

From Routine Capability to Governance

Exploring the Adoption of Robotic Process Automation in Public
Organizations

Evrin Oya Güner



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Academic dissertation for the Degree of Doctor of Philosophy in Computer and Systems Sciences at Stockholm University to be publicly defended on Wednesday 10 June 2026 at 13.00 in Small Auditorium, Nodhuset, Borgarfjordsgatan 12.

Abstract

Public organizations are increasingly adopting Robotic Process Automation (RPA) to enhance their operational efficiency and service delivery. This dissertation investigates the adoption and governance of RPA within the public sector, exploring how this technology builds routine capabilities and advances organizational practices. Grounded in the theory of Technology as Routine Capability and informed by IT governance frameworks, the dissertation addresses research gaps by examining how RPA cultivates new organizational practices and configures governance models in different public administration contexts.

The research employs a mixed-methods approach, integrating a national survey of Swedish public organizations with case studies from Sweden and Turkey. This methodology validates the use of a rigorous design to bridge generalizable, macro-level trends with the nuanced, qualitative insights required to address the research gaps.

The findings reveal that RPA acts as a catalyst in terms of advancing organizational routines and capabilities across four distinct dimensions: design, execution, diffusion, and shift. The dissertation underscores the indispensable role of IT governance in developing and scaling new capabilities, emphasizes a transition toward balanced, context-specific models that integrate centralized and decentralized approaches through robust relational mechanisms.

This dissertation contributes new knowledge to the fields of information systems and digital government research. Theoretically, it extends the technology as routine capability framework to the context of RPA across different public administration settings, and advances IT governance research by demonstrating the contextual nature of RPA governance. Empirically, it expands the geographical scope of RPA research by providing evidence of RPA adoption in the Turkish public sector and offering cross-national insights from Turkey and Sweden, broadening the institutional scope of this field. Methodologically, it demonstrates the value of a mixed-methods design for studying complex technological phenomena in public organizations. Practically, it provides actionable guidance for public organizations on governing RPA, and on scaling and sustaining automation capabilities as part of broader digital transformation efforts.

Keywords: *Robotic Process Automation (RPA), Technology as Routine Capability, RPA Governance, IT Governance, Public Sector, Digital Government, Mixed Methods.*

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*To my family,
with love and gratitude.*

Abstract

Public organizations are increasingly adopting Robotic Process Automation (RPA) to enhance their operational efficiency and service delivery. This dissertation investigates the adoption and governance of RPA within the public sector, exploring how this technology builds routine capabilities and advances organizational practices. Grounded in the theory of Technology as Routine Capability and informed by IT governance frameworks, the dissertation addresses research gaps by examining how RPA cultivates new organizational practices and configures governance models in different public administration contexts.

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Sammanfattning

Offentliga organisationer använder i allt högre grad Robotic Process Automation (RPA) för att förbättra operativ effektivitet och tjänsteleverans. Denna avhandling undersöker hur RPA införs och styrs inom offentlig sektor, med fokus på hur tekniken bidrar till att utveckla rutinförmåga och forma organisatoriska praktiker. Med utgångspunkt i teorin Technology as Routine Capability och med stöd i ramverk för IT-styrning analyseras hur RPA möjliggör nya praktiker och hur styrmodeller utformas i offentliga organisationer.

Studien bygger på en ansats med blandade metoder, där en nationell enkätundersökning av svenska offentliga organisationer kombineras med fallstudier från Sverige och Turkiet. Denna design möjliggör både analys av övergripande mönster och fördjupade insikter i lokala praktiker.

Resultaten visar att RPA fungerar som en katalysator för utvecklingen av organisatoriska rutiner och förmågor längs fyra dimensioner: design, utförande, spridning och förändring. Särskilt framträder betydelsen av IT-styrning för hur dessa förmågor utvecklas och sprids. Analysen visar också en rörelse mot kontextanpassade styrmodeller som kombinerar centraliserade och decentraliserade angreppssätt genom relationella mekanismer.

Avhandlingen bidrar till forskningen inom informationssystem och digital förvaltning på flera sätt. Teoretiskt vidareutvecklas ramverket Technology as Routine Capability i relation till RPA i offentliga organisationer, samtidigt som studien visar hur styrning av RPA formas av kontextuella faktorer. Empiriskt breddas forskningsfältets geografiska räckvidd genom analyser av RPA i både Sverige och Turkiet. Metodologiskt demonstreras värdet av en blandad metod för att studera komplexa teknologiska fenomen. Praktiskt erbjuder avhandlingen vägledning för hur offentliga organisationer kan styra, sprida och upprätthålla automatisering som organisatorisk förmåga inom ramen för digital transformation.

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Stockholm, May 2026

Evrin Oya Güner

Included Publications

This dissertation is based on the following papers.

Paper 1

Güner, E. O., Han, S., & Juell-Skielse, G. (2020). Robotic process automation as routine capability: A literature review. *Proceedings of the 28th European Conference on Information Systems (ECIS 2020)*.

https://aisel.aisnet.org/ecis2020_rp/153

Authors' contributions:

Evrin Oya Güner: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing.

Shengnan Han: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Gustaf Juell-Skielse: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Paper 2

Güner, E. O., Han, S., & Juell-Skielse, G. (2022). Enhancing routine capability through robotic process automation in the public sector: A case survey. In G. Juell-Skielse, I. Lindgren, & M. Åkesson (Eds.), *Service automation in the public sector: Concepts, empirical examples and challenges* (pp. 169–188). Springer. https://doi.org/10.1007/978-3-030-92644-1_9

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Evrin Oya Güner: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing.

Shengnan Han: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Gustaf Juell-Skielse: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Paper 3

Juell-Skielse, G., Güner, E. O., & Han, S. (2022). Adoption of robotic process automation in the public sector: A survey study in Sweden. In M. Janssen, C. Csáki, I. Lindgren, E. Loukis, U. Melin, G. Viale Pereira, M. P. Rodríguez Bolívar, & E. Tambouris (Eds.), *Electronic government* (Lecture Notes in Computer Science, Vol. 13391, pp. 336–352). Springer. https://doi.org/10.1007/978-3-031-15086-9_22

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Evrin Oya Güner: Conceptualization, Methodology, Investigation, Formal analysis, Writing – original draft, Writing – review & editing.

