum of one year of professional experience in automation, BPM, or related digital transformation roles.	Students, interns, or individuals without relevant professional experience.
Organization Type	Public or private organisations implementing or planning RPA integration within BPM frameworks.	Organisations without any automation initiatives or unrelated to BPM processes.

Geographic Scope	Participants from diverse regions across industries to ensure representativeness.	Respondents outside the defined research scope or inaccessible through professional networks.
Response Validity	Completed and valid survey responses meeting quality checks (no straight-lining, <30% missing data).	Incomplete or inconsistent responses failing validity or reliability screening.

3.4 Phase I – Quantitative Data Collection, Processing, and Analysis

The research's data collection procedure was carried out in a systematic way with the goal of ensuring the data's dependability by using various techniques to confirm the data's legitimacy obtained (Lebdaoui et al., 2017). The total deployment of the survey was completed in this instance, which was highlighted by the distribution of the final questionnaire to a larger sample of 309 participants from various geographical locations and from companies of different sizes. Professional tools like LinkedIn, industry networks, and email outreach were utilised to invite the participants, thereby ensuring that the dataset was diverse and represented.

Instrumentation

To collect relevant data, two key instruments were conducted: (a) a survey and (b) semi-structured interviews. The online survey, which was carefully planned, served as the primary tool used in the current study to gather quantitative data. The questionnaire aimed to provide quantitative data on the factors associated with TAM and the Trust-Risk Framework (Wang et al., 2023). The majority of the closed answers in the survey were rated using a “five-point Likert scale”; other question types, such as multiple choice and ranking, were also used to obtain an insight into the demographics of the respondents, characteristics of the organisations, and opinions about RPA integration.

There were two main pieces to the instrument:

- 1) Demographic Information, and

2) Construct-Based Likert Scale Items.

All construct items were measured using a five-point Likert scale, where 1 = “Strongly Disagree” and 5 = “Strongly Agree”.

Section A: Demographic Information

This section captured respondents’ background characteristics to understand organisational context and workforce distribution. The demographic variables included:

Table 3.2
Demographic Variables in the Questionnaire

Demographic Variable	Response Options
Gender	“Male, Female, prefer not to say.”
Age Group	“18–24, 25–34, 35–44, 45–54, 55+”
Current Role	“RPA Developers, RPA Analyst, BPM Lead, IT Architect, Project Manager, Process Owner, Senior Manager/Executive, Other”
Experience in RPA/BPM	“<1 year, 1–3 years, 3–5 years, 5–10 years, >10 years”
Organisation Type	“Public, Private, PSU/Semi-Govt, Start-Up/Small Enterprise”
Organisation Size	“Micro, Small, Medium, Large
Industry Category	“BFSI, IT/ITeS, Manufacturing, Healthcare, Retail, Telecom, Govt Services, Other”
Primary RPA Platform	“UiPath, Automation Anywhere, Blue Prism, Power Automate, Pega, Custom/In-house, Other”

Variation in the demographic information guaranteed that the survey responses were representative, affecting the ability to examine the context of the success and failure of RPA integration.

Section B: Construct-Based Likert Scale Items

In the second section, there were eight constructs that measured the integration of RPA and the transformation of BPM. Every construct was implemented using authenticated multi-item scales that were modified from previous empirical studies.

Table 3.3
Summary of Constructs and Measurement Items

Construct	No. of Items	Measurement Scale
Digital Maturity Level	5	Likert (1–5)
Executive Sponsorship Quality	4	
Technical Integration Challenges	4	
Change Management Effectiveness	4	
Governance Structure / CoE Effectiveness	4	
Process Selection Maturity	5	
RPA Implementation Success	7	
Organisational Change Readiness	5	

The measures of the constructs altogether upheld the complex interactions between technology, organisation, strategy, implementation processes and human performance in supporting the achievement of robotic process implementation objectives of BPM environments.

Data Analysis Procedure

The data analysis phase of this study relied on multiple numerical statistical techniques in order to find variable relationships and to corroborate the hypotheses of the study. By means of statistical operation software (Alem, 2020) The data were processed through the analysis of generating summary statistics, assessing measurement reliability, and demonstrating the model with inferential statistics.

SPSS software was the one used in this research, SPSS (“Statistical Package for the Social Sciences”), now known as IBM SPSS Statistics, is a powerful and comprehensive software package for data management, advanced analytics, and statistical analysis, having

a user-friendly interface with point-and-click menus for tasks like surveys, market research, data mining, and predictive modelling that allow users to perform complex data analysis without the necessity of extensive coding (Kaurav & Kainthola, 2022).

The analysis was carried out in a systematic way and started with data pre-processing and reliability testing, then moved on to identifying significant correlations and predictive relationships among the factors (Huanbutta et al., 2024), and organisational outcomes through descriptive, correlational, and regression analyses. The tests' results lend empirical support to the development of a successful and acknowledged RPA adoption framework in BPM contexts.

The following statistical tests were used in this research work:

- **Frequency and Percentage Analysis:** The depicted analysis is the one that is applied to categorical data to show the percentage proportion of people answering in each of the categories, thus it presents a simplistic view. Frequency and percentage tables are extremely beneficial for making trends in responses visible and for pointing out the main factors that are in agreement with the findings coming from inferential statistics.
- **Descriptive Statistical Analysis:** In the analysis, descriptive statistics serve the purpose of summarising the demographic and organisational traits of the responders, including their positions, industries, and involvement in RPA or BPM projects. A combination of central tendency measures (“mean, median, mode”) and variability measures (“standard deviation, variance”) is used to furnish an uncomplicated demonstration of the facts. To be more precise, these descriptive summaries are not only to set the foundation for subsequent inferential analysis, but also to offer a background for the comprehension of the reported statistical associations.

- **Correlation Analysis for Relationship Testing:** In other words, correlation analysis is mainly concerned with giving the information of the degree of connections between the major variables like organisational readiness, success factors, and implementation performance and their direction. If your data has a normal distribution, the Pearson correlation coefficient can be used ; if it doesn't, you can use Spearman's rho. Strong relationships are indicated by positive correlation values, while inverse associations are indicated by negative correlation values. Values can range from -1 to +1. This test paves the way for future regression-based modelling by revealing potential initial connections.
- **Kruskal-Wallis:** To find statistically significant variations in opinions between the demographic categories, the Kruskal-Wallis test was employed. This test determines the differences in median responses of the groups and it is a non-parametric alternative to ANOVA that is appropriate for working with Likert-scale data.
- **Regression Analysis:** Certainly, regression analysis stands out as a major statistical method that not only uncovers the relationships among the variables but also enables the forecaster as well as the hypothesis tester. The paper by the authors employs both Regression, both simple and multiple methods to quantify the influence of the independent variables, such as the organisation's characteristics, technology readiness, and management support, on the performance of the dependent variables (RPA implementation and sustainability). Through the use of the method, the appropriateness of the model is judged according to R^2 values, F-tests, and p-values, thus ensuring the statistical significance and the explanatory power of the analysis.

3.5 Phase II - Qualitative Validation

After the quantitative survey, a qualitative validation process was carried out where 8 industry professionals were questioned using semi-structured questions in order to validate the suggested SUCCESS Framework. The stage was rather a formal field experiment to ascertain the viability of the structure in terms with regard to the practicality, transparency, and applicability within the relevant context of practice in real-world organizational settings. The experts in question had extensive experience when it came to both RPA deployment and BPM projects, hence providing them with the capability of analyzing the framework on a strategic and operational basis. Interviews focused on understanding what appears to be the holism of the framework and the logical connection between constructs within it.

The qualitative validation step also took into account whether the implementation of the SUCCESS Framework would be possible under different organizational environments such as different sizes, levels of digital maturity, and industries of the organization. In particular, special focus was made on determining the possible shortcomings, ambiguous areas or limitations associated with the given organizational environment which could not properly be captured by the quantitative analysis itself. The data collected post interviews was analysed based on thematic analysis, which led to recognizing a recurring theme and field of agreement in the domain of practice along with constructive suggestions about how to improve it. The result was higher construct validity, practical credibility, and correlation of the statistical outcomes with the dynamics of actual implementation.

3.6 Limitations

The weaknesses of this study include:

- **Source of Bias:** In addition, self-assessment will be conducted by the participants of the research, and this may trigger the formation of subjective or social desirability bias in response to such self-assessment.
- **Cross-Sectional Data Bias:** Due to the cross-sectional nature of this research, no causal relations can be drawn between the variables since data was collected at only one point in time.
- **Limited Generalizability:** Because of this reason, findings of the research are likely not to reflect the situation in all industries, regions, or even organizational sizes that adopt RPA.
- **Response Rate Variability:** Different responses from different sectors can be due to variations in response rates across different sectors because of conducting online surveys using LinkedIn.
- **Technical Concentration:** The quantitative methodology may lack sufficient strength from the point of view of qualitative factors such as organisational culture, employee resistance, or the communication process.
- **Susceptibility to Nonresponse Bias:** There was an issue with non-response bias because those people who lacked experience or unsuccessful application of the robotisation process were less prone to reply.

3.7 Ethical Assurances

In the study, ethical considerations were strictly followed by considering the rights, dignity, and privacy of all the participants involved. Information gathering was conducted after seeking Knowledgeable consent, where there were explicit explanations regarding the objectives of the study, procedure, voluntary participation, and participant's right to withdraw from the study. There was no information collected that could be used to identify participants personally because all the responses were made anonymously. All the

information obtained was securely stored and used for academic analysis only. There were no possible risks associated with either physical, psychological, or professional hazards for the participants since no forms of coercion were made, particularly with regard to the involvement of the professionals within the industry. Ethical clearance was given through the appropriate institutional review board by ensuring that the research conformed to the proper standards of scholarship.

3.8 Summary

The author carries out an important and extensive analysis of the research methodology used in the investigation of the representation of RPA in BPM systems, covering all relevant issues related to this methodology in this chapter. Using the mixed methods research methodology that involves quantitative surveys (phase one) as well as qualitative expert validation (phase two), it will be possible to determine the links between the main dependent variables (organizational readiness, trust, risk perceptions, and successful implementation). Through the survey tools, properly set up, and impeccable sampling methods, as well as a series of other statistical performances, including reliability tests, descriptive analysis, and correlation and regression, the study has achieved greater validity and reliability of its results.

Essentially, through the application of data, this strategy is the foundation of very good and strong analysis and automation management with evidence-based decision-making in the company. The rigour of the research process was attained via the rigid adherence to the ethical standards that not only implied the need to obtain consent from the respondents but also the anonymisation of the data. It has been noted that the study design has the limitation of a cross-sectional design and self-reported data, but the approach as a whole and its ability to answer the research questions are strengthened by the triangulation of quantitative results with qualitative expert perspectives. Chapter 4 involves the analysis

of data and results, as well as the aspects of success of RPA implementation, and the validation of the success framework suggested in BPM environments, presented in light of the empirical evidence.

CHAPTER IV:

RESULTS

4.1 Introduction

This chapter presents the study's empirical results and is organised around the four research questions stated in Chapter 1. The chapter has five sections. Section 4.2 offerings the field test of the survey instrument and the reliability and factor structure evidence on which the full-sample data collection was based. Section 4.3 presents the quantitative findings from the full sample of 309 respondents, beginning with participant profiles and descriptive statistics and then reporting hypothesis-testing results grouped by research question: RQ1 (challenges by organisational context), RQ2 (critical success factors and their ranking), RQ3 (organisational characteristics as predictors), and RQ4 (implementation strategies and change management). Section 4.4 presents the qualitative findings from the Phase II expert validation, with N = 8 experts, organised by the same four research questions. Section 4.5 gives a factual synopsis of the results, broken down by study question once more. The results will be interpreted and their significance will be discussed in Chapter 5.

4.2 Field Test Results

Prior to the full-sample data collection, a field test of the survey instrument was conducted with 30 RPA and BPM practitioners drawn from the target population. The 30-person sample size adheres to the accepted practice for pilot and field testing of self-administered Likert-scale questionnaires; Cronbach's alpha estimates require approximately 30 cases to stabilise, and an N of 30 is commonly cited as the minimum sample for pilot reliability and factor-structure assessment in survey research (Hertzog, 2008; Johanson & Brooks, 2010). The field test was conducted online and produced quantitative reliability and factor evidence as well as written participant feedback on item

clarity and wording. The feedback led to refinements in question phrasing and the removal of ambiguities, while Cronbach's alpha and “exploratory factor analysis” (EFA) provided the statistical evidence of internal consistency and factor structure required to proceed to the full-scale data collection (Khanal & Chhetri, 2024).

4.2.1 Findings: Profiles of the Field Test Participants

The 30 field test participants were chosen from the same study's target demographic: practitioners with direct involvement in RPA or BPM initiatives. The participant pool included RPA developers, RPA analysts, BPM leads, IT architects, process owners, and project managers. All participants reported at least one year of working experience with RPA or BPM, and the panel covered organisations across information technology, financial services, healthcare, manufacturing, and shared service operations. This composition was selected so that the field-test sample reflected the role and industry diversity expected in the full sample, and so the resulting reliability and factor evidence would generalise to the full-sample data collection.

4.2.2 Findings: The influence of the field test.

The field test produced two categories of evidence that shaped the final instrument used for the full sample. First, participant feedback on item wording led to minor refinements: clarification of ambiguous phrasing in items relating to executive sponsorship and to centre-of-excellence governance, removal of double-barrelled wording in two items, and adjustment of two response anchors to improve scale consistency. Second, the statistical evidence (reported in Tables 4.1 to 4.5 below) confirmed that all eight constructs reached at least moderate internal consistency (Cronbach's alpha ranged from 0.612 to 0.879), the sampling adequacy was excellent ($KMO = 0.829$), Bartlett's test of sphericity was significant ($p < .001$), and the principal component analysis produced a two-factor structure accounting for 82.59% of total variance. On the basis of this combined wording

and statistical evidence, the instrument was retained for the full sample of N = 309, with the noted item-level revisions applied.

4.2.3 Reliability and factor structure (instrument validation)

Table 4.1
Reliability Statistics for All Constructs (Pilot Test, N = 30)

Variable / Construct	Mean	Std. Deviation	No. of Items	Cronbach's Alpha	Reliability Interpretation
Digital Maturity Levels	4.30	0.79	5	0.612	Moderate Reliability
Executive Sponsorship Quality	3.73	1.11	4	0.879	High Reliability
Technical Integration Challenges	4.17	0.79	4	0.697	Acceptable Reliability
Change Management Effectiveness	3.80	1.19	4	0.869	High Reliability
Governance Structure / CoE Effectiveness	4.30	0.65	4	0.613	Moderate Reliability
Process Selection Maturity	4.37	0.76	5	0.694	Acceptable Reliability
RPA Implementation Success	4.43	0.68	7	0.762	Good Reliability
Organisational Change Readiness	4.30	0.70	5	0.689	Acceptable Reliability

Reliability was assessed using “Cronbach’s Alpha”, and the values for each construct (variable) are presented in Table 4.1. All constructs reported “Cronbach’s Alpha” values above 0.60, indicating acceptable to high internal consistency for exploratory research. Constructs such as Executive Sponsorship Quality ($\alpha = 0.879$) and Change Management Effectiveness ($\alpha = 0.869$) demonstrated high reliability, while others like Digital Maturity Levels ($\alpha = 0.612$) and Governance Structure / CoE Effectiveness ($\alpha = 0.613$) showed moderate yet acceptable reliability for pilot testing.