Shengnan Han: Formal analysis, Writing – original draft, Writing – review & editing.

Paper 4

Güner, E. O., & Han, S. (2023). Robotic process automation as routine capability: A case study of a public organization in Turkey. *Proceedings of the Pacific Asia Conference on Information Systems (PACIS 2023)*.

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Shengnan Han: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Paper 5

Güner, E. O., Han, S., & Juell-Skielse, G. (2024). From routine to automation: How RPA advances administrative practices in Swedish universities. In A. Kö, G. Kotsis, A. M. Tjoa, & I. Khalil (Eds.), *Electronic government and the information systems perspective* (Lecture Notes in Computer Science, Vol. 14913, pp. 73–87). Springer. https://doi.org/10.1007/978-3-031-68211-7_7

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Evrin Oya Güner: Conceptualization, Methodology, Investigation, Formal analysis, Validation, Writing – original draft, Writing – review & editing.

Shengnan Han: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Gustaf Juell-Skielse: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

Paper 6

Güner, E. O., Han, S., & Juell-Skielse, G. (in press). Governing robotic process automation in the public sector: Contextual insights from Turkey and Sweden. *JeDEM – eJournal of eDemocracy and Open Government*.

Authors' contributions:

Evrin Oya Güner: Conceptualization, Methodology, Investigation, Formal analysis, Validation, Writing – original draft, Writing – review & editing.

Shengnan Han: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing, Supervision.

Gustaf Juell-Skielse: Conceptualization, Methodology, Writing – original draft, Writing – review & editing, Supervision.

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1 Introduction

This chapter introduces the research context and outlines the focus of the dissertation. It begins by presenting the role of Robotic Process Automation in public organizations and situating the study within the broader fields of information systems and digital government. The chapter then identifies key research gaps and formulates the research questions that guide the study. This is followed by a presentation of the research aims, an overview of the included papers, and a summary of the dissertation's contributions. The chapter concludes with the outline of the dissertation.

1.1 Research Context

In today's rapidly evolving digital landscape, organizations are increasingly leveraging automation technologies to enhance their operational efficiency, streamline routine tasks, and improve service delivery (Paper 1, Güner et al., 2020). Of these technologies, Robotic Process Automation (RPA) has emerged as a significant tool as it can automate structured, rule-based processes without necessitating changes to existing IT infrastructure (Lindgren, 2020).

RPA involves the use of configured software, commonly referred to as “software robot” or “bot” that operates at the user interface layer and interacts with applications, databases, and systems in the same way as a human user (Asatiani & Penttinen, 2016; Syed et al., 2020). These bots perform tasks such as data entry and transaction processing, and can automate repetitive, rule-based tasks which are traditionally handled by humans (Syed et al., 2020). Unlike traditional automation solutions that often require deep technical integration and extensive system re-engineering, such as those associated with Enterprise Resource Planning (ERP) systems, RPA offers a “lightweight” and non-invasive approach, enabling easier implementation with minimal IT resources (Penttinen et al., 2018).

This dissertation explores RPA adoption and governance in public organizations. RPA adoption in public organizations refers to the process of implementing RPA technologies, from early stage of adoption toward the later stage of scaling, to automate repetitive, rule-based tasks typically performed by hu-

mans (Paper 3, Juell-Skielse et al., 2022). Such tasks commonly include entering and extracting data, processing transactions and managing records. The overarching goals are to improve efficiency, reduce errors, and freeing up employees to focus on more complex and strategic tasks. RPA governance in public organizations involves establishing structures, processes, and relational mechanisms to manage the development and use of RPA; this includes defining roles and responsibilities, setting performance metrics, ensuring compliance with regulations, and monitoring the effectiveness of RPA. Good governance ensures that RPA initiatives are aligned with organizational goals and deliver the intended benefits (Paper 6, Güner et al., in press).

Public organizations represent a unique context for studying RPA adoption and governance, given their distinct governance structures, regulatory frameworks, and societal mandates. Unlike private organizations driven primarily by profit, public organizations operate under democratic principles, are accountable to elected officials, and must strike a balance between the interests of a diverse range of stakeholders (Gustafsson, 2022; Perry & Rainey, 1988). Their bureaucratic structures, stringent regulations, and inherent political dimensions, where administrative tasks are closely tied to public trust and legitimacy, require tailored strategies for technology adoption (Johansson et al., 2023; Lindgren, 2024).

Administrative work in public organizations is typically characterized by a high volume of routine, repetitive processes that are well suited to automation through RPA (Andersson et al., 2022). Tasks such as data entry, case processing, and compliance reporting, which are commonly involved in domains such as finance, accounting and procurement are frequently identified as prime candidates for RPA implementation (Cooper et al., 2019; Denagama Vitharanage et al., 2020; Dias et al., 2019). The integration of RPA into these areas can significantly enhance efficiency, accuracy, and resource allocation (Flechsigt et al., 2022). In particular, empirical evidence indicates that the automation of these processes can generate multiple benefits, including reduced case management costs (Patil et al., 2019; Ranerup & Henriksen, 2019), increased availability of civil servants for more complex duties (Denagama Vitharanage et al., 2020; Dias et al., 2019), improved work environments, enhanced citizen services, greater legal certainty in case handling (Ranerup & Henriksen, 2019), and strengthened digital government initiatives (Lindgren, 2020). However, challenges such as a low level of digital readiness and a complex regulatory framework may hinder the adoption of RPA in the public sector, potentially giving rise to political and societal repercussions in the event of implementation failures (Johansson et al., 2023).

National differences further shape the context of RPA adoption and governance in public organizations. Digital maturity and infrastructure development vary widely: some countries boast robust IT systems and high digital literacy, while others rely on outdated technologies (Flechsigt et al., 2022).

Legal and regulatory frameworks also differ; for instance, stringent data protection laws in certain regions necessitate rigorous governance and risk management measures, whereas more flexible regulatory environments elsewhere may allow for quicker adoption (Kaun et al., 2025). Cultural attitudes toward automation, approaches to governance (such as top-down versus bottom-up) and resistance to change also play crucial roles (Frick, 2024). Moreover, political structures contribute to national contexts, since automation is not merely a technical implementation but an extension of political decision making and governance (Johansson et al., 2023). Economic resources and the available budgets further influence how extensively countries can pursue RPA initiatives (Sharma et al., 2023). Recognizing these variations is essential for developing adaptable governance frameworks that are sensitive to local contexts (Janssen, 2025).