All constructs meet the minimum reliability threshold ($\alpha \geq 0.6$). Therefore, the scale is deemed internally consistent and suitable for full-scale data collection.

Sampling Adequacy and Sphericity

To assess factorability, the “Kaiser-Meyer-Olkin” (KMO) test and “Bartlett’s Test of Sphericity” were conducted. The results are shown in Table 4.2.

Table 4.2
KMO and Bartlett's Test

“Kaiser-Meyer-Olkin Measure of Sampling Adequacy.”		.829
“Bartlett's Test of Sphericity”	“Approx. Chi-Square”	194.620
	“df”	28
	“Sig.”	.000

Excellent sampling adequacy is demonstrated by the KMO score of 0.829, indicating that the data set is suitable for factor analysis. The variables have correlations that are significant enough to enable the identification of a structure, according to the "Bartlett's Test" result ($p < 0.001$). The data is therefore appropriate for EFA.

Exploratory Factor Analysis (EFA)

“Principal Component Analysis” (PCA) was executed with the choice of components that had eigenvalues greater than 1. Two components were selected, which explained 82.59% of the variance in total. The findings are given below.

Table 4.3
Component Matrix^a

	Component	
	1	2
Digital Maturity Levels	.899	-.091
Executive Sponsorship Quality	.509	.824
Technical Integration Challenges	.815	-.271
Change Management Effectiveness	.539	.807
Governance Structure / CoE Effectiveness	.872	-.174
Process Selection Maturity	.910	-.193
RPA Implementation Success	.782	-.349
Organisational Change Readiness	.884	.056
“Extraction Method: Principal Component Analysis”		
“a. 2 components extracted.”		

The first component has very high loadings on six variables: Digital Maturity, Technical Integration, Governance Structure, Process Selection, RPA Success, and Change Readiness. It indicates the presence of Operational/Technical Capability as the main driver of the component. In contrast, the second component has high loading on Executive Sponsorship Quality and has Change Management Effectiveness, forming another cluster representing Leadership and Change Enablers.

Table 4.4
Communalities

Factor	Extraction
Digital Maturity Levels	.816
Executive Sponsorship Quality	.938
Technical Integration Challenges	.738
Change Management Effectiveness	.942
Governance Structure / CoE Effectiveness	.791
Process Selection Maturity	.865
RPA Implementation Success	.733
Organisational Change Readiness	.784

Every communality goes over 0.70, which means that there is a lot of shared variances and at the same time it ensures that every item is a significant contributor to the factors that have been drawn out.

Table 4.5
Total Variance Explained

“Component”	“Extraction Sums of Squared Loadings”		
	“Total”	“% of Variance”	“Cumulative %”
1	5.002	62.527	62.527
2	1.605	20.063	82.590

The combination of both extracted components accounts for a total variance of 82.59%, which is a considerable amount as it exceeds the suggested limit of 60% by a great margin. This suggests the presence of a strong and stable factor structure.

In summary, the field test established that the eight constructs met acceptable thresholds for internal consistency, factorability, and factor structure. The instrument was retained without further structural revision for the full-sample data collection reported in Section 4.3.

4.3 Quantitative data analysis

This section presents the quantitative findings from the full sample of N = 309 respondents. Subsection 4.3.1 reports participant profiles; 4.3.2 reports full-sample reliability and descriptive statistics; 4.3.3 reports the Likert-item response distributions for each construct; and subsections 4.3.4 to 4.3.7 report the hypothesis-testing results grouped by research question (RQ1 to RQ4 respectively). Each RQ subsection identifies the hypothesis or hypotheses that address it and reports the relevant statistical test, the effect size or coefficient, and whether the null hypothesis was rejected.

4.3.1 Findings: Profiles of the study participants

Table 4.7
Demography Profile

Variable	Statement	Frequency	Percent
Gender	Male	206	66.7
	Female	103	33.3
Age Group (years)	18–24	62	20.1
	25–34	154	49.8
	35–44	48	15.5
	45–54	33	10.7
	55 and above	12	3.9
	RPA Developer	29	9.4
Current Role in Organisation	RPA Analyst	87	28.2
	BPM Lead	72	23.3
	IT Architects	46	14.9
	Project Manager	23	7.4
	Process Owner	20	6.5
	Senior Manager / Executive	28	9.1
	Other	4	1.3

Total Years of Experience in RPA / BPM	Less than 1 year	22	7.1
	1–3 years	134	43.4
	3–5 years	71	23
	5–10 years	44	14.2
	More than 10 years	38	12.3
Organisation Type	Public Sector	47	15.2
	Private Sector	133	43
	Semi-Government / PSU	98	31.7
	Start-Up / Small Enterprise	31	10
	Micro (1-9)	27	8.7
Approximate Organisation Size (Employees)	Small (10-49)	122	39.5
	Medium (50-249)	109	35.3
	Large (250+)	51	16.5
	Banking & Financial Services	23	7.4
	Information Technology / IT Services	78	25.2
Industry Category	Manufacturing	59	19.1
	Healthcare	42	13.6
	Insurance	39	12.6
	Retail & E-Commerce	26	8.4
	Telecommunications	22	7.1
	Government Services	15	4.9
	Other	5	1.6
	UiPath	41	13.3
Primary RPA Platform Used	Automation Anywhere	100	32.4
	Blue Prism	72	23.3
	Microsoft Power Automate	63	20.4
	Pega RPA	13	4.2
	Custom / In-house RPA	13	4.2
	Other	7	2.3

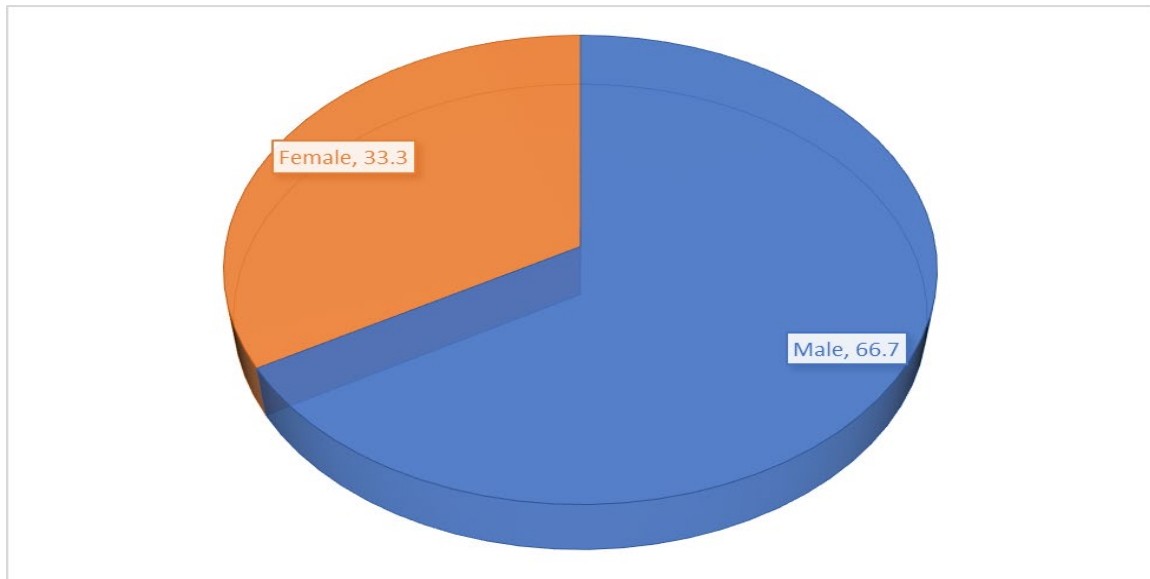


*Figure
Gender*

4.1

Figure 4.1 reports gender distribution: 206 male respondents (66.7%) and 103 females (33.3%).

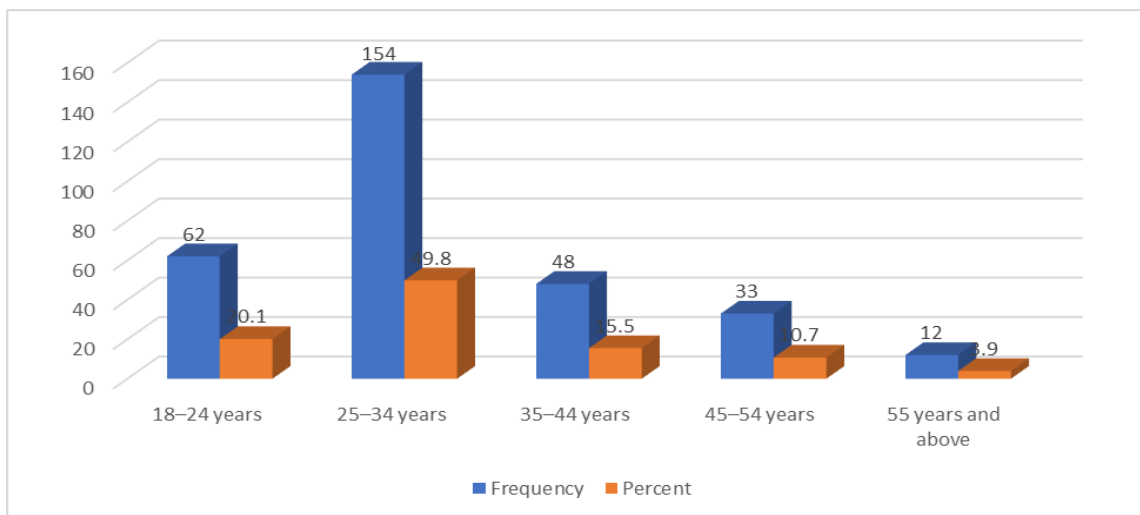


*Figure
Age Group*

4.2

Figure 4.2 reports age distribution: 25–34 years 154 (49.8%); 18–24 years 62 (20.1%); 35–44 years 48 (15.5%); 45–54 years 33 (10.7%); 55+ years 12 (3.9%).

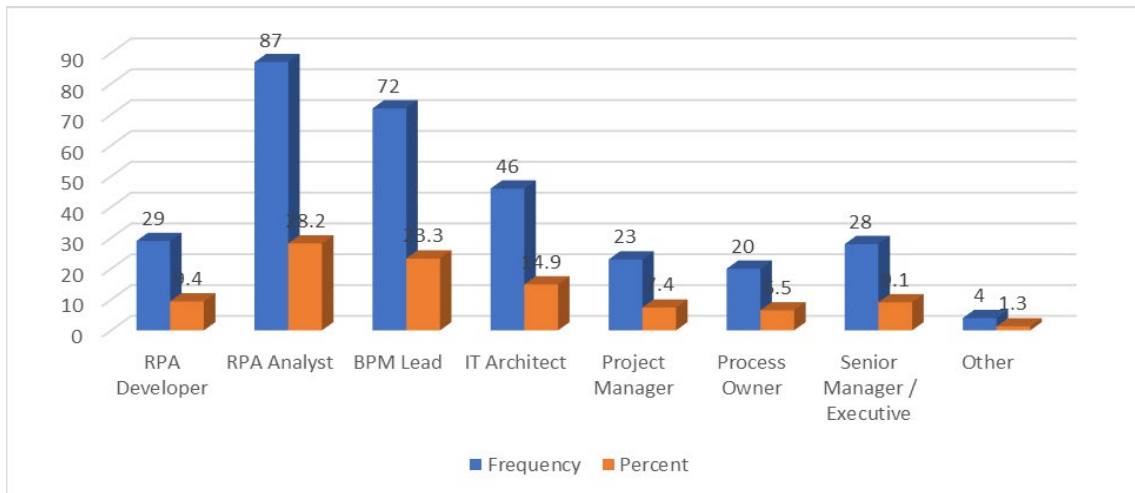


*Figure 4.3
Current Role in Organisation*

4.3

Figure 4.3 reports role distribution: RPA Analysts 87 (28.2%); BPM Leads 72 (23.3%); IT Architects 46 (14.9%); RPA Developers 29 (9.4%); Senior Managers/Executives 28 (9.1%); Project Managers 23 (7.4%); Process Owners 20 (6.5%); Other 4 (1.3%).

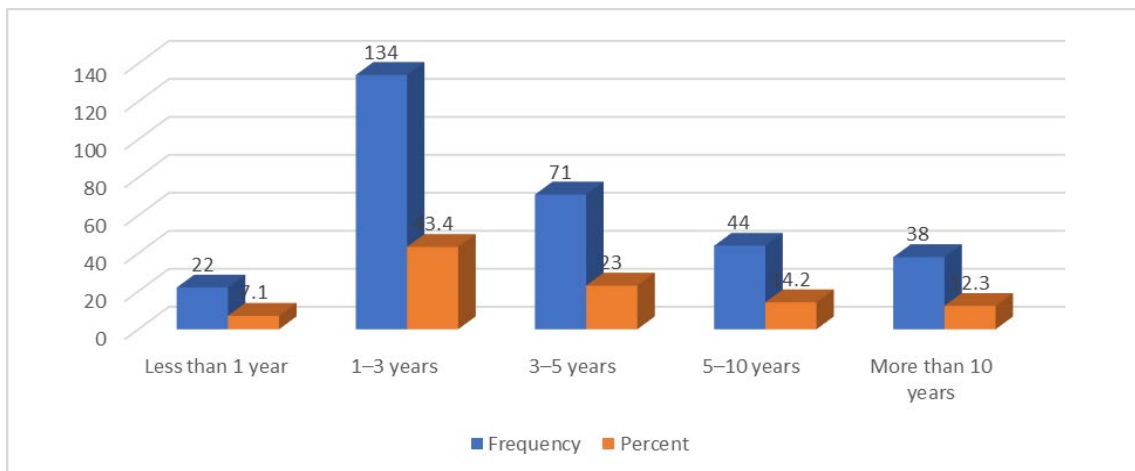


*Figure 4.4
Total Years of Experience in RPA / BPM*

4.4

Figure 4.4 reports RPA/BPM experience: 1-3 years 134 (43.4%); 3-5 years 71 (23.0%); 5-10 years 44 (14.2%); more than 10 years 38 (12.3%); less than 1 year 22 (7.1%).

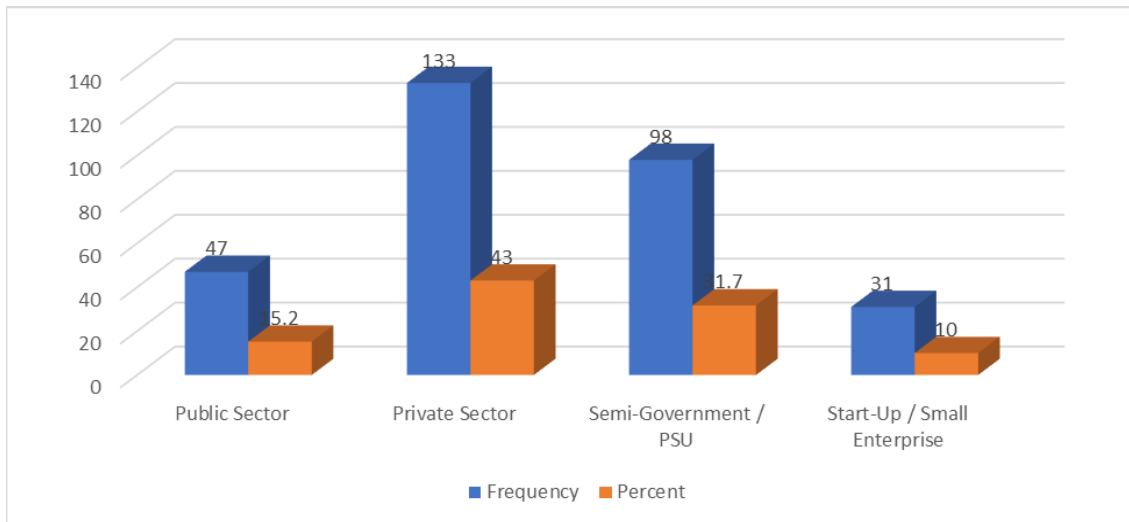


*Figure
Organisation Type*

4.5

Figure 4.5 reports organisation type: Private sector 133 (43.0%); Semi-government/PSU 98 (31.7%); Public sector 47 (15.2%); Start-up/Small enterprise 31 (10.0%).

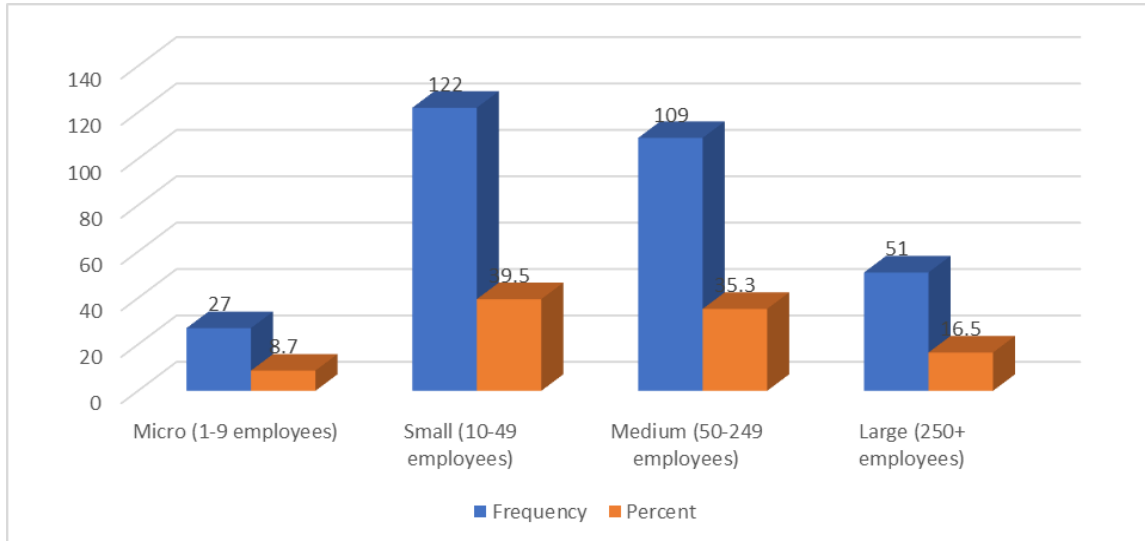


*Figure
Approximate Organisation Size (Employees)*

4.6

Figure 4.6 reports organisation size: Small (10–49 employees) 122 (39.5%); Medium (50–249) 109 (35.3%); Large (250+) 51 (16.5%); Micro (1–9) 27 (8.7%).

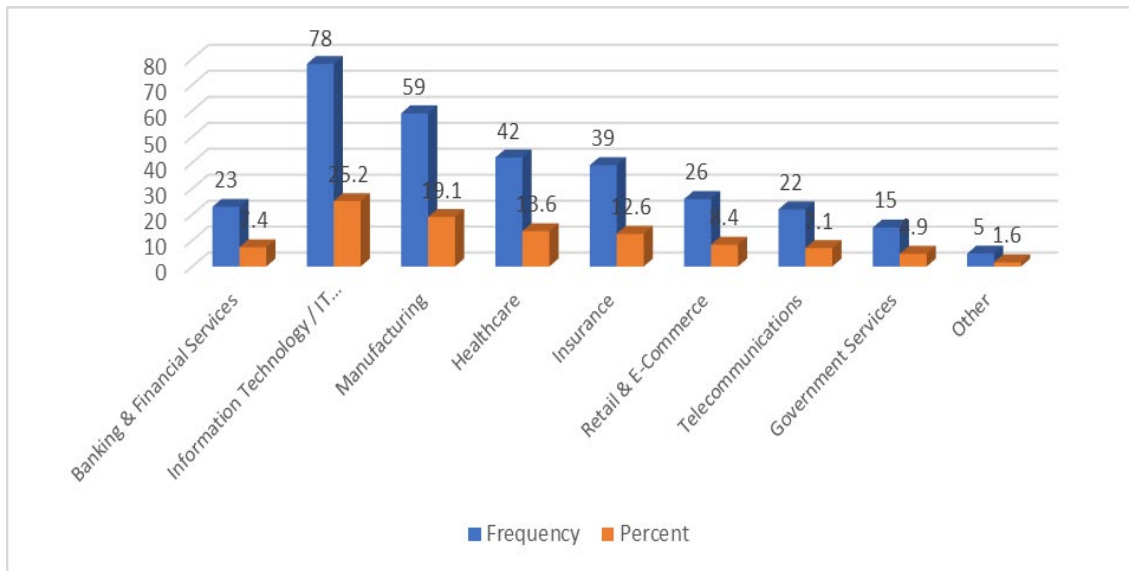


Figure
Industry Category

4.7

Figure 4.7 reports industry category: Information Technology/IT Services 78 (25.2%); Manufacturing 59 (19.1%); Healthcare 42 (13.6%); Insurance 39 (12.6%); Retail & E-Commerce 26 (8.4%); Banking & Financial Services 23 (7.4%); Telecommunications 22 (7.1%); Government Services 15 (4.9%); Other 5 (1.6%).

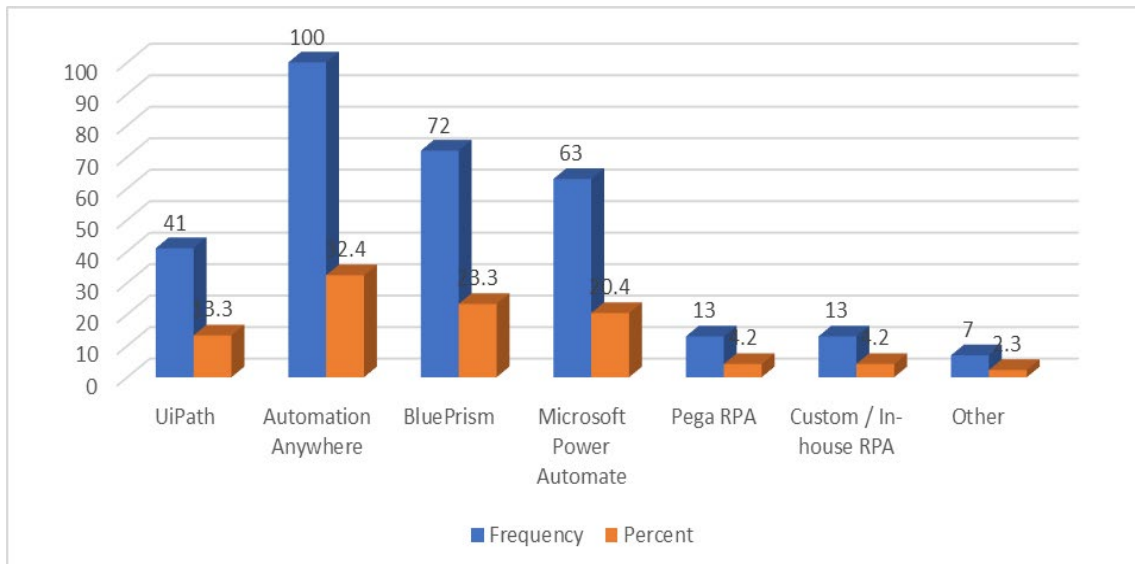


Figure
Primary RPA Platform Used

4.8

Figure 4.8 reports primary RPA platform used: Automation Anywhere 100 (32.4%); Blue Prism 72 (23.3%); Microsoft Power Automate 63 (20.4%); UiPath 41 (13.3%); Pega RPA 13 (4.2%); Custom/In-house 13 (4.2%); Other 7 (2.3%).

4.3.2 Findings: Reliability and descriptive statistics for the full sample

Internal consistency for the 38-item instrument across the full sample (N = 309) is reported in Table 4.6, and the descriptive statistics for the demographic variables and the eight construct scales are reported in Table 4.7.

Reliability Statistics

Table 4.6
Reliability Statistics

“Cronbach's Alpha”	“N of Items”
.749	38

Cronbach's alpha for the 38-item instrument was 0.749 (N = 309), which exceeds the conventional 0.70 threshold for acceptable internal consistency.

Table 4.16
Descriptive Statistics

	N	Mean	Std. Deviation
	Statistic	Statistic	Std. Error
Gender	309	1.33	.027
Age Group	309	2.28	.058
Current Role in Organisation	309	3.45	.103
Total Years of Experience in RPA / BPM	309	2.81	.065
Organisation Type	309	2.37	.049
Approximate Organisation Size (Employees)	309	2.60	.049
Industry Category	309	3.86	.116
Primary RPA Platform Used	309	2.92	.080
Digital Maturity Level	309	4.3851	.03260
Executive Sponsorship Quality	309	4.1262	.02972

Technical integration challenges	309	4.1845	.03049	.53599
Change Management Effectiveness	309	4.2104	.02994	.52634
Governance Structure / CoE Effectiveness	309	4.1909	.02858	.50238
Process Selection Maturity	309	4.2718	.03026	.53198
RPA Implementation Success	309	4.3204	.02993	.52620
Organisational Change Readiness	309	4.2589	.03063	.53842
Valid N (listwise)	309			

Table 4.16 reports descriptive statistics for the eight demographic variables and the eight construct scales (N = 309). For the eight construct scales, all means lay above the scale midpoint and ranged from 4.13 (Executive Sponsorship Quality) to 4.39 (Digital Maturity Level). Standard deviations ranged from 0.50 (Governance Structure / CoE Effectiveness) to 0.57 (Digital Maturity Level), with standard errors of the mean between 0.029 and 0.033.

4.3.3 Findings: Likert-item response distributions

This subsection reports the response distributions for each Likert item in the eight construct scales. Tables 4.8 to 4.15 give the frequency and percentage of answers for each item, including Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree. The eight constructs are reported in the order: Digital Maturity Level (Table 4.8), Executive Sponsorship Quality (Table 4.9), Technical Integration Challenges (Table 4.10), Change Management Effectiveness (Table 4.11), Governance Structure / CoE Effectiveness (Table 4.12), Process Selection Maturity (Table 4.13), RPA Implementation Success (Table 4.14), and Organisational Change Readiness (Table 4.15).

Per-item bar-chart figures (originally Figures 4.9 to 4.46) have been removed from the body of this chapter to maintain narrative focus on the inferential findings; the response distributions they presented are reproduced in full in Tables 4.8 to 4.15.

Table

4.8

Digital Maturity Level

Statement	Freq/%	SD	D	N	A	SA
The organisation maintains a modern and reliable digital infrastructure.	Frequency	5	14	118	114	58
	Percent	1.6	4.5	38.2	36.9	18.8
Core IT systems are well-integrated across departments.	Frequency	1	10	51	111	136
	Percent	0.3	3.2	16.5	35.9	44.0
Organisational data is accurate, standardised, and well-managed.	Frequency	1	7	86	100	115
	Percent	0.3	2.3	27.8	32.4	37.2
Cloud technologies are widely adopted to support digital operations.	Frequency	3	13	73	112	108
	Percent	1.0	4.2	23.6	36.2	35.0
Cybersecurity measures are strong and consistently updated.	Frequency	3	11	93	116	86
	Percent	1.0	3.6	30.1	37.5	27.8
“Strongly Disagree” = SD, “Disagree” = D, “Neutral” = N, “Agree” = A, “Strongly Agree” = SA						

Table 4.8 reports the frequency and percentage distribution of responses across the five items measuring Digital Maturity Level in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 55.7% to 79.9% across the items in this construct.

Table

4.9

Executive Sponsorship Quality

Statement	Freq/%	SD	D	N	A	SA
Senior leadership provides strong support for RPA initiatives.	Frequency	1	17	161	81	49
	Percent	0.3	5.5	52.1	26.2	15.9
RPA objectives are communicated clearly by leadership.	Frequency	2	17	64	137	89
	Percent	0.6	5.5	20.7	44.3	28.8
Adequate resources are allocated for RPA project execution.	Frequency	3	9	87	89	121
	Percent	1.0	2.9	28.2	28.8	39.2
Leadership demonstrates agility in decision-making for RPA projects.	Frequency	1	14	81	127	86
	Percent	0.3	4.5	26.2	41.1	27.8

Table 4.9 reports the frequency and percentage distribution of responses across the four items measuring Executive Sponsorship Quality in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 42.1% to 68.0% across the items in this construct.

Table 4.10
Technical Integration Challenges

Statement	Freq/%	SD	D	N	A	SA
Our organisation faces frequent technical issues when integrating RPA with existing legacy systems.	Frequency	4	13	154	81	57
	Percent	1.3	4.2	49.8	26.2	18.4
The lack of a compatible IT infrastructure makes RPA implementation technically challenging.	Frequency	1	20	70	116	102
	Percent	0.3	6.5	22.7	37.5	33.0
Integrating RPA bots with multiple applications requires significant technical effort in our organisation.	Frequency	1	17	72	101	118
	Percent	0.3	5.5	23.3	32.7	38.2
System stability and performance issues often hinder smooth RPA deployment.	Frequency	1	13	89	118	88
	Percent	0.3	4.2	28.8	38.2	28.5

Table 4.10 reports the frequency and percentage distribution of responses across the four items measuring Technical Integration Challenges in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 44.6% to 70.9% across the items in this construct.