Finally, positioning this research within the fields of information systems (IS) and e-government (also referred to as “digital government”) highlights its interdisciplinary relevance. IS research provides a foundation for understanding technology as routine capability (Swanson, 2019), adoption behaviors (Gustafsson, 2022; Lindgren, 2020), and IT governance mechanisms (Borghoff & Plattfaut, 2022; Bygstad & Iden, 2017; De Haes & Van Grembergen, 2006). Within the field of IS, e-government research concerns transforming government organizations through the use of information systems (Lindgren et al., 2021; Lenk, 2002). E-government has been defined as both “the use of ICTs, and particularly the Internet, as a tool to achieve better government” (Grönlund, 2010, p. 14) and “the use of information and communication technologies in public administrations combined with organizational change and new skills in order to improve public services and democratic processes” (Grönlund, 2010, p. 20). The latter definition is prioritized in this dissertation, as it more explicitly captures the interdependence among technological deployment, organizational transformation, and capability development, which is central to understanding the adoption of RPA in the context of the public sector. Although the terms e-government and digital government are often used interchangeably in the literature (Grönlund & Horan, 2005), digital government has been conceptualized as a broader and more integrative perspective that builds on e-government, reflecting an expanded understanding of how digitalization reshapes public sector operations and public value creation (Janssen et al., 2025). This later conceptualization also indicates the terminological development of the research area itself. While the field initially developed under the term e-government, there has been a move toward using digital government as the preferred term (McBride et al., 2022). In this dissertation, the term digital government is therefore primarily used to refer to this broader and evolving research area. From this perspective, RPA can be understood as a form of service and process automation that represents an extension of earlier e-government initiatives while contributing to administrative transformation within digital government (Lindgren et al., 2019). Integrating these

perspectives strengthens the dissertation's theoretical grounding for exploring the adoption and governance of RPA in public organizations (Johansson et al., 2023).

1.2 Research Gap and Research Questions

The reviews of the literature and the empirical insights developed throughout the research process revealed three interrelated gaps in the current understanding of RPA in the public sector. These gaps emerged progressively, beginning with the identification of fragmented and case-bound evidence in the literature, followed by the need to extend this understanding across diverse contexts, and culminating in questions concerning how automation is governed as it scales within public organizations.

Firstly, despite the growing interest in RPA within IS and digital government research, the body of knowledge in this area remains fragmented and anchored in isolated case studies (Lindgren, 2020; Patil, 2019; Ranerup & Henriksen, 2019, Ranerup, 2020; Toll et al., 2022). This reliance on site-specific narratives gives rise to a significant empirical gap, limiting the synthesis of findings into a coherent, sector-wide understanding. Without a broader analytical lens, the literature fails to provide a baseline for understanding how RPA adoption unfolds across diverse public organizations. This fragmentation becomes particularly visible when existing studies are considered collectively. The literature review in Paper 1 (Güner et al., 2020) shows that although RPA is consistently associated with changes in routines and practices, these insights remain dispersed and lack a cumulative empirical grounding. Paper 2 (Güner et al., 2022) further demonstrates that although recurring patterns can be identified across cases, such as improvements in efficiency, accuracy, and compliance, a case-based approach does not allow for an assessment of their prevalence across the public sector. This highlights the need for a broader, sector-wide empirical perspective that can capture the aggregated patterns associated with RPA adoption.

The research presented in this thesis addresses this gap by providing the necessary grounding to answer research question (RQ) 1.

RQ1: What benefits, routine changes, and challenges emerge from the early adoption of RPA in the public sector?

Secondly, an additional gap was identified which concerns the contextual scope and analytical depth of existing research (Paper 2, Güner et al., 2022). Much of the literature on RPA in public organizations is situated in developed countries, particularly the Nordic region (Ranerup & Henriksen, 2019; Lindgren, 2020; Toll et al., 2022), which are known for their advanced welfare systems and high levels of digital readiness (Greve, 2007). There is a paucity of research on RPA implementations and their impact in developing countries, where socio-economic dynamics and technological capabilities differ (Al

Qassimi & Rusu, 2015). Understanding RPA implementations in these contexts is essential in order to assess its potential benefits and broaden its applicability across diverse public administrative contexts. This is particularly important from a theoretical perspective, as digital government initiatives are increasingly influenced by the need to align with specific institutional, administrative, and socio-economic conditions, requiring context-dependent objectives, designs, and outcomes (Janowski, 2015).

Moreover, while RPA holds promise for enhancing organizational practices, there is a limited understanding of how work practices and associated routines are changed, and how these changes manifest within public organizations. The existing literature often neglects the deeper organizational routine and practice changes that can be stimulated by RPA. This is particularly significant because automation does not merely involve replacing manual tasks: it can also change practices by creating new ways of working and altering administrative structures. This thesis addresses this gap by answering RQ2.

RQ2: How does RPA change routines and generate routine capabilities within diverse public organizations?

The empirical scope is extended to include Sweden and Turkey, thus enabling a deep analysis of RPA across contrasting administrative and institutional contexts. While Sweden represents a decentralized, consensus-based Nordic model, Turkey offers a more centralized, rapidly digitizing administrative environment. This cross-national approach addresses the limited geographic diversity in the current literature, and tests the adaptability of automation frameworks across different governance structures, thereby increasing the external validity of the findings.

Furthermore, a Swedish case study is conducted with a focus on public universities, which in Sweden are statutory government agencies with the dual missions of higher education and research, requiring a high degree of professional autonomy. Prior research (i.e., Lindgren et al., 2024; Ranerup & Henriksen, 2019; Toll et al., 2022) has largely focused on localized structures, such as individual Swedish municipalities; hence, the expansion of RPA into the university sector introduces an additional organizational context in which RPA can be examined. As multifaceted “professional bureaucracies” (Suzuki & Demircioglu, 2017), public universities provide an opportunity to examine how RPA is embedded in sophisticated, knowledge-intensive practices. By introducing evidence from both the Turkish and Swedish public sectors, this research significantly broadens the field’s current institutional scope.

Third, as Acemoglu (2024) emphasizes, technology’s long-term impact depends not on the technology itself but on how institutions structure its adoption, regulate its use, and integrate it into broader governance frameworks. If RPA adoption is not managed effectively, there is a risk that its benefits will remain limited to isolated efficiency gains rather than sustainable improvements in public administration. This points to another gap in the literature:

RPA governance in public organizations. As public organizations move beyond the initial stages of adoption toward the scaling of automation initiatives, questions arise regarding governance (Asatiani et al., 2019; Borghoff & Plattfaut, 2022). Existing IT governance models may not be fully applicable, as RPA is often introduced in a more decentralized manner than traditional enterprise IT systems (Bygstad & Iden, 2017).

The findings from the case studies of Turkey (Paper 4) and Sweden (Paper 5) indicated that governance practices emerged as RPA initiatives developed, with initial roles and coordination mechanisms taking shape gradually. While these observations pointed to the formation of governance approaches, further investigation was required to understand how public organizations can develop governance models that are aligned with the unique characteristics of RPA across different public administrative contexts. To fill this gap, the third research question was formulated as follows:

RQ3: How is RPA governed during the scaling process across different public organizations?

As Acemoglu (2024) further highlights, poorly structured institutional responses to technological adaptation can lead to inefficiencies, inequality, or resistance, underscoring the need for proactive governance frameworks to ensure that automation contributes to public value rather than concentrating on isolated processes. Research is needed to explore governance models that balance control, innovation, and responsiveness in public organizations.

1.3 Research Aims

Based on the research questions presented above, the aims of this dissertation are threefold:

(1) To identify the benefits, routine changes, and challenges that arise from the adoption of RPA in public organizations. By moving beyond individual case studies, this aim seeks to provide a general overview of RPA adoption, the broader context of RPA adoption patterns, and to provide the necessary grounding of the perceived benefits, routine changes, and challenges faced across the public sector. In doing so, it directly addresses RQ1.

(2) To investigate how RPA changes routines and generates routine capabilities within diverse public administration contexts, such as Turkey and Sweden. This aim focuses on exploring the impact of RPA adoption on work practices and understanding how these changes contribute to the development of new capabilities and the advancement of organizational practices, to address RQ2.

(3) To examine the governance of RPA during the scaling process across public organizations. This entails an investigation of how RPA initiatives are managed as they expand within and across organizations, thereby addressing RQ3.

To achieve these aims, this dissertation adopts a mixed-methods design (Venkatesh et al., 2023) and draws on six interrelated papers. Table 1 shows how the included papers are mapped to the research questions and the method used in each paper.

Table 1: Mapping of the included papers to the research questions

Paper	RQ1	RQ2	RQ3	Method
Paper 1	✓	✓	–	Literature review
Paper 2	✓	✓	–	Case survey (RPA cases in literature)
Paper 3	✓	–	–	National survey (Sweden)
Paper 4	–	✓	–	Case study (Turkish case)
Paper 5	–	✓	–	Case study (Swedish case)
Paper 6	–	–	✓	Case study (cross-national, Turkey and Sweden)

1.4 Summary of the Papers

This dissertation investigates the adoption and governance of RPA within public organizations, with a focus on its impact on routines, capabilities, and organizational practices. It examines the adoption of RPA across public organizations in the core administrative functions, regardless of the specific mandate or service area of the organization. Adopting a mixed-methods approach (Venkatesh et al., 2023), this dissertation leverages quantitative and qualitative data, comprising six interrelated papers. Figure 1 illustrates how these papers are integrated into the dissertation.

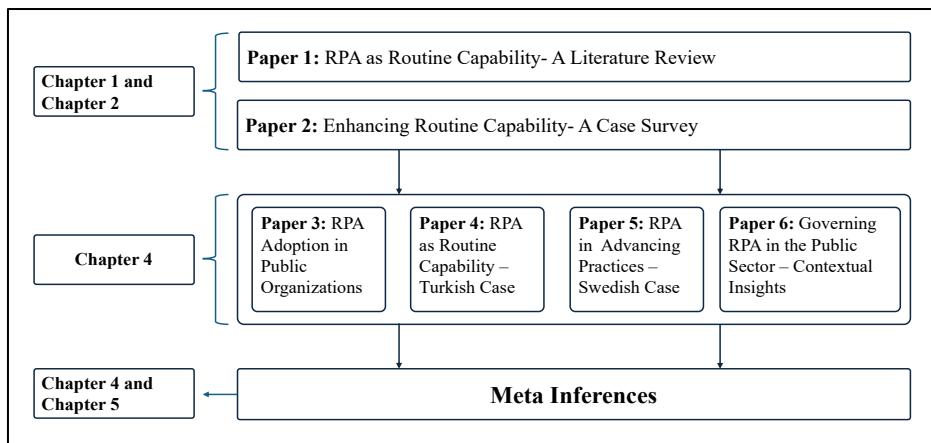


Figure 1: Mapping of the included papers to the dissertation

The public organizations involved in this dissertation are diverse. In the quantitative phase, the survey was distributed to 525 Swedish public sector organizations, including 235 government agencies and 290 municipalities, representing the public sector context (Paper 3). The responses from this broad spectrum of public organizations enabled an analysis that identified common trends, challenges, and governance needs associated with RPA adoption at both national and local levels.

To complement this broad perspective, the qualitative phase (Papers 4, 5, and 6) engaged in in-depth case studies of specific public organizations, including two Swedish universities and one Turkish municipality. In this phase, there was an explicit focus on administrative functions, where organizational differences, such as whether the entity was a university or municipality, did not affect the applicability of RPA. Although universities and municipalities differ in their primary missions, they share similar administrative structures and processes, particularly in departments such as finance and human resources (HR). These processes are highly suitable for RPA due to their repetitive, rule-based nature (Andersson et al., 2022).

In all cases, RPA was implemented within core administrative tasks to streamline operations, enhance service quality, and free employees from repetitive work. However, these RPA adoptions occurred within distinctly different public administration frameworks in Turkey and Sweden. From a national policy perspective, Turkey's public sector is characterized by centralized governance, with significant oversight and directives emanating from national authorities (Küçük, 2022); in contrast, Sweden's public sector governance exemplifies a decentralized model in which substantial autonomy is granted to local institutions, including universities (Bjare, 2024). These contextual differences between Sweden and Turkey provide a compelling foundation for an analysis of the impact of RPA across divergent organizational contexts, and illuminate how country-specific administrative structures influence the adoption and governance of RPA. Moreover, this approach presents a unique opportunity to examine RPA adoption in the context of a developing economy (Turkey) versus a developed one (Sweden).