Table 4.11
Change Management Effectiveness

Statement	Freq/%	SD	D	N	A	SA
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Effective communication accompanies major RPA-related changes.	Frequency	3	14	151	86	55
	Percent	1.0	4.5	48.9	27.8	17.8
Employees receive adequate training for RPA adoption.	Frequency	0	19	71	139	80
	Percent	0.0	6.1	23.0	45.0	25.9
Resistance to automation is managed effectively.	Frequency	1	8	81	89	130
	Percent	0.3	2.6	26.2	28.8	42.1
Awareness and engagement programs are implemented during RPA rollout.	Frequency	2	11	76	108	112
	Percent	0.6	3.6	24.6	35.0	36.2

Table 4.11 reports the frequency and percentage distribution of responses across the four items measuring Change Management Effectiveness in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 45.6% to 70.9% across the items in this construct.

Table 4.12
Governance Structure / CoE Effectiveness

Statement	Freq/%	SD	D	N	A	SA
A formal RPA Centre of Excellence (CoE) exists within the organisation.	Frequency	3	6	151	91	58
	Percent	1.0	1.9	48.9	29.4	18.8
Standardised procedures guide bot development and deployment.	Frequency	0	32	73	124	80
	Percent	0.0	10.4	23.6	40.1	25.9
Monitoring and compliance mechanisms are clearly established.	Frequency	1	10	65	96	137
	Percent	0.3	3.2	21.0	31.1	44.3
Risk management processes are applied consistently to RPA operations.	Frequency	4	10	75	129	91
	Percent	1.3	3.2	24.3	41.7	29.4

Table 4.12 reports the frequency and percentage distribution of responses across the four items measuring Governance Structure / CoE Effectiveness in the full sample (N = 309).

All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 48.2% to 75.4% across the items in this construct.

Table 4.13
Process Selection Maturity

Statement	Freq/%	SD	D	N	A	SA
Processes selected for RPA undergo systematic suitability assessment.	Frequency	2	9	144	91	63
	Percent	0.6	2.9	46.6	29.4	20.4
Selected processes show low complexity and manageable exception rates.	Frequency	0	27	66	120	96
	Percent	0.0	8.7	21.4	38.8	31.1
Processes selected for automation are highly standardised.	Frequency	1	9	81	101	117
	Percent	0.3	2.9	26.2	32.7	37.9
Expected business benefits are evaluated before automation.	Frequency	1	11	88	111	98
	Percent	0.3	3.6	28.5	35.9	31.7
Processes are optimised prior to automation.	Frequency	4	10	81	109	105
	Percent	1.3	3.2	26.2	35.3	34.0

Table 4.13 reports the frequency and percentage distribution of responses across the five items measuring Process Selection Maturity in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 49.8% to 72.3% across the items in this construct.

Table 4.14
RPA Implementation Success

Statement	Freq/%	SD	D	N	A	SA
RPA has improved process efficiency within the organisation.	Frequency	1	9	171	79	49
	Percent	0.3	2.9	55.3	25.6	15.9
RPA implementation has significantly reduced operational errors.	Frequency	1	28	64	116	100
	Percent	0.3	9.1	20.7	37.5	32.4

Tangible cost savings or ROI have been achieved through RPA.	Frequency	2	8	74	113	112
	Percent	0.6	2.6	23.9	36.6	36.2
RPA projects are completed within planned timelines.	Frequency	2	8	85	106	108
	Percent	0.6	2.6	27.5	34.3	35.0
Automated bots scale effectively as organisational needs grow.	Frequency	0	18	75	117	99
	Percent	0.0	5.8	24.3	37.9	32.0
Users show satisfaction with RPA-enabled processes.	Frequency	4	12	83	124	86
	Percent	1.3	3.9	26.9	40.1	27.8
RPA outcomes align with overall BPM objectives.	Frequency	4	15	56	125	109
	Percent	1.3	4.9	18.1	40.5	35.3

Table 4.14 reports the frequency and percentage distribution of responses across the seven items measuring RPA Implementation Success in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 41.5% to 75.8% across the items in this construct.

Table 4.15
Organisational Change Readiness

Statement	Freq/%	SD	D	N	A	SA
Leadership is ready to support the upcoming digital transformation.	Frequency	5	14	143	103	44
	Percent	1.6	4.5	46.3	33.3	14.2
Organisational culture is open to automation and innovation.	Frequency	5	20	72	107	105
	Percent	1.6	6.5	23.3	34.6	34.0
Adequate resources are available to manage change.	Frequency	1	7	81	109	111
	Percent	0.3	2.3	26.2	35.3	35.9
The organisation is technically prepared for RPA scaling.	Frequency	2	8	67	131	101
	Percent	0.6	2.6	21.7	42.4	32.7
RPA initiatives align well with BPM transformation goals.	Frequency	3	11	84	118	93
	Percent	1.0	3.6	27.2	38.2	30.1

Table 4.15 reports the frequency and percentage distribution of responses across the five items measuring Organisational Change Readiness in the full sample (N = 309). All items showed a predominance of positive responses, with combined Agree and Strongly Agree percentages ranging from 47.5% to 75.1% across the items in this construct.

4.3.4 Findings for RQ1 (Challenges by organisational context)

Research Question 1 asks what the primary difficulties of RPA integration are and how they differ according to organisational traits. The quantitative test of this question, Hypothesis 3, examined whether technical integration challenges differ significantly across organisations of different size.

Hypothesis 3

- **H_{0.3}**: There is no significant difference in technical integration challenges between large and small to medium organisations.
- **H_{1.3}**: Technical integration challenges are significantly more prevalent in large organisations (1000+ employees) compared to small to medium organisations (fewer than 1000 employees).

Table 4.20
Ranks

	Approximate (Employees)	Organisation Size	N	Mean Rank
Technical integration challenges	Micro (1-9 employees)		27	185.17
	Small (10-49 employees)		122	153.40
	Medium (50-249 employees)		109	154.74
	Large (250+ employees)		51	143.41
	Total		309	

Table 4.20 presents the mean positions of technical integration problems faced by RPA implementation in the eyes of companies of different sizes. The results reveal that micro-sized companies (1 -9 employees) have the largest mean rank (185.17), which implies that they experience the most significant technical challenges when referring to the implementation of RPA into the existing systems. Small (10–49 employees) and medium-sized companies (50–249 employees) have similar mean ranks of 153.40 and 154.74, respectively, which signifies moderate technical difficulties. Large enterprises (250+ employees) have the lowest mean rank (143.41), indicating they have fewer technical integration issues. Overall, the conclusions made point to the fact that smaller companies are more likely to encounter problems in RPA implementation, which is due to their limited IT support, resources, and know-how in technology, while the large ones are able to do the integration tasks with minimal disruptions.

Table 4.21
Test Statistics^{a,b}

	Technical integration challenges
Kruskal-Wallis H	5.937
df	3
Asymp. Sig.	.115
a. Kruskal-Wallis Test	
b. Grouping Variable: Approximate Organisation Size (Employees)	

Table 4.21 reports the Kruskal-Wallis H test result: $H = 5.937$, $df = 3$, $p = .115$. The p-value of .115 exceeds the null hypothesis and the traditional .05 threshold $H_{0.3}$ is therefore not rejected. The mean ranks reported in Table 4.20 (Micro 185.17; Small 153.40; Medium 154.74; Large 143.41) describe a numerical gradient, but the test indicates that the four organisation-size groups do not differ to a statistically significant degree in their reported technical integration challenges.

It should be noted that for operationalisation purposes, 'large' organisations were defined as those with 250+ employees, consistent with the survey instrument categories used in

data collection. While the original hypothesis framed large organisations as those with 1,000+ employees, the survey instrument employed a categorical scale with a maximum band of 250+ employees. This adjustment was a pragmatic necessity arising from the survey design and represents a limitation in the direct testing of the hypothesis as originally stated. Future research employing a finer-grained organisational size scale — particularly distinguishing mid-large (250–999) from enterprise-scale (1,000+) organisations — would allow a more precise test of this relationship.

In summary for RQ1, the quantitative test (H3) did not detect a statistically significant difference in technical integration challenges across the four organisation-size bands measured in this study. The qualitative analysis of RQ1, reported in Section 4.4.2, identifies the categories of technical challenges encountered in practice.

4.3.5 Findings for RQ2 (Critical Success Factors, ranked)

Research Question 2 asks which critical success factors (CSFs) show the highest statistical correlation with successful RPA implementation and how they rank in importance. Three hypotheses address this question: H2 (Executive Sponsorship), H5 (Governance Structure / CoE Effectiveness), and H6 (Process Selection Maturity). The three CSFs were tested using Spearman's rank-order correlation against RPA Implementation Success. Their individual results are reported below and a comparative ranking is reported in Table 4.35 at the end of this subsection.

Hypothesis 2

- **H_{0.2}:** There is no significant correlation between executive sponsorship and RPA project success metrics.
- **H_{1.2}:** Executive sponsorship is positively correlated with RPA project success metrics (process efficiency gains, cost reduction percentages, and timeline adherence).

Table

4.19

Correlations

Measure	Executive Sponsorship Quality	RPA Implementation Success
Executive Sponsorship Quality	—	$\rho = 0.277^{**}$
RPA Implementation Success	$\rho = 0.277^{**}$	—
p-value (2-tailed)	< 0.001	< 0.001
Sample Size (N)	309	309
Note: ρ denotes Spearman's correlation coefficient. ** indicates significance at the 0.01 level (two-tailed).		

Table 4.19 reports the Spearman's rank-order correlation between Executive Sponsorship Quality and RPA Implementation Success: $\rho = 0.277$, $p < .001$, $N = 309$. The null hypothesis $H_{0.2}$ is rejected and the alternative $H_{1.2}$ is supported. The correlation is positive, statistically significant at the .01 level, and small-to-moderate in magnitude by conventional benchmarks (Lachenbruch & Cohen, 1989).

Hypothesis 5

- **H_{0.5}:** There is no significant association between governance structures/CoE establishment and RPA project success rates.
- **H_{1.5}:** Clear governance structures and Centre of Excellence (CoE) establishment are positively associated with RPA project success rates.

Table

4.26

Correlations

Measure	Governance Structure / CoE Effectiveness	RPA Implementation Success
Governance Structure / CoE Effectiveness	—	$\rho = 0.270^{**}$
RPA Implementation Success	$\rho = 0.270^{**}$	—

p-value (2-tailed)	< 0.001	< 0.001
Sample Size (N)	309	309
Note: ρ represents Spearman's correlation coefficient. ** indicates statistical significance at the 0.01 level (two-tailed).		

Table 4.26 reports the Spearman's rank-order correlation between Governance Structure / CoE Effectiveness and RPA Implementation Success: $\rho = 0.270$, $p < .001$, $N = 309$. The null hypothesis $H_{0.5}$ is rejected and the alternative $H_{1.5}$ is supported. The correlation is positive, statistically significant at the .01 level, and weak-to-moderate in magnitude (Wuensch & Evans, 1996).

Hypothesis 6

- **H_{0.6}:** There is no significant correlation between process selection capabilities and RPA implementation success.
- **H_{1.6}:** Process selection and optimisation capabilities are positively correlated with successful RPA implementation outcomes.

Table 4.27
Correlations

Measure	Process Maturity	Selection RPA Success	Implementation
Process Selection Maturity	—	$\rho = 0.314^{**}$	
RPA Implementation Success	$\rho = 0.314^{**}$	—	
p-value (2-tailed)	< 0.001	< 0.001	
Sample Size (N)	309	309	
Note: ρ denotes Spearman's correlation coefficient. ** indicates significance at the 0.01 level (two-tailed).			

Table 4.27 reports the Spearman's rank-order correlation between Process Selection Maturity and RPA Implementation Success: $\rho = 0.314$, $p < .001$, $N = 309$. The null hypothesis $H_{0.6}$ is rejected and the alternative $H_{1.6}$ is supported. The correlation is positive, statistically significant at the .01 level, and the largest of the three Spearman correlations tested under RQ2.

Table 4.35
Comparative Summary of Critical Success Factors by Effect Size

Hypothesis	CSF	Statistical Test	Effect Size	Significance	Rank
<i>H6</i>	Process Selection Maturity	Spearman's ρ	0.314	$p < .001$	Supported — Rank 1
<i>H2</i>	Executive Sponsorship Quality	Spearman's ρ	0.277	$p < .001$	Supported — Rank 2
<i>H5</i>	Governance / CoE Effectiveness	Spearman's ρ	0.270	$p < .001$	Supported — Rank 3
<i>H1</i>	Digital Maturity Level	Ordinal Regression (β)	1.466	$p < .001$	Supported — Strongest single predictor
<i>H3</i>	Technical Integration Challenges	Kruskal-Wallis H	$H = 5.937$	$p = .115$	Not supported
<i>H4</i>	Change Management Effectiveness	Multiple Regression	$b = 0.491$; $R^2 = 0.148$	$CME \text{ path } p = .215$; $\text{Model } p < .001$	Not supported (direct effect)

**Digital Maturity was tested via ordinal regression rather than correlation; the β coefficient is not directly comparable to ρ values but confirms it as the strongest individual predictor of RPA success.*

Table 4.35 ranks the six tested factors by effect size. Among the three Spearman correlations grouped under RQ2, Process Selection Maturity (H6; $\rho = 0.314$) was the strongest, followed by Executive Sponsorship Quality (H2; $\rho = 0.277$) and Governance Structure / CoE Effectiveness (H5; $\rho = 0.270$). All three were statistically significant at $p < .001$. Digital Maturity Level (H1) was tested by a different method (ordinal regression) and is therefore reported under RQ3 (Section 4.3.6); its β coefficient is not directly comparable to the Spearman ρ values but is the largest single-predictor effect in the study. H3 and H4 are reported under RQ1 and RQ4 respectively.

4.3.6 Findings for RQ3 (Organisational characteristics as predictors)

Research Question 3 asks how organisational characteristics predict the likelihood of successful RPA integration outcomes. Hypothesis 1 addresses this question by examining whether higher digital maturity predicts higher RPA integration success, using ordinal regression (PLUM) with RPA Implementation Success as a three-level ordinal outcome.

Hypothesis 1

- **H_{0.1}:** There is no significant difference in RPA integration success rates between organisations with high and low digital maturity levels.
- **H_{1.1}:** Organisations with higher Digital Maturity Levels demonstrate significantly higher RPA integration success rates compared to organisations with lower digital maturity levels.

Hypothesis 1 was tested using ordinal regression (PLUM) with Digital Maturity Level as the predictor and RPA Implementation Success as the three-level ordinal outcome. The model was statistically significant: model-fitting $\chi^2 = 44.509$ ($df = 1$), $p < .001$. Goodness-of-fit tests were non-significant (Pearson $\chi^2 = 3.767$, $df = 5$, $p = .583$; Deviance $\chi^2 = 4.702$, $df = 5$, $p = .453$), indicating no evidence of poor fit. Pseudo- R^2 values were Cox & Snell = 0.134, Nagelkerke = 0.171, and McFadden = 0.094, with the Nagelkerke value

indicating that approximately 17.1% of variance in RPA Implementation Success was accounted for by the predictor. The location coefficient for Digital Maturity Level was $\beta = 1.466$ (SE = 0.228), Wald $\chi^2 = 41.443$ (df = 1), $p < .001$, 95% CI [1.020, 1.912]. The null hypothesis $H_{0.1}$ is therefore rejected and the alternative $H_{1.1}$ is supported. The full SPSS model-fit statistics and parameter estimates are reported in Appendix A.

4.3.7 Findings for RQ4 (Implementation strategies & change management)

Research Question 4 asks what quantitative impact different implementation strategies and change management approaches have on RPA integration. Hypothesis 4 addresses this question through a moderated multiple regression with Change Management Effectiveness (CME) as the primary predictor, Organisational Change Readiness (OCR) as the moderator, and their interaction term ($CME \times OCR$), with RPA Integration Outcomes as the dependent variable.

Hypothesis 4

- **H_{0.4}:** There is no significant difference in RPA integration outcomes between organisations with and without structured change management approaches.
- **H_{1.4}:** Organisations implementing structured change management approaches achieve significantly better RPA integration outcomes than those without structured change management approaches.

Hypothesis 4 was tested using moderated multiple regression with Change Management Effectiveness (CME) as the primary predictor, Organisational Change Readiness (OCR) as the moderator, and the interaction term ($CME \times OCR$), with RPA Integration Outcomes as the dependent variable. The overall model was statistically significant: $R = 0.3843$, $R^2 = 0.1477$, $F(3, 305) = 17.6144$, $p < .001$, accounting for 14.77% of variance in the outcome. The individual coefficients were not statistically significant: CME $b = 0.4905$, $p = .2153$, 95% CI [-0.287, 1.268]; OCR $b = 0.6368$, $p = .1142$, 95% CI

[−0.154, 1.428]; and the CME × OCR interaction $b = -0.0781$, $p = .4011$, 95% CI [−0.261, 0.105]. The highest-order interaction test produced a non-significant R^2 change of 0.002 ($F = 0.7069$, $p = .4011$). The null hypothesis $H_{0.4}$ is therefore not rejected; structured change management approaches did not demonstrate a statistically significant direct effect on RPA integration outcomes in this sample. The joint model significance combined with the non-significant individual coefficients reflects the shared explanatory contribution of CME and OCR, which are moderately correlated; the unique contribution of either predictor cannot be isolated with precision in this cross-sectional dataset. The full SPSS regression output, including the model summary, ANOVA, coefficient table, and highest-order interaction test, is reported in Appendix A.

In summary for RQ4, the moderated regression model as a whole was statistically significant but the individual coefficients for change management effectiveness and organisational change readiness were not. H_4 is not supported as a direct effect. The qualitative analysis of RQ4, reported in Section 4.4.5, examines the implementation strategies and change-management practices that were observed in the eight expert interviews.

4.4 Qualitative Data Analysis

This section reports the findings from the Phase II qualitative validation. Eight RPA and BPM practitioners ($N = 8$) were interviewed using a semi-structured protocol, as detailed in Chapter 3. Transcripts were analysed using thematic analysis, and the resulting themes are reported here in the same RQ-aligned structure as the quantitative findings in Section 4.3. Subsection 4.4.1 reports the participant profile; subsections 4.4.2 to 4.4.5 report the qualitative findings for RQ1 to RQ4 respectively; subsection 4.4.6

reports the readiness and sustainability indicators that emerged from the interviews; and subsection 4.4.7 presents the consolidated SUCCESS framework.

4.4.1 Findings: Profiles of the study participants

The eight Phase II experts (N = 8) were purposively sampled from the same organisational pool as the Phase I survey. The participants held the following roles: project managers, IT specialists, business analysts, automation consultants, RPA developers, process improvement managers, digital transformation managers, and senior operations managers. Each of the eight was directly involved in managing, implementing, or strategically supervising RPA efforts inside their respective businesses. Their organisations spanned the same industry sectors covered by the Phase I survey, including information technology services, financial services, healthcare, manufacturing, and shared service centres. The combination of role diversity and direct implementation experience supported the thematic analysis of all four research questions through the same expert panel.

4.4.2 Findings for RQ1 (Challenges)

Research Question 1 was addressed qualitatively through the eight expert interviews. Table 4.31 reports the categories of RPA integration challenges that emerged from the thematic analysis, with their relative frequency, severity, and implementation risk level. Figures 4.52 and 4.53 report the word-cloud analyses for the interview questions on technical integration challenges and on the effect of organisational size, respectively.

Table 4.31
Identified RPA Integration Challenges

Challenge Category		Sub-Issues Identified	Frequency	Severity	Implementation Risk Level
Legacy System Limitations		Lack of APIs, screen scraping reliance	Very High	High	Critical

Security & Compliance Restrictions	MFA, credential approvals, audit controls	High	High	Critical
Data Quality Inconsistency	Unstructured data, validation conflicts	High	High	High
System Update Volatility	UI changes breaking bots	High	Moderate–High	High
Organisational IT Complexity	Multiple interconnected systems	Very High	High	Critical
Infrastructure Constraints	Server limitations, bandwidth issues	Moderate	Moderate	Medium
Lack of Process Standardisation	Variable workflows, undocumented SOPs	High	High	High
Fragmented Digital Landscape	Disconnected tools, data silos	High	Moderate–High	High

Table 4.31 categorises the challenges identified in the eight interviews. Two categories had very high frequency: Legacy System Limitations (lack of APIs, screen scraping reliance) and Organisational IT Complexity (multiple interconnected systems). Five categories had high frequency: Security and Compliance Restrictions; Data Quality Inconsistency; System Update Volatility; Lack of Process Standardisation; and Fragmented Digital Landscape. One category, Infrastructure Constraints, had moderate frequency. The implementation risk level was rated Critical for three categories (Legacy System Limitations, Security and Compliance Restrictions, Organisational IT Complexity), High for four categories, and Medium for one.

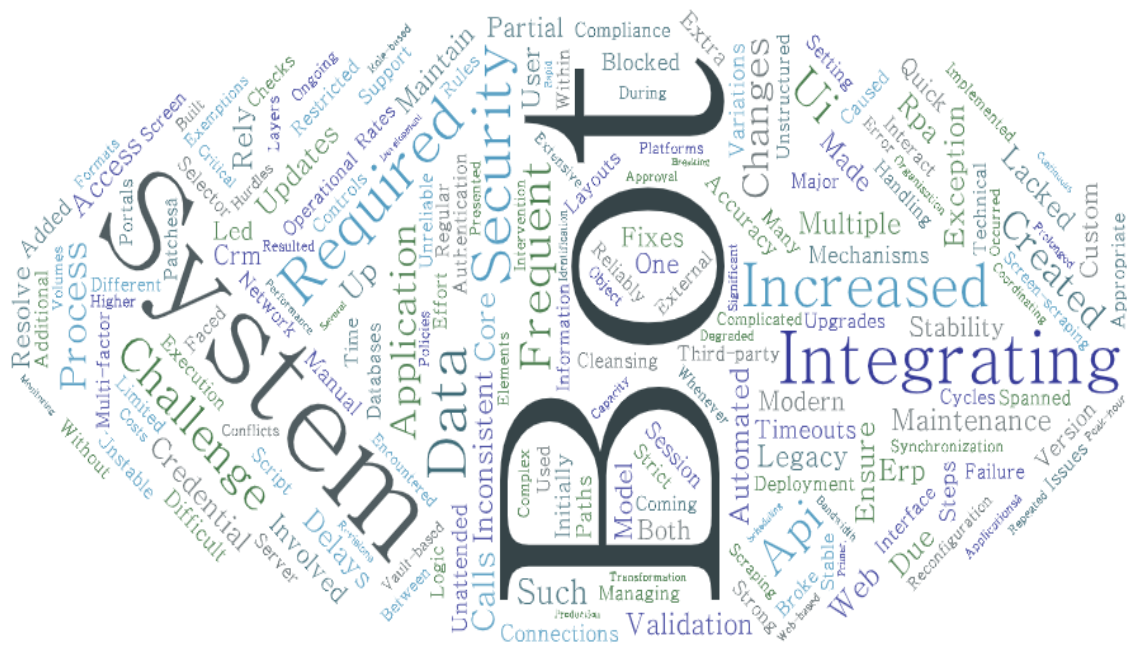


Figure 4.52
What types of technical integration challenges did your organisation face when implementing RPA solutions?

Figure 4.52 reports the word-cloud analysis for the interview question on technical integration challenges. The most prevalent terms were "System", "Integration", "Issues", "Legacy", "ERP", "API", "Application", "Data", "Quality", "Validation", "Updates", "Changes", and "Maintenance". These terms map to four underlying categories: integration with legacy and ERP systems, security and compliance restrictions, data quality, and the effect of system updates on bot stability.

with their thematic evidence strength. Figures 4.47, 4.48, and 4.49 report the word-cloud analyses for the interview questions on digital maturity, executive sponsorship, and governance respectively. Figures 4.50, 4.51, 4.56, 4.57, and 4.58 report the word-cloud analyses for the corresponding follow-up questions on digital capabilities, executive decisions, the role of the Centre of Excellence, process selection, and process optimisation.

Table 4.28
Summary of Thematic Categories and Aggregate Dimensions

Aggregate Dimension	Key Themes	Representative Codes	Prevalence
Digital Maturity & Infrastructure	Infrastructure readiness, API availability, system integration	Cloud systems, ERP integration, legacy systems, fragmented tools	Very High
Executive Sponsorship & Strategic Alignment	Leadership support, funding approval, KPI monitoring	Budget allocation, steering committee, milestone tracking	Very High
Technical Integration Complexity	Legacy constraints, security barriers, UI instability	Screen scraping, MFA restrictions, selector breakage	Very High
Organisational Scale & IT Complexity	System diversity, interdependencies	Multiple ERPs, distributed networks	High
Change Management & Adoption Readiness	Training, communication, and champions	Role-based training, stakeholder engagement	Very High
Governance & Centre of Excellence (CoE)	Standardisation, lifecycle control, compliance	Coding standards, audit dashboards, risk controls	Very High
BPM & Process Optimisation	Process mining, Lean reviews, ROI scoring	AS-IS/TO-BE mapping, exception analysis	Very High

Table 4.28 reports the seven aggregate dimensions identified across the eight transcripts with their prevalence ratings. Six dimensions reached "Very High" prevalence: Digital Maturity and Infrastructure; Executive Sponsorship and Strategic Alignment;

Technical Integration Complexity; Change Management and Adoption Readiness; Governance and Centre of Excellence; and BPM and Process Optimisation. One-dimension, Organisational Scale and IT Complexity, reached "High" prevalence.

Table 4.29
Ranked Critical Success Factors

Rank	Critical Success Factor	Thematic Evidence Strength	Strategic Impact
1	Executive Sponsorship	Very Strong	Enables funding, fast decisions, alignment
2	Digital Infrastructure Readiness	Very Strong	Reduces integration failures
3	Governance & CoE Structure	Very Strong	Ensures standardisation & sustainability
4	Process Optimisation Before Automation	Strong	Reduces bot rework
5	Structured Change Management	Strong	Improves adoption
6	Role-Based Training	Strong	Builds user confidence
7	Pilot-Based Phased Rollout	Moderate–Strong	Reduces risk
8	Data Standardisation	Strong	Improves bot stability

Table 4.29 reports the rank order of the eight critical success factors identified in the interviews, with their thematic evidence strength. Three factors had "Very Strong" evidence: Executive Sponsorship (rank 1), Digital Infrastructure Readiness (rank 2), and Governance and CoE Structure (rank 3). Four factors had "Strong" evidence: Process Optimisation Before Automation (rank 4), Structured Change Management (rank 5), Role-Based Training (rank 6), and Data Standardisation (rank 8). One factor had "Moderate–Strong" evidence: Pilot-Based Phased Rollout (rank 7).

RPA implementation outcomes. Table 4.30 reports the six characteristics that emerged, their observed effect on integration, the direction of influence, and the predictive strength assigned during thematic coding.

Table 4.30
Organisational Characteristics & Influence on RPA Success

Characteristic	Observed Effect on Impact	Predictive Strength
High Digital Maturity	Faster deployment, stable bots	Positive Strong
Moderate Digital Maturity	Gradual adoption, limited scaling	Moderate Positive
Low Digital Maturity	High delays, high maintenance	Negative Strong
Large Enterprise Size	High complexity, governance-heavy	Mixed Moderate
Small/Medium Organisation	Faster integration, fewer dependencies	Positive Moderate
Strong Cybersecurity Environment	Stable but slower automation	Trade-off Moderate

Table 4.30 reports the six organisational characteristics identified in the interviews and their thematic association with RPA implementation outcomes. Three characteristics had "Strong" predictive strength: High Digital Maturity (positive direction), Low Digital Maturity (negative direction), and Small/Medium Organisation size (positive direction; recoded as "Moderate" for predictive strength). Three characteristics had "Moderate" predictive strength: Moderate Digital Maturity (mixed/positive), Large Enterprise Size (mixed direction), and Strong Cybersecurity Environment (described as a trade-off between stability and adoption speed).

4.4.5 Findings for RQ4 (Implementation Strategies & Change Management)

Research Question 4 was addressed qualitatively through the analysis of the implementation strategies and change-management practices described by the eight participants. Table 4.32 reports seven strategies that emerged, with their rated adoption impact, efficiency gains, timeline control, and long-term stability. Figures 4.54 and 4.55 report the word-cloud analyses for the interview questions on change-management approach and on specific change-management practices.

Table 4.32
Effectiveness of Implementation Strategies

Strategy	Adoption Impact	Efficiency Gains	Timeline Control	Long-Term Stability
Executive-Led Communication	High	Moderate	High	Strong
Role-Based Hands-On Training	Very High	High	Moderate	Strong
Change Champions	High	Moderate	Moderate	Strong
Formal Governance Framework	Moderate	High	Very High	Very Strong
Pilot-Based Rollout	High	Moderate	High	Strong
Minimal Change Strategy	Low	Low	Poor	Weak
No Process Optimisation	Low	Low	Poor	Weak

Table 4.32 reports the seven implementation strategies identified in the interviews against four outcome dimensions. Strategies with at least two "High" or "Very High" ratings included Role-Based Hands-On Training, Executive-Led Communication, Change

In summary, the qualitative findings indicate that RPA implementation outcomes were shaped by organisational context, stakeholder involvement, and change management practices. The interview evidence complements the statistical findings by highlighting the practical role of communication, leadership support, technical integration, and process governance in influencing automation adoption and implementation effectiveness.