1.4.1 Paper 1: Robotic Process Automation as Routine Capability: A Literature Review

This paper presents a literature review that was conducted to explore RPA through the lens of technology as routine capability (Swanson, 2019), with a focus on its potential to influence business process management (BPM) practices. The objective was to examine how RPA creates new routines for performing tasks and advances practices at the individual, organizational, and societal levels.

Based on the literature review, 13 case studies of RPA adoption were analyzed using the routine capability framework (Swanson, 2019) to understand

the impact of RPA on the advancement of practices. The results show that RPA creates new routines that enhance organizational practices. Changes associated with RPA as routine capability were observed across four modes, namely design, execution, diffusion, and shift, thus demonstrating the influence of RPA on organizational routines and practices.

This paper provides a theoretical foundation for understanding RPA as routine capability, and frames RPA as an emerging technology with impacts on both individual and organizational practices. It highlights the gaps in the existing literature and the need for further empirical studies included in this dissertation.

1.4.2 Paper 2: Enhancing Routine Capability through Robotic Process Automation in the Public Sector: A Case Survey

This paper aims to investigate how RPA adoption in the public sector advances service processes and routine capabilities. The study sought to identify the changes in organizational routines and capabilities resulting from RPA across various public organizations.

A case survey focusing on public sector organizations that implemented RPA was conducted by applying the routine capability framework (Swanson, 2019) to analyze the observed changes. The findings demonstrated that RPA enhances public service efficiency by establishing new routines and improving capabilities. The impacts of RPA on automated processes include reduction in response time, increase in accuracy, and improved compliance, making it a valuable tool for digital government initiatives.

This paper extends the application of the routine capability framework to the public sector, and provides empirical evidence on the role of RPA in advancing routine capabilities. It informs subsequent case studies by identifying specific areas in which RPA affects the practices of public organizations.

1.4.3 Paper 3: Adoption of Robotic Process Automation in the Public Sector: A Survey Study in Sweden

This paper provides a survey of RPA adoption within Sweden's public sector, offering a broad, national-level perspective on RPA penetration, the benefits perceived by public organizations, and the governance practices associated with its deployment across various types of public organizations.

A survey was conducted across 525 Swedish public sector organizations. In total, 217 responses were received. The dataset was analyzed to assess the level of RPA adoption, the perceived benefits, and the governance supporting RPA initiatives. The findings indicated that while awareness of RPA is widespread, its adoption in Sweden's public sector remains moderate, with differ-

ences observed between central and local government organizations. The survey highlighted the new routines enabled by RPA and its perceived value in enhancing administrative efficiency and service quality.

This paper provides a high-level view of RPA adoption in the Swedish public sector, thereby laying the groundwork for subsequent case studies. By revealing adoption patterns and new routines in administrative practices, it provides a context for a deeper investigation of RPA adoption in the various administrative models presented later in the dissertation.

1.4.4 Paper 4: Robotic Process Automation as Routine Capability: A Case Study of a Public Organization in Turkey

This paper examines the implementation of RPA within a Turkish public organization, with a focus on how RPA, conceptualized as a routine capability, influences organizational practices and routines. The study explores how RPA contributes to operational improvements and shapes new routines within the specific context of a developing country.

A case study approach was adopted, centered on a large metropolitan municipality in Turkey, and Swanson's (2019) routine capability framework was applied to analyze RPA implementations across multiple departments. The findings indicated that RPA significantly improves organizational routines by enhancing process efficiency, boosting employee productivity, and enabling interaction across different e-government systems.

The paper emphasizes the critical role of IT capabilities and RPA governance practices in sustaining RPA-enabled capabilities. This motivated exploration of RPA governance across diverse administrative environments presented later in this dissertation.

1.4.5 Paper 5: From Routine to Automation: How RPA Advances Administrative Practices in Swedish Universities

This paper investigates how and to what extent RPA, viewed as routine capability, advances routine capabilities and changes administrative practices across various administrative functions within Swedish public universities.

Case studies were conducted in two Swedish universities, each at a different stage of RPA implementation. Swanson's routine capability framework (2019) was used to analyze the changes in four dimensions: design, execution, diffusion, and shift in administrative practices. The findings showed that RPA drives significant changes in administrative practices, and illustrated how RPA implementations evolve from experimental projects to a governed automation process involving formalized structures such as CoEs and associated practices.

This paper contributes with empirical insights to the broader discussion of RPA governance and formalization of RPA as routine capability, paving the way for advanced automation practices in the public sector.

1.4.6 Paper 6: Governing Robotic Process Automation in the Public Sector: Contextual Insights from Turkey and Sweden

This paper examines RPA governance in public organizations through case studies conducted in Turkey and Sweden. An exploratory approach was adopted to investigate how public organizations experiment with and adapt governance structures, processes, and relational mechanisms (De Haes & Van Grembergen, 2006) as automation initiatives are scaled within different administrative and institutional contexts.

The findings indicated that governance choices are contingent on factors such as the complexity of RPA systems, the maturity of automation initiatives, and the administrative context (Borghoff & Plattfaut, 2022). The Turkish case exhibited a stable, IT-led centralized governance model, whereas the Swedish case illustrated the development from decentralized experimentation toward a more coordinated governance supported by a CoE.

This paper contributes to the growing body of research on digital government automation by emphasizing the contextual and contingent nature of RPA governance. It provides exploratory insights that enhance the current understanding of how public organizations align governance mechanisms with technological, organizational, and institutional conditions, and offers theoretical implications for adaptive RPA governance and practical considerations in the public sector.

1.5 Research Contributions

This dissertation contributes new knowledge to the field of information systems (IS), particularly to digital government research, by addressing theoretical and practical aspects of RPA adoption and governance within public organizations. It provides insights that are both theoretically grounded and practically relevant.

Theoretically, this research deepens the current understanding of RPA through the lens of routine capability (Swanson, 2019), and demonstrates that RPA not only automates specific tasks but also prompts broader changes within organizational routines, capabilities, and practices. By examining RPA's role in building new routines and enhancing capabilities, this dissertation sheds light on the ongoing interaction between technology and organizational practices, characterized by continuous adaptation and improvement.

This dissertation also illustrates how new routines and RPA-enabled capabilities bring governance considerations to the forefront. In this regard, the

exploration of RPA governance across different countries and administrative models, involving Turkish and Swedish organizations illustrates two distinct approaches to RPA governance. This contributes to the broader literature on information technology governance (ITG) (De Haes & Van Grembergen, 2006), showing that RPA governance requires models that are tailored to specific administrative environments and that governance evolves as automation initiatives mature. The findings also show that automation governance serves as a means through which public organizations reconcile efficiency-oriented digitalization with public sector requirements such as accountability, legal compliance, and administrative continuity. In this respect, governance arrangements reflect not only technical and organizational conditions but also how digital government objectives are interpreted within specific institutional settings (Paper 6).

The integration of IT governance principles with lightweight IT governance concepts (Bygstad & Iden, 2017) offers a balanced approach to managing RPA in public organizations: the need for strategic oversight is combined with flexibility for local innovation. Furthermore, this dissertation presents the first case study of RPA in the Turkish public sector (Paper 4), thereby expanding the empirical foundation of RPA research and contributing to the literature on its adoption across diverse national contexts.

Practically, this research offers guidance for public sector organizations undertaking the adoption and scaling of RPA. One primary recommendation is to establish a clear governance structure for RPA from the outset, in order to align automation initiatives with strategic goals and proactively manage risk. Building internal RPA expertise is essential, with a focus on training employees and establishing CoE to centralize knowledge and support, thereby ensuring sustainability. This research also highlights the importance of managing change and addressing potential employee resistance by involving staff at an early stage, defining roles and responsibilities, and communicating the benefits of automation, which can help fostering acceptance and engagement. Tailoring governance models to the unique context of the organization is presented as a means to enhance the effectiveness and sustainability of RPA initiatives; while integrating these initiatives into broader digital transformation efforts ensures they contribute to the public sector's long-term objectives.

Methodologically, this study applies a mixed-methods approach, combining the breadth offered by quantitative data with the depth of qualitative insights to provide a comprehensive understanding of RPA adoption. The sequential design enabled quantitative results to inform the qualitative studies, yielding a foundational view, capturing both general trends and specific organizational contexts. This approach demonstrates the value of mixed-methods in studying complex, multidimensional phenomena such as RPA, ensuring robust, well-grounded findings. Table 2 summarizes the core contributions of this dissertation and links them to the research questions and the underlying theoretical perspectives.

Table 2: Core contributions of the dissertation linked to the RQs

Contributions	Explanation	Link to RQ(s)	Theoretical framework
Theoretical contributions	Extends the routine capability framework by demonstrating the role of RPA in enabling changes in routines and capabilities in different public administration contexts (Turkey and Sweden).	RQ1; RQ2	Technology as routine capability
	Advances IT governance theory by showing how RPA governance evolves and is shaped by contextual factors (national administrative traditions).	RQ3	ITG; Lightweight IT governance; RPA governance
Empirical contributions	A national survey of RPA adoption provides general understanding of RPA in changing routines and governance practice. Represents the first empirical investigation of RPA adoption in the Turkish public sector, expanding the geographic scope of RPA research.	RQ1; RQ2	Technology as routine capability
	Shows how different administrative and institutional contexts shape governance outcomes.	RQ3	ITG; Lightweight IT governance; RPA governance
Methodological contributions	Demonstrates the value of a sequential mixed-methods approach including national survey and case studies for studying RPA in public organizations.	All RQs	Mixed-methods
Practical implications	Provides guidance for public organizations scaling RPA (governance structures, processes, relational mechanisms).	RQ3	ITG; Lightweight IT governance; RPA governance

1.6 Outline of the Dissertation

The dissertation consists of six chapters, as described below.

Chapter 1: Introduction

This chapter introduces RPA within public organizations and outlines its significance in the broader context of IS and digital government research. The chapter then examines the existing literature and identifies gaps in research related to the adoption and governance of RPA in public organizations. Three research questions are formulated to address these gaps, and the aims of the research are presented. Summary of the included papers are presented. The chapter then provides the contributions of the dissertation. This chapter establishes the foundation for the dissertation and positions it within the ongoing discourse of the adoption and governance of RPA in the public sector.

Chapter 2: Research Background

This chapter reviews the theoretical and empirical literature on RPA and related concepts. It begins by examining the adoption of RPA in public organizations, and then introduces the “technology as routine capability” framework by Swanson (2019), which serves as the theoretical lens for understanding the influence of RPA on organizational practices. The chapter then presents various models and frameworks for RPA governance, including ITG (De Haes & Van Grembergen, 2006), lightweight IT (Bygstad & Iden, 2017), and the contextual factors relevant to RPA governance in public settings (Borghoff & Plattfaut, 2022). An integrated analytical lens for RPA governance in the public sector is provided. The chapter concludes by positioning the dissertation in the field of IS and digital government research.

Chapter 3: Research Methodology

In this chapter, the mixed-methods research design (Venkatesh et al., 2023) adopted for the research is outlined. Details of the quantitative and qualitative methods are given, including the application of sequential and partially mixed approaches. Data sampling, data collection, data analysis techniques and the integration of findings are described to present the comprehensive approach in addressing the research questions. Finally, a discussion of research quality in mixed-methods research, ethical considerations, reflexivity, and research positionality is presented.

Chapter 4: Results

This chapter summarizes the results from Paper 3, 4, 5, and 6 addressing the three research questions. It begins with the quantitative phase, presenting the survey results on RPA adoption in Swedish public organizations. The chapter then proceeds to the qualitative phase, where findings from the case studies

are presented, focusing on the impact of RPA on routines, capabilities, and governance models.

Chapter 5: Discussion

This chapter interprets the results and relates them to the research questions to provide insights into how the findings contribute to the theory of routine capability and IT governance models in the context of RPA. The research contributions to information systems and digital government are further elaborated. Practical implications for public organizations aiming to implement or scale RPA initiatives effectively are discussed. A reflection on the mixed-methods approach applied in this dissertation is also provided.

Chapter 6: Conclusion

This chapter concludes the dissertation by summarizing the research findings, reflecting on the ethical and societal consequences of the research, addressing the limitations of the dissertation and suggesting areas for future research.