4.4.6 Framework Readiness and Sustainability Indicators

This subsection reports two cross-cutting outputs of the thematic analysis that informed the consolidated SUCCESS framework. Table 4.33 reports the readiness-assessment dimensions identified in the interviews, and Table 4.34 reports the indicators associated with RPA's long-term viability and scalability in the participating organisations.

Table 4.33
RPA Readiness Assessment Framework

Readiness Dimension	Key Evaluation Criteria	Risk if Weak	Weight (Qualitative Basis)
Digital Infrastructure	API access, cloud stability, server capacity	High Failure Risk	Very High
Executive Commitment	Budget support, KPI oversight	Poor Scaling	Very High
Process Maturity	Standardised SOPs, low variability	High Rework	High
Change Management Capability	Training, communication and champions	Low Adoption	High
Governance Structure	CoE, lifecycle management	Sustainability Risk	Very High

Table 4.33 is a presentation of the RPA Readiness Assessment Framework based on qualitative validation, which includes the most important criteria for readiness evaluation, their respective risks, and qualitative weight. It showed that Digital Infrastructure, Executive Commitment, and Governance Structure were very highly weighted in terms of their qualitative importance in assessing the readiness for integrating RPA. Inefficient digital infrastructure, including insufficient availability of APIs, instability of the cloud environment, and lack of adequate server power, was connected with a high risk of project failure. Lack of executive commitment corresponded to poor scalability because of the absence of strategic vision and financial resources. The absence of a well-structured governance process, including establishing a Centre of Excellence (CoE), was considered one of the main sustainability risks. Maturity of Process and Change Management Capability have been found to be important dimensions due to lack of standards in processes causing rework, while lack of training and communication led to low levels of user adoption. The above framework indicates that technological maturity, commitment from leadership, effective governance, process standardisation, and change management capability are key factors for organisational maturity in implementing RPA effectively.

Table 4.34
Predictive Indicators for Sustainability & Scalability

Indicator	Observed in High Performers	Sustainability Contribution	Scalability Contribution
Centralised CoE	Yes	Very High	Very High
API-Enabled Systems	Yes	High	High
Process Standardisation	Yes	High	High
KPI & ROI Dashboards	Yes	High	High

Reusable Automation Components	Yes	Moderate–High	High
Informal Governance	No	Low	Low

Table 4.34 identifies the predictors related to the sustainability and scalability of RPA efforts, which have been discovered in high-performing companies. It has been found that a Centrally located CoE is the best predictor for sustainability and scalability, as it has an extremely high contribution to both. This predictor relates to governance, standards, and strategies of an organisation. On the other hand, API-Enabled Systems, Process Standardisation, and KPI & ROI Dashboards are some of the key predictors that have shown extremely high contribution towards sustainability and scalability of RPA. In addition, Reusable Automation Components made positive contributions, especially in scalability, due to its capability to efficiently replicate and scale up the implementation of automation. On the other hand, Informal Governance was not present in any of the best-performing organisations, and it showed negative contributions towards sustainability and scalability. Generally, the findings indicated that formal governance, technical readiness, performance measurement, and process management were significant predictors of sustainable and scalable implementation of RPA within BPM.

4.4.7 The SUCCESS framework

Figure 4.59 presents the research conceptual model, which brings together the six factors examined across the six hypotheses together with the additional organisational and outcome dimensions identified in the Phase II thematic analysis. Consolidating these relationships, the study derived the SUCCESS framework, an evidence-based model whose acronym denotes the six pillars described below.

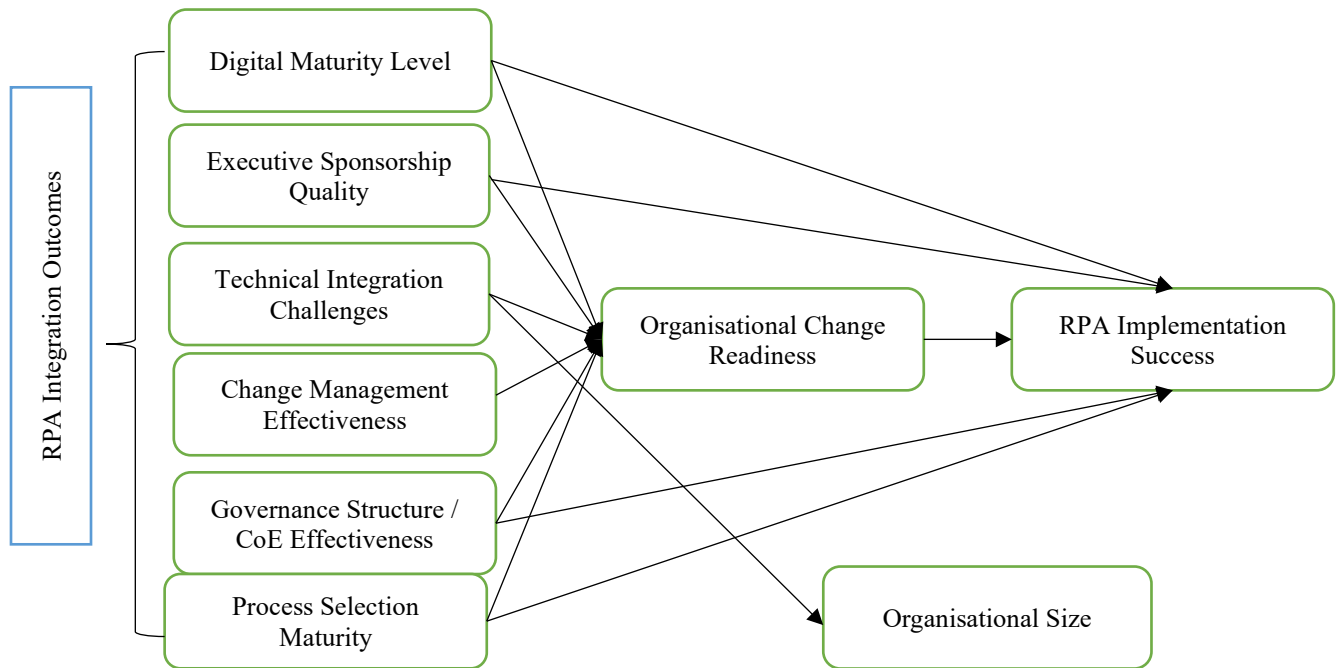


*Figure
Research Conceptual Model.*

4.59

The six pillars of the SUCCESS framework, derived from the empirical findings, are: Standardised Process Selection (process evaluation, optimisation, and readiness assessment before automation); Unified Governance and CoE (governance structure and centre of excellence for standardisation and risk management); Committed Executive Sponsorship (leadership endorsement, communication, and resource allocation); Cloud-Ready Digital Maturity (IT architecture, data interoperability, and cybersecurity readiness); Effective Change Enablement (training, communication, and stakeholder engagement); and Scalable Integration Design (technical compatibility and system robustness for deployment and scaling).

Finally, the quantitative findings and the resulting SUCCESS framework were successfully corroborated through the Phase II qualitative validation. The semi-structured interviews with industrial practitioners proved the pragmatic relevance, structure integrity, and establish the framework's validity in an organisational setting. The opinions of the

experts offered greater insight into the nature of statistical dependencies, especially concerning the significance of change management as an indirect but crucial element that helps ensure user acceptance and avoid resistance to automation, thus sustaining its results over time. The information obtained via interviews also confirmed the significance of other enabling factors such as governance, readiness, and standardisation for RPA success. Taken together, the convergence of empirical evidence derived from both qualitative and quantitative research validates the use of the SUCCESS framework in BPM contexts.

4.5 Summary of Findings

This section summarises the empirical findings of Chapter 4 organised by research question. No interpretation is offered here; the meaning of the findings is discussed in Chapter 5.

Field test (Section 4.2). The 30-respondent field test established acceptable intrinsic coherence across all eight constructs (Cronbach's alpha between 0.612 and 0.879), excellent sampling adequacy (KMO = 0.829), and a two-factor structure accounting for 82.59% of total variance. The instrument was retained for the full sample.

Full sample (Section 4.3). Internal consistency for the 38-item instrument across the full sample of $N = 309$ was Cronbach's alpha = 0.749. All eight construct means lay above the scale midpoint and ranged from 4.13 to 4.39, with standard deviations between 0.50 and 0.57.

Findings for RQ1 (Section 4.3.4 and 4.4.2). Quantitatively, the Kruskal-Wallis test of organisation-size effects on technical integration challenges was not statistically significant ($H = 5.937$, $df = 3$, $p = .115$); H_3 was not supported. Qualitatively, eight categories of integration challenge were identified, with Legacy System Limitations and Organisational IT Complexity at "Very High" frequency and "Critical" implementation risk level.

Findings for RQ2 (Section 4.3.5 and 4.4.3). Three Spearman's rank-order correlations addressed RQ2 and all three were statistically significant at $p < .001$: Process Selection Maturity ($\rho = 0.314$, H6 supported), Executive Sponsorship Quality ($\rho = 0.277$, H2 supported), and Governance Structure / CoE Effectiveness ($\rho = 0.270$, H5 supported). Qualitatively, eight critical success factors were ranked by thematic evidence strength; the top three were Executive Sponsorship, Digital Infrastructure Readiness, and Governance and CoE Structure, all with "Very Strong" evidence.

Findings for RQ3 (Section 4.3.6 and 4.4.4). Quantitatively, the ordinal regression of Digital Maturity Level on RPA Implementation Success was statistically significant ($\beta = 1.466$, Wald $\chi^2 = 41.443$, $p < .001$, Nagelkerke pseudo- $R^2 = 0.171$); H1 was supported. Qualitatively, six organisational characteristics were identified as influencing implementation outcomes, with High Digital Maturity and Low Digital Maturity rated as "Strong" predictors in opposite directions.

Findings for RQ4 (Section 4.3.7 and 4.4.5). Quantitatively, the moderated regression model with Change Management Effectiveness, Organisational Change Readiness, and their interaction was significant overall ($R^2 = 0.148$, $F(3, 305) = 17.6144$, $p < .001$), but the individual coefficients were not statistically significant; H4 was not supported as a direct effect. Qualitatively, seven implementation strategies were rated against four outcome dimensions, with Role-Based Hands-On Training, Formal Governance Framework, and Pilot-Based Rollout showing the strongest combinations of adoption impact and long-term stability.

Comparative ranking by effect size. Table 4.35 ranks all six tested factors. The three Spearman correlations (RQ2) had ρ values of 0.314 (H6), 0.277 (H2) and 0.270 (H5). Digital Maturity (H1, RQ3) was the strongest individual predictor by ordinal regression. H3 (RQ1) and the direct effect of H4 (RQ4) were not supported.

Consolidated framework (Section 4.4.7). Figure 4.59 reports the six-pillar SUCCESS framework derived from the combined findings: Standardised Process Selection, Unified Governance and CoE, Committed Executive Sponsorship, Cloud-Ready Digital Maturity, Effective Change Enablement, and Scalable Integration Design

CHAPTER V: DISCUSSION, CONCLUSION, AND IMPLICATIONS

5.1 Introduction

The current chapter provides an interpretation of the findings presented in Chapter 4, analyzes their significance in theory and practice, and formulates conclusions regarding the four research questions and six study objectives outlined. Chapter 4 was concerned only with presentation of findings, whereas the current chapter provides an interpretation of these findings and evaluates their significance with regard to the relevant literature analysed in Chapter 2, as well as the research problem and study objectives formulated in Chapter 1. In doing so, this chapter turns back to the study's questions and outlines its contributions.

As was outlined in Chapter 1, the rationale for the study was based on a widely acknowledged issue: while the market of global RPA has been growing fast, thirty to fifty percent of all RPA implementations do not achieve the anticipated success due to various technical and organizational problems associated with integrating with the current BPM software, and there is still no comprehensive and evidence-based framework for both predicting and ensuring the success of RPA projects. The aim of the study was focused on developing such a framework, based on the following six objectives: to pinpoint and estimate risks (Objective 1); to find out and prioritize success factors (Objective 2); to model the relationship between organizational characteristics and the likelihood of success (Objective 3); to assess the strategies for successful implementation and change management (Objective 4); to discover predictors for sustainability and scalability of the implemented solutions (Objective 5); and to develop a tool for evaluating the level of organizational readiness (Objective 6). These objectives were translated into four research

questions and six hypotheses, with the conclusion reached that the objectives have all been achieved.

Conceptual base, introduced in Chapter 2, integrates three approaches that structure the discussion. Technology, Organisation, and Environment (TOE) approach (Baker, 2018) views RPA implementation as the result of technological, organisational, and environmental conditions. The BPM Maturity Model (Bruin et al., 2005) locates it within a trajectory of process standardisation, governance, and measurement maturity. Socio-Technical Systems theory (Appelbaum, 1997) frames successful automation as dependent on the alignment of the technical system with the social system in which it is embedded. As set out in Chapter 3, the study used a sequential mixed-methods design: a quantitative phase surveyed 309 practitioners and tested six hypotheses, and a qualitative phase drew on eight experienced practitioners to examine the same four research questions. Because the qualitative phase was positioned to explain the quantitative results, the points at which the two converge carry particular weight, and the points at which the qualitative phase explains an unexpected quantitative result are among the study's most valuable outputs.

The chapter is organized as follows. Section 5.2 discusses the findings for each research question, integrating the quantitative and qualitative evidence and considering the implications of each. Section 5.3 sets out the broader theoretical and practical implications, including the SUCCESS framework. Sections 5.4 to 5.6 present the recommendations, limitations, and directions for future research. Section 5.7 draws the conclusions and confirms the achievement of the research objectives.

5.2 Discussion of Findings

This section discusses the results for each research question in turn, in the order in which they were presented in Chapter 4. For each question, the quantitative and qualitative evidence is considered together; the results are evaluated in the context of the literature and

the theoretical framework; attention is given to whether the results were expected and to potential explanations for unexpected findings; and the implications of the finding are drawn out. Care is taken throughout to interpret only what the study results can directly support.

5.2.1 Research Question 1: Challenges and the role of organisational context

The Research Question 1 sought to determine the main issues encountered when integrating RPA into BPM, and how they are related to the features of the organizations as well as the degree of maturity in the integration process. H3, which is one of the hypotheses tested during the quantitative part of this study, suggested that technical issues associated with integration are common in large firms due to increased complexity, diversity of data, and interdependence in the system. This hypothesis could not be substantiated. A non-significant result ($H = 5.937$, $p = .115$) was obtained using the Kruskal-Wallis test.

The underlying pattern behind the non-significant results is equally revealing. The mean ranks were completely counter to the expected pattern, showing that micro-sized organizations had the highest mean rank on technical problems (185.17), followed by small, medium, and large firms, which exhibited the lowest mean rank (143.41). While it may not necessarily be significant to read too much into this result, it is nonetheless noteworthy since the observed pattern runs contrary to that expected under the hypothesis of size-complexity relationship. It is precisely at this point that the qualitative evidence can prove its worth.