2 Research Background

This chapter presents the literature and theories used in this dissertation. It establishes the theoretical and empirical foundation for understanding RPA adoption and governance in public organizations. It starts with an overview of RPA adoption in public organizations, then introduces the “technology as routine capability” framework by Swanson (2019), shows how it applies as the theoretical lens to study RPA. Following this, IT governance (De Haes & Van Grembergen, 2006), lightweight IT governance (Bygstad & Iden, 2017), and the factors influencing RPA governance models (Borghoff & Plattfaut, 2022) are presented and various RPA governance models in the literature are reviewed to develop an integrated analytical lens for understanding RPA governance in public sector settings. Finally, the chapter positions the dissertation at the intersection of IS and digital government research.

2.1 Adoption of RPA in Public Organizations

Automation research has a long history, dating back to the early developments of technologies designed to replace human effort with mechanical and computerized processes (Parasuraman & Riley, 1997). Automation is defined as the implementation of technology to execute parts of a work process previously performed by human employees (*ibid.*). A more recent advancement in this field is RPA, which automates routine, rule-based tasks in digital environments through configured software mimicking human interactions (Lacity et al., 2015). Organizations in various sectors have adopted RPA due to its potential to enhance efficiency and reduce operational costs.

Adoption of RPA follows a series of steps that typically include process identification (if necessary, process optimization or redesign), selection of appropriate tools, proof of concept, and pilot testing to validate the feasibility of the solution before full-scale deployment, development, and testing (Syed et al., 2020). Processes suitable for RPA can generally be decomposed into simple, standardized steps that follow predefined rules with minimal exceptions (Hofmann et al., 2020). Organizations can choose from open-source or commercial RPA solutions (e.g., UiPath, Blue Prism), although commercial offerings are often preferred for their dedicated support, ease of integration, and robust features (Asatiani et al., 2023). Research into RPA is broad and diverse, largely

due to the wide range of areas in which it can be implemented. Literature reviews by Frick (2024) and Güner et al. (2022) (Paper 2) have shown that research in the public sector is particularly prolific in Nordic countries, where the adoption of RPA began around 2017, with key contributions from Scandinavian researchers (e.g., Lindgren et al., 2024; Ranerup & Henriksen, 2019). In this context, RPA has primarily been adopted to automate administrative tasks (Lindgren, 2024), reflecting the considerable administrative burden on the public sector and the pressure for modernization (Vollenberg et al., 2024).

The ability of RPA to mimic human actions in digital environments makes it particularly suitable for the routine, repetitive tasks in administrative work, which combine routine operations and complex decision-making that draw on both formal knowledge and practical experience (Andersson et al., 2022; Wihlborg et al., 2016). Public organizations are using RPA in several public services and practices, including internal management (e.g., finance and HR), social services, student healthcare, and financial aid (Juell-Skielse et al., 2022). RPA increases efficiency, reduces operational costs, improves accuracy, and enhances service delivery (Juell-Skielse et al., 2022; Lindgren, 2020). This is particularly important given the constant pressure on public organizations to “do more with less” (Toll et al., 2022; Vollenberg et al., 2024). By automating repetitive and rule-based tasks, public organizations can allocate human resources to more complex, value-adding activities such as policy development and strategic planning (Denagama Vitharanage et al., 2020; Dias et al., 2019). Beyond these efficiency gains, the potential of RPA to increase public value lies in its capacity to improve overall service responsiveness and to free employees for tasks that require human judgment (Ranerup & Henriksen, 2019).

Previous studies have also shown that RPA provides traceable, consistent automated processes (Vollenberg et al., 2024); for instance, when used in social service applications, RPA can generate detailed logs of actions, thus facilitating oversight, discretion and uniformity in decision-making (Dias et al., 2019; Ranerup & Henriksen, 2022). Moreover, research indicates that RPA is a strategic component in public sector transformation, aligning with broader digital government initiatives (Lindgren, 2020; 2024).

However, the adoption of RPA within public organizations has prompted debates about its implications for fundamental public sector values such as professional discretion (Ranerup & Henriksen, 2022), transparency, and accountability (Johansson et al., 2023). While these debates often center on automated decision-making processes (Ranerup & Henriksen, 2019; 2022), they also encompass the broader effects of RPA on the changing nature of public service roles and value creation (Wihlborg et al., 2016; Johansson et al., 2023).

Although improved response times and accuracy in automated processes can assist employees in delivering higher-quality public services (Juell-Skielse et al., 2022), some studies challenge this view by highlighting how automation may limit the professional discretion of public employees in supporting citizens (Bernhard & Wihlborg, 2022). For example, Borry and

Getha-Taylor (2019) note that automation may undermine professional independence in contexts where human discretion remains vital. Illustrating this, Gustafsson and Wihlborg's (2019) study of income support services found that caseworkers resisted automation due to concerns that it would diminish professional discretion and the individualized services required by some citizens. Another concern relates to accountability: If RPA includes AI-driven "black box" elements, questions of explainability arise (Johansson et al., 2023), emphasizing the importance of careful RPA deployment to ensure that technology fosters, rather than obscures, transparency and accountability (ibid.). These debates show that the adoption of RPA in public organizations must be carefully weighed against considerations of public values (Johansson et al., 2023) to ensure that efficiency gains are not pursued in isolation, as this approach would risk compromising other equally important public values (Borry & Getha-Taylor, 2019; Toll et al., 2022).

Ethical considerations, such as ensuring fairness and avoiding bias in automated decision making, are particularly critical in the public sector (Ranerup & Henriksen, 2019; Wihlborg et al., 2016). Legal and regulatory compliance issues must also be judiciously managed when deploying RPA solutions (Ranerup & Henriksen, 2019). The adoption of RPA can also cause tensions derived from the gap between the expectations of RPA and its capabilities in real-world applications (Gustafsson, 2022).

Another important aspect of RPA adoption is its significant impact on work practices and routines (Rutschi & Dibbern, 2020). RPA reshapes both the execution of tasks and the skills required of employees, as they must adapt to working with automated systems (Asatiani, 2022). The interaction between public employees and citizens also changes; for instance, when automated systems involve decision-making or require public participation, caseworkers who previously focused on giving direct assistance to individuals now often guide them through an interaction with an automated process (Wihlborg et al., 2016). This shift necessitates upskilling employees, redefining roles, and establishing "hybrid positions" that facilitate seamless human-machine collaboration to address employees' fear of job displacement and uncertainty about new technologies (Asatiani, 2022).