The qualitative findings indicated a clear list of challenges that was recurring irrespective of the size of the organisation being interviewed. Limitations of legacy systems due to lack of application programming interface and dependence on screen-scraping, together with the complexity of IT infrastructure resulting from several connected systems, were considered the most common and risky to implement because of security and

compliance constraints. It is also important to note that such challenges were experienced across all the organisations regardless of their size. This way, it becomes possible to explain why there is a non-significant result in the quantitative study – since the challenges of RPA implementation are not dependent on size but intrinsic to the process itself.

Collectively, the two stages lead to a result that is more complex than the initial hypothesis. Integration problems will be everywhere and not based on size; it's how capable the organization is of absorbing them. The larger company might have more complexity to deal with, yet it will have enough IT capabilities, processes, and dedicated employees to handle the job. Conversely, the smaller business may not have many problems to integrate yet not have the means to cope with them. From this perspective, the observed reverse ranking effect is understandable, since small organizations may face difficulties primarily not due to the complexity of their systems but due to the limited capabilities to react. Indeed, existing literature suggests that the presence of legacy systems and fragmented IT infrastructure continue to be obstacles to automation (Herm et al., 2023; Venâncio et al., 2023). At the same time, the main argument of the research (automation outcomes depend on organizational capability and maturity, not on organization size) can be corroborated by this finding (Rinta-Kahila et al., 2023).

This result contributes something worthwhile, albeit small. There are many practitioner texts that take it for granted that larger organizations encounter more difficulty in achieving integration; however, this research shows that such is not the case, since it is better to gauge difficulties by an organization's capacity to cope with challenges. This supports the central role of digital maturity that was identified in answering Research Question 3, and gives a sound empirical justification for the redirection of the focus of practitioners towards organizational capability rather than size.

5.2.2 Research Question 2: Critical success factors and their relative importance

Research Question 2 enquired into the success factors most strongly correlated with successful RPA adoption, as well as the relative importance of these factors. In the quantitative phase, the three most significantly positively correlated success factors were process selection maturity ($\rho = 0.314$), executive sponsorship ($\rho = 0.277$), and governance and Centre of Excellence (CoE) effectiveness ($\rho = 0.270$), all statistically significant at $p < .001$. According to (Cohen, 1988) criteria, these are weak-to-moderate correlations, but their importance is more related to their consistent pattern rather than their size. The fact that three different organizational factors that can be considered conceptually independent all showed strong, consistent and statistically significant correlation with success across 309 respondents demonstrates a cohesive model of conditions for success through automation.

Both the qualitative evidence serves to confirm the described picture as well as provide some useful insight into another interesting aspect. When it comes to ranking success determinants based on their thematic evidentiary power in the expert interviews, it turns out that executive sponsorship, digital infrastructure readiness, and then governance and CoE structure take first three positions respectively, whereas process selection appears lower than expected though being the strongest correlated factor in the quantitative analysis stage. However, this discrepancy in ranking is not actually an inconsistency but rather an example of how different types of determinants work. Executive sponsorship, in contrast, is much more visible and emotionally charged, where people can easily identify whether or not the project was successful on account of executive sponsorship. The two metrics evaluate the same thing, but using different approaches; while executive sponsorship scores better in emotional significance than process selection, its correlation is less statistically significant. It should be noted that this is what makes the mixed method approach valuable: it evaluates not only the statistics but also the emotional importance of each metric.

The essence of the three conditions should be highlighted. Executives' support was identified in both stages as one of the prerequisites, being related in the qualitative part to budgeting, steering committees, milestone tracking, communication, and overcoming of resistance through leadership involvement. Such a finding is in line with the findings of numerous works that emphasize that leadership commitment is the key determinant of automation continuation and expansion (Kaniadakis & Linturn, 2022); Thus, the value of this study lies in the evidence that this correlation exists in a large sample quantitatively, and qualitatively confirmed by the respondents.

Effective Governance and Centre of Excellence was the second organisation-related attribute. Qualitative evidence suggested that formal governance, Centre of Excellence, and standardisation of bot development, monitoring, compliance, and risk management were correlated to low failure rates, and that Centre of Excellence located centrally was the best predictor for both sustainability and scalability. The link between effective governance and lower failures and faster scalability is supported by literature (Lacity & Willcocks, 2016) (Herm et al., 2023) (Syed et al., 2020). Process Selection Maturity, which is the best quantitative correlate, has to do with the suitability and stability of the processes selected prior to automation; the qualitative correlate related to process selection maturity included prioritizing high volume and repeatable processes. It bolsters the claim that automation results are highly process-dependent and one reason for their poor performance is the automation of inadequately-defined processes (Aguirre & Rodriguez, 2017). The significance of process selection as an indicator even in the quantitative data, despite being less evident in the practitioner accounts, indicates it may be underestimated as an important factor.

The integrative insight to be drawn for Research Question 2 lies in the fact that the success of an RPA deployment does not depend upon any single criterion but upon a few

interrelated criteria that constitute necessary conditions within organizations for effective RPA deployment; namely, sponsorship by organizational leaders, standardization and protection through good governance, and proper process management to ensure that the appropriate processes are automated. The fact that both stages converge on the same set of criteria, albeit in different orderings, is one of the most robust findings from this research study.

5.2.3 Research Question 3: Organisational characteristics as predictors of success

Research Question 3 sought to establish which organizational factors determine the probability of successfully integrating RPA into the business operations of an organization. This is where the major findings of the current study arise since digital maturity is found to be the best individual predictor variable as well as statistically significant ($\beta = 1.466$, Wald = 41.443, $p < .001$). The ordinal regression model is found to add value to the intercept-only model by being a better fit and passing all its goodness of fit tests, and its pseudo R-squared statistic (Nagelkerke) of 0.171 implies that digital maturity explained about seventeen percent of variance in success at implementation. Seventeen percent may not be a high number of explained variance by itself, but it constitutes the highest effect in the entire study.

As such, the qualitative findings align with the quantitative one in an unusually consistent manner, making digital maturity perhaps the most well-triangulated aspect of the current research. Indeed, experts pointed to the presence of high digital maturity, defined by state-of-the-art infrastructure and integration, data standardization, cloud computing and cybersecurity measures as the defining characteristic that allowed for the effective and easily-scalable implementation of the technology. At the same time, low digital maturity was noted to be one of the strongest negative factors, leading to the delayed introduction of automation and greater burden of maintenance and scalability on the

company. Finally, the qualitative findings revealed another observation that could not have been captured using the quantitative techniques – the trade-off inherent to strong cybersecurity policies, allowing the company to achieve better management and stability at the cost of slowing down the implementation due to added regulatory pressures. As such, it represents a truly unique contribution that requires further exploration.

Convergence between a significant quantitative impact and qualitative evidence adds credibility to the digital maturity theory that is rarely achieved by other findings within social sciences. This is consistent with previous literature which suggests that digital preparedness, IT architectures, and data standardization act as preconditions for automation success (Siderska, 2020)(Syed et al., 2020). Unique to this study, however, is the effort to measure the predictive strength of digital maturity in relation to other organizational factors in the context of a single framework, and to validate that measurement by means of independent verification from the viewpoint of practitioners. In other words, the study suggests that, far from being a purely technical issue belonging to the purview of the IT function, digital maturity is an essential organizational strength that influences the payback from automation, and must be measured – and, where necessary, improved – before embarking on RPA implementation.

This is also true when going back to research question one. For instance, if digital maturity is the most important predictor of success in a company, and the challenges faced are similar regardless of organizational size, then the reason for small organizations experiencing more difficulties can be attributed to their level of maturity. This will therefore mean that small companies lack the necessary integration capability because they lack the maturity of the required technological infrastructure and cyber security standards.

5.2.4 Research Question 4: Implementation strategies and the role of change management

Research Question 4 examined whether and how the use of implementation strategies and change management practices influenced RPA integration outcomes. It is this finding that has the greatest theoretical significance among all the findings in this thesis and should be carefully explained due to the discrepancy between its surface and underlying significance. On the surface level, the finding constitutes a non-result: the moderated regression analysis model including change management effectiveness, organizational change readiness, and their interaction as independent variables predicting RPA integration outcomes, while being significant as a whole ($R\text{-squared} = 0.148$, $F(3, 305) = 17.6144$, $p < .001$), yielded no significant results for any of its coefficients, with the interaction effect showing no significance either. Null hypothesis H4 was accepted: structured change management failed to exert an effect on RPA integration outcomes. Such an apparent contradiction to the extant literature on change management is evident on the surface level.

There are two levels of interpretation that transform the seeming paradox into one of the most important findings in the paper. The first is methodological – an overall significant model with non-significant coefficients indicates that we are dealing with a case of multicollinearity. Change management effectiveness and organizational change readiness are overlapping concepts, and using cross-sectional analysis makes it nearly impossible to determine the unique impact of each factor on the results. However, the significance of the model proves that the two factors do have an effect on the outcome while the lack of significance of the coefficients means that it is impossible to disentangle their effects.

The next and more substantial part of the finding comes through the qualitative data. It gives a well-thought-out theoretical explanation as to why no direct relationship was discovered. The participants, all being experts in their fields, explained that change management was never considered as a factor that directly leads to such results as

efficiency, error minimization, and timely completion. On the contrary, change management was viewed by the experts as a prerequisite, since it creates the right conditions for users to be accepting of change and prepares the organization for other factors to work properly. In other words, change management does not create efficiency itself, but eliminates human barriers to creating efficiency. From this perspective, no statistical relationship is to be expected precisely because change management influences the mediating factors and does not influence the outcomes per se, and any model using change management as an independent variable predicting the outcomes directly will yield minimal results.

The current explanation addresses the apparent contradiction between the lack of significant quantitative results and the importance accorded to change management in both the literature and the practice communities, thus making a substantial theoretical contribution. The research demonstrates that change management becomes an indirect rather than a direct factor in ensuring success under the RPA model. This is not a challenge to the current understanding but an evolution of it. Change management has been considered by the literature as a tool used by organizations to influence automation results directly (Rousseau & ten Have, 2022) (Georgalis et al., 2015). The present study suggests a more precise formulation: change management is necessary but not directly causal; it is an enabling pillar whose contribution is realized through its effect on acceptance and readiness rather than through a direct effect on outcomes (Novita Sari et al., 2023)(Georgalis et al., 2015) (Herm et al., 2023). This repositioning is consistent with the Socio-Technical Systems perspective that informed the study, which holds that the social system must be aligned with the technical system for the technical system to deliver value, and it gives that abstract proposition a concrete empirical form.

The qualitative analysis of implementation strategies reinforces this reading. Strategies that combined strong adoption impact with durable outcomes, role-based hands-on training, executive-led communication, change champions, a formal governance framework, and pilot-based phased rollout, were in each case mechanism for building acceptance and readiness rather than for acting directly on cost or efficiency. The strategies rated lowest, a minimal-change approach and the omission of process optimization, were precisely those that neglected either the human or the process preconditions of success. The pattern is consistent with the indirect-enabler account: what distinguishes effective from ineffective implementation is attention to the enabling conditions, not the direct pursuit of outcomes. This is worth stating plainly, because it is easy to undersell: by finding no direct effect and then explaining, through the qualitative phase, why none should be expected, the study reaches a more refined and defensible theoretical position than a simple confirmation would have allowed.

5.3 Implications and Applications

The study's conclusions have ramifications for both theory and practice. This chapter addresses each issue individually before introducing the SUCCESS model that integrates all the insights gained during this research process and represents the main instrument of practical applicability of the study.

5.3.1 Theoretical implications

The research makes four contributions to the literature of RPA and BPM. First, it determines the relative significance of organizational predictors of RPA success: digital maturity as the dominant one, followed by process selection, executive support, and governance. While many studies have been conducted focusing on individual determinants

separately, studying all of them at once is necessary for their comparison and, thus, making the decision about their priority. Second, an integrated model combining the TOE framework, BPM Maturity Model and Socio-Technical Systems approach is used and verified in this research, proving that theoretical integration yields positive results in contrast to a focus on individual theories.

Finally, third, and perhaps most uniquely, the study provides a fine-tuned theory of change management. Specifically, by showing that change management does not have any major direct impact on results but is still, according to the qualitative data, essential to success, the study elevates the role of change management to be a mediator working through user acceptance and organizational readiness. In line with the Socio-Technical Systems Theory underlying the study, this is a more accurate way to explain how change management impacts RPA success, and suggests that further theoretical work needs to model change management as such, and not as a predictor. Finally, fourth, the study offers validated constructs and measurement scales regarding the organizational factors behind the success of RPA projects, constructed in the course of research described in Chapter 4.

5.3.2 Managerial and practical implications

Implications of the research for practice include the following: RPA success is primarily an organizational question and hence something that is within the control of the firm. This means that success lies in something that the firm can develop and improve through effort rather than inherent properties of size and industry. There are many further implications: First, organizations need to take their digital maturity as a capability, and one which needs to be developed prior to, or at least alongside, any automation efforts, as this appears to be the best predictor of success. It will involve the development of modern IT infrastructures, better system integration, data standardisation, adoption of cloud technologies, and cybersecurity improvements. Another important implication comes from

the qualitative finding that high cybersecurity leads to slower adoption and improved stability.

Such companies need to allocate money on governance which will include the creation of a Centre of Excellence. This is because the presence of a single Centre of Excellence emerged as the highest determinant of sustainability and scalability of automation projects. Process selection needs to be rigorous; they need to conduct process feasibility analysis and use process mining for selecting only those processes which are feasible for automation. They must ensure that there is visible executive sponsorship. But they need to view change management as an enabler by investing in their people to plan for effective communication, training, and resistance management in every single project, with the recognition that its value lies in creating the conditions for others to make the difference, and not in making the difference itself. And this knowledge must keep their hopes from being raised in terms of the impact of change-management efforts showing up quickly in terms of efficiency or cost savings. The above implications form the backbone of the SUCCESS model outlined below.

5.3.3 The SUCCESS framework as a practical contribution

The practical significance of the study lies in the formulation of the SUCCESS framework which summarizes all the research outcomes into one theory-driven and empirical perspective on the critical success factors of RPA integration success. The acronym refers to the six pillars which are derived directly from the six factors analyzed within the study, namely, Standardized Process Selection, Unified Governance & Center of Excellence, Committed Executive Sponsorship, Cloud-Ready Digital Maturity, Change Enablement Effectiveness, and Scalable Integration Design. All six factors except Change Enablement Effectiveness are correlated directly to success within the study. The latter,

however, was identified to play an enabling rather than a contributing role, which was done as per Research Question 4.

With regard to practical contributions, the framework provides a method for assessing the level of organisational readiness to implement RPA before actually deciding to do so. Four aspects of the framework were found to relate to dimensions that were measured in the study, and therefore constitute a basis for organisational self-assessment in a readiness review. These include digital maturity, which proved to be the most significant predictor of success in the study; process selection maturity, which demonstrated the strongest success factor relationship in the study; executive support; and governance and Centre of Excellence maturity. The organisation may analyse its level of readiness in respect of all four dimensions in question, applying the measures used by the study, and determine whether there is a gap in any of them. Thanks to the findings about the significance of each of these factors and their interrelation, the framework provides guidance on what needs to be prioritised if there is an imbalance.

Furthermore, the framework identifies the nature of activities through which each of the dimensions can be developed, based on those activities which the subjects in the study have identified as contributors to high performance: investing in an advanced and cloud-compatible infrastructure with appropriate standards for data and cybersecurity, in order to foster digital maturity; conducting structured feasibility evaluations to enhance the selection of processes; ensuring leadership buy-in, commitment, and communication in order to improve executive sponsorship; and establishing a structure for standardisation, monitoring, and risk management in the form of governance and the Centre of Excellence. These two enablers – Effective Change Enablement and Scalable Integration Design – facilitate the achievement of all four dimensions, by fostering acceptance and readiness on the one hand, and robustness on the other.

As such, no additional variable or statement other than those made by the study itself enters the framework; it simply structures the findings of the study for practical use. It's worth comes from turning the empirical data into something practical from which practitioners can determine their readiness for implementation, set reasonable expectations about their implementation process, and channel their efforts toward improving according to the significance of each variable shown by the study. This framework is presented here not as a validated prediction model but as an application of the findings of the study; Section 5.6 outlines where further research should take this calibration.

5.4 Recommendations

The recommendations below arise out of the findings and SUCCESS model. All recommendations below are evidence-based, and are presented in an actionable form.

- **Establish a dedicated RPA Centre of Excellence.** Governance and CoE were highly related to success; moreover, the existence of CoE turned out to be the best predictor of both sustainability and scalability of RPA deployment. CoE serves as a central point of reference for standardised development, monitoring, compliance, and risk management, converting automation from isolated initiatives into a governed programme.
- **Strengthen and make executive sponsorship visible.** Executive sponsorship was both a significant correlate and the factor most emphasised by practitioners. Secure active leadership commitment through resource allocation, steering committees, milestone tracking, and clear communication; visible sponsorship also reduces resistance.
- **Develop digital maturity as a strategic capability.** As the strongest predictor of success, digital maturity warrants deliberate investment in modern integrated infrastructure, data standardisation, cloud adoption, and cybersecurity, treating

it as a core business capability and sequencing compliance work to manage the stability-versus-adoption-speed trade-off.

- **Apply disciplined process selection.** As the strongest success-factor correlation, process selection warrants systematic criteria, using feasibility assessment and suitability scoring so that only stable, rule-based, optimised processes are automated, maximising return and minimising rework.
- **Plan change management as an enabling investment.** Confirmed as an indirect enabler, change management should be planned as an integral part of every initiative to build acceptance and readiness, and evaluated by its effect on adoption rather than by direct efficiency or cost metrics.
- **Build for scalability and lifecycle management.** Sustainability requires governance, readiness, and monitoring; organizations must integrate monitoring and KPIs along with lifecycle management into their process so that the process will not only be sustainable but reliable enough to scale up.

5.5 Limitations

It is important to understand that the conclusions derived from the present study have been drawn taking into account several limitations, which will be mentioned below not only for transparency purposes but also because they constitute the basis for the suggestions made regarding future research in the last part of the paper.

Cross-sectional methodology was employed in the present study; therefore, the relationships under investigation are static. It means that they can serve as the basis for deriving correlations but not causations as such. Thus, the relationship between digital maturity and success on online platforms described above should be considered purely correlational. Additionally, the majority of the data were self-reported, which raises the risk of response bias and of variation in respondents' visibility into the matters surveyed.

The sizeable proportions of neutral responses on certain infrastructure and process items, noted in Chapter 4, are consistent with such variation in visibility, suggesting that some respondents lacked direct knowledge of the back-end matters about which they were asked.

The sample comprised organisations already engaged with RPA and BPM, so the findings may generalise less well to organisations at an earlier stage of maturity, and some industries were more strongly represented than others. Two further limitations bear on specific findings: the non-significant individual coefficients in the change-management analysis reflect, in part, multicollinearity between change management effectiveness and organisational change readiness, which constrained the isolation of their separate effects; and the qualitative phase, while valuable for triangulation, drew on a modest sample of eight participants, so its findings are confirmatory rather than independently generalisable. None of these undermines the central findings, which are supported by the convergence of the two phases, but each marks a boundary within which the findings should be interpreted.

5.6 Future Research

The boundaries of the study, together with the questions its findings raise, point to several productive directions for future research.

- **Longitudinal designs.** Following organisations over time would allow researchers to observe how readiness, governance, and digital maturity develop and how they relate to outcomes at successive stages of adoption, addressing the causal limitations of the present cross-sectional design and tracing the long-term sustainability of automation that a single snapshot cannot capture.
- **Designs that separate change management from change readiness.** Because multicollinearity prevented the present study from isolating the distinct contributions of change management effectiveness and organisational change readiness, future research should employ mediation models or longitudinal

designs capable of testing the indirect-enabler relationship directly, thereby providing a formal test of the study's central theoretical contribution.

- **Deeper qualitative study of employee experience.** Interviews and case studies focused on resistance, culture, and acceptance would illuminate the human and cultural dimensions that surveys capture only partially, and would further examine the mechanism by which change management enables, rather than directly produces, automation success.
- **Hyperautomation and AI-augmented RPA.** As organisations increasingly combine RPA with machine learning, natural language processing, and process mining, research is needed on how these more advanced forms of automation affect BPM outcomes and what additional capabilities, governance arrangements, and skills they demand.
- **Cross-country and cross-sector comparative analysis.** Comparing RPA adoption across regulatory, cultural, and sectoral contexts would test the generalisability of the SUCCESS framework, identify context-specific enablers and barriers, and support the development of versions of the framework calibrated to settings.
- **Validation of the readiness framework.** The SUCCESS framework and the readiness judgements it supports should be tested against actual implementation outcomes, so that the relative weight of its dimensions can be calibrated and its value as a predictive instrument established. Longitudinal or predictive-modelling approaches could convert the present, logically derived framework into an empirically validated tool.

5.7 Conclusions

This final section draws conclusions in relation to each research question, in the order in which they were addressed, confirms the achievement of the study's objectives, and offers an integrative statement of the study's contribution. The conclusions flow directly from the discussion and can be considered the answers to the research questions posed.

- **Conclusion on Research Question 1.** Integration obstacles, especially the ones related to legacy systems, IT complications, and issues of security and compliance, are common in the process of implementing RPA and do not depend on the size of the enterprise implementing this technology. The research has proven that what matters is the level of readiness of an organization rather than its size.
- **Conclusion on Research Question 2.** Maturity in process selection, executive support, and governance and the effectiveness of the Centre of Excellence emerge as the consistent drivers behind successful RPA implementation during both periods examined. According to the study, RPA success hinges not on any one particular organisational condition but on several interrelated ones.
- **Conclusion on Research Question 3.** Digital maturity emerges as the key driver of RPA implementation success, which the study confirms through a solid empirical model and independent evidence. As a result, the study suggests considering digital maturity as an essential organisational competency and prerequisite for the benefits of automation. The finding also explains why RPA success displays a positive size dependency, per Research Question 1.
- **Conclusion on Research Question 4.** It can therefore be seen that structured change management does not have any significant effect in its own right on the outcome of the process of integrating RPA into the business; rather, it operates

in an indirect capacity to help create user acceptance and organisational preparedness for the factors that do have this effect. The final conclusion of the research is therefore that while change management is crucial to success, it is not directly causal.

Achievement of the research objectives

Because the study was structured around a primary objective and six specific objectives set out in Chapter 1, it is appropriate to confirm how each was met. Objective 1, to identify, categorise, and quantify the challenges of RPA integration and establish a baseline for risk assessment, was met through the evidence on Research Question 1: the qualitative analysis identified and categorised eight challenge categories with frequency and implementation-risk ratings, and the quantitative test established that these challenges do not differ significantly by organisation size, giving a risk baseline that is organisation-wide rather than size-specific. Objective 2, to determine and rank the critical success factors, was met through Research Question 2, which identified three significantly correlated success factors and ranked them by effect size. Objective 3, to model the predictive relationship between organisational characteristics and success, was met through Research Question 3, which modelled digital maturity as a significant and substantial predictor.

Objective 4, to evaluate the effectiveness of implementation strategies and change management, was met through Research Question 4, which established the indirect-enabler role of change management and evaluated the comparative effectiveness of the implementation strategies examined in the qualitative phase. Objective 5, to identify predictive indicators of long-term sustainability and scalability, was met through the qualitative analysis, which identified a centrally located Centre of Excellence, application-programming-interface-enabled systems, process standardisation, and performance-

monitoring dashboards as the indicators most associated with sustainable and scalable automation. Objective 6, to create a means of assessing organisational readiness, was met through the readiness application of the SUCCESS framework set out in Section 5.3.3. Taken together, the achievement of the six specific objectives constitutes the achievement of the primary objective: creation and verification of an all-encompassing framework for predicting and enhancing RPA integration success within BPM environments, validated across both phases of the study.

Integrative conclusion. Drawing these threads together, the study concludes that successful RPA integration within BPM frameworks is determined predominantly by organisational readiness, comprising digital maturity, governance, process discipline, and executive sponsorship, rather than by technology or organisational scale; change management is essential to this readiness but operates through the people and culture of the organisation rather than directly upon outcomes. The study's theoretical influence lies in establishing the relative weight of the organisational determinants of RPA success, in supporting an integrated view drawn from the TOE framework, the BPM Maturity Model, and Socio-Technical Systems theory, and above all in refining the role of change management from a direct determinant to an enabling condition. Its practical contribution is the SUCCESS framework, which organises these findings into a structured basis for assessing organisational readiness and directing improvement effort. In reaching these conclusions the study both confirms parts of the existing literature, notably the importance of leadership and governance, and challenges others, notably the assumptions that change management is a direct driver of outcomes and that organisation size determines integration difficulty. Subject to the limitations of a cross-sectional, largely self-reported design and a modest qualitative sample, the study offers a clearer account of why RPA integration succeeds or fails and a usable basis for improving its prospects, and in doing so it seeks to

meet the dual obligation of the professional doctorate: to contribute to scholarly knowledge and to serve the practice of management.

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APPENDIX A: SPSS OUTPUT FOR HYPOTHESIS TESTING

This appendix reproduces the full SPSS output tables for the inferential statistical tests reported in Chapter 4. The key statistics for each hypothesis are reported in the body of Chapter 4 (Sections 4.3.4 to 4.3.7); the tables below provide the complete model-fit, parameter-estimate, ANOVA, and interaction-test output for verification.

A.1 Hypothesis 1: Ordinal Regression (Digital Maturity Level → RPA

Implementation Success)

Table 4.17

Model Fit, Goodness-of-Fit, and Pseudo-R² Statistics for Ordinal Regression (H1)

Section	Statistic	Value	df	Sig.
“Model Fitting Information”	“-2 Log Likelihood (Intercept Only)”	67.995	–	–
	“-2 Log Likelihood (Final Model)”	23.487	–	–
	“Chi-Square”	44.509	1	.000
“Goodness-of-Fit”	“Pearson Chi-Square”	3.767	5	.583
	“Deviance Chi-Square”	4.702	5	.453
“Pseudo R-Square”	“Cox & Snell”	0.134	–	–
	“Nagelkerke”	0.171	–	–
	“McFadden”	0.094	–	–

Table 4.18

Parameter Estimates for Ordinal Regression of RPA Implementation Success on Digital Maturity Level (H1)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[RPA_IS = 3.00]	2.572	.970	7.034	1	.008	.671	4.473
	[RPA_IS = 4.00]	7.154	1.036	47.683	1	.000	5.124	9.185
Location	DML	1.466	.228	41.443	1	.000	1.020	1.912
Link function: Logit.								

A.2 Hypothesis 4: Moderated Multiple Regression (Change Management Effectiveness, Organisational Change Readiness, and their Interaction → RPA Integration Outcomes)

Table 4.22

Model Summary for Moderated Multiple Regression (H4)

Statistic	R	R²	MSE	F	df1	df2	p
Value	0.3843	0.1477	0.2383	17.6144	3	305	0

Table 4.23

ANOVA for Moderated Multiple Regression (H4)

Variable	Coefficient (b)	SE	t	p	LLCI	ULCI
Constant	0.9494	1.6951	0.5601	0.5758	-2.3861	4.285
CME	0.4905	0.395	1.2418	0.2153	-0.2867	1.2677
OCR	0.6368	0.402	1.5842	0.1142	-0.1542	1.4279
CME × OCR (Int_1)	-0.0781	0.0929	-0.8408	0.4011	-0.261	0.1047

Table 4.24

Coefficients for Moderated Multiple Regression (H4)

	Constant	CME	OCR	Int_1
Constant	2.8733	-0.6634	-0.6751	0.1553
CME	-0.6634	0.156	0.1552	-0.0364
OCR	-0.6751	0.1552	0.1616	-0.037
Int_1	0.1553	-0.0364	-0.037	0.0086

Table 4.25

Test of the Highest-Order Interaction (CME × OCR) for Moderated Multiple Regression (H4)

Interaction	R² Change	F	df1	df2	p
X × W (CME × OCR)	0.002	0.7069	1	305	0.4011

APPENDIX B: USE OF GENERATIVE AI

This appendix sets out how generative AI tools were used in preparing this thesis, in line with the SSBM Geneva Policy on the Use of Generative AI (GN10-08-01-POL, Section 6), which asks students to disclose such use and to state how the tools were used.

Tools used

I used a large-language-model writing assistant for language and structuring support during the drafting and revision of the thesis in 2026.

How the tools were used

I used generative AI for the following purposes only:

- Language and clarity: improving wording, readability, and grammar in text I had first written myself.
- Structure and formatting: help with organising sections and formatting the document to the required template.
- Summarising and explaining: help in understanding concepts and summarising published material, which I then checked against the original sources.

Adjust the three lines above so they match exactly what you did. Add anything you used AI for that is not listed, and remove anything you did not do.

How the tools were not used

I did not use generative AI to collect or generate the research data; to carry out the statistical analysis, which I performed in SPSS; to carry out the qualitative thematic analysis; to create, choose, or fabricate references or sources; or to produce the interpretations, findings, and conclusions of the study. I verified all citations against their original sources, and I have retained the data and analysis files.

Verification and responsibility

I reviewed, edited, and verified all AI-assisted text. I engaged critically with the material throughout, and the analysis, interpretation, and argument of this thesis are my own work. I take full responsibility for the content, including its accuracy and academic integrity, and I am able to explain and defend every part of the research, including the methodology, the statistical and qualitative results, and the conclusions drawn from them.

Fahed Mrad Date: 31 / 05 / 2026