One notable dimension of RPA relates with its democratizing potential, where non-IT employees build software robots using low-code or no-code platforms (LCDPs) (Asatiani, 2022; Binzer & Winkler, 2022). This shift toward broader engagement in RPA development is closely tied to the concept of "citizen development," which enables non-IT employees, namely, "citizen developers" to create software applications and automate processes without involving the centralized IT department (Binzer & Winkler, 2022). This approach is often referred to as the "democratization of technology" or "democratization of IT" (Binzer & Winkler, 2022; Leible et al., 2024), as it involves the decentralization of IT competencies and enables collective, organization-wide digital innovation (Binzer & Winkler, 2022). However, several studies

point to the challenges, including governance, maintenance, security (Syed et al., 2020; Eggers et al., 2023), and prioritizing regular work duties with RPA development (Osmundsen et al., 2019). Despite receiving training, non-IT employees may lack the technical expertise to address complex issues that arise post-deployment, leading to disruptions and inefficiencies in automated processes and potentially affecting public services (Eggers et al., 2023). Hence, support structures are necessary to foster collaboration between IT departments and business units (Biedova et al., 2024; Eggers et al., 2023). Researchers have recommended the establishment of formal guidelines, shared repositories of reusable solutions, and sustained collaboration between IT departments and business units to ensure that democratized automation is aligned with the broader requirements of the public sector (Biedova et al., 2024).

2.2 Technology as Routine Capability

Swanson (2019) introduced “technology as routine capability” as a compelling framework for studying the intricate relationship between technology, routines, capabilities and practices. The theory draws on both routine theory (Feldman, 2016; Feldman et al., 2019; Feldman & Pentland, 2003) and practice theory (Schatzki, 2001). It integrates insights from these two traditions and offers a new perspective in understanding how technology advances practices and how technological change unfolds (Swanson, 2019).

Technology as routine capability perspective distinguishes itself from traditional IS views which focus primarily on technology as a device or artifact (Orlikowski & Iacono, 2001). It challenges the notion that the effects of technology can be understood solely in terms of its inherent features or affordances. Instead, it underscores the importance of examining how technology is used within the context of routines and practices, reflecting the practice-based perspective in IS research (Orlikowski, 2000). In this approach, technology derives its meaning and functionality through the routines it enables. These routines—structured, repetitive patterns of action (Pentland & Feldman, 2008)—performed by humans and machines are essential for developing capabilities that advance broader practices at individual, organizational, and societal levels (Swanson, 2019).

Swanson (2019) contextualizes technology as routine capability based on four interconnected spheres, referred to as worlds, practices, routines, and devices. These spheres form a nested structure, each providing a context for the one it contains. An essential aspect is that each sphere derives its meaning and functionality from its relationship to the others. At the broadest level are “worlds,” which represent the overarching contexts in which practices occur. These worlds are composed of various “practices,” which in turn are built from “routines” that provide capabilities. At the most granular level, devices are the tools or artifacts that provide affordances in the context of routines. In

this reasoning, the concept of “routine capability” (the capability associated with device-enabled routines) posits that devices (technologies) are employed only through routines. Since routine is integral to technology itself, the capability generated by the new routines will advance human practice (technology as routine capability built-in practice).

Advancing practices is an inherent motivation for people and organizations to achieve a wide array of purposes such as “improving upon its economics, social acceptance, or politics, simplifying it or otherwise reducing its costs, for instance, or finding new outlets for it” (Swanson, 2019, p. 1011). This drives change in technology as routine capability at the individual, organizational and societal levels.

Swanson (2019, p. 1017) identifies four modes of change in advancing practices: design, execution, diffusion, and shift, which are defined as follows:

- Design: The purposeful creation and refinement of new devices and the associated routines for their use.
- Execution: The ongoing learning and adaptation in performing new routines, enabling capabilities.
- Diffusion: The spread of routine capabilities across a wider population or user base.
- Shift: The transformative changes that occur when routine capabilities lead to the emergence and development of new practices.

These four modes of change are inherently interrelated processes that collectively shape the development of routine capabilities. These modes do not operate in isolation; rather, they interact continuously, influencing and reinforcing each other (Swanson, 2019). Through this dynamic interplay, routine capabilities are continuously developed, integrated, and transformed, thus ensuring the advancement of practices over time.

Technology as routine capability offers a powerful analytical lens for studying IS phenomena. Its emphasis on routines illustrates how an IS phenomenon such as RPA can become embedded in daily operations, adapt over time and enable new capabilities. Its multi-layered scope allows to capture the complexity of RPA adoption and governance across individual, organizational, and societal levels. The recognition that devices, routines, and practices co-evolve provides a dynamic lens that is especially relevant in fast-paced environments where IS must continually adapt.

2.2.1 Understanding RPA Through the Routine Capability Lens

RPA involves the deployment of software robots to perform repetitive, rule-based tasks that have previously been handled by humans (Willcocks et al., 2015). By automating these tasks, RPA reconfigures existing routines, leading to the development of new routines and capabilities that enhance organizational efficiency (Dias et al., 2019; Ranerup & Henriksen, 2019), a view that

is aligned with Swanson's (2019) assertion that technology advances practices through the routine capabilities that it enables.

The routine capability perspective is particularly suited to study RPA in public organizations, as it captures the dynamic and socially embedded nature of technology implementation. This perspective allows for an examination of how the integration of RPA into daily routines not only automates tasks but advances public service practices by generating new routine capabilities. RPA enhances the capacity of public organizations to deliver public value, which includes improving operational efficiency, minimizing costs, enhancing quality, and maintaining compliance (Ranerup & Henriksen 2019). These improvements can be observed at several different levels, including employees, departments, organizations and in broader contexts such as the public sector as a whole.

At the individual level, RPA offers employees the opportunity to shift their focus from repetitive tasks to more analytical roles, fostering new skills and enhancing capabilities. As Swanson (2019) points out, advancements at the individual level are facilitated when technology enhances or replaces routine tasks, allowing practitioners to build on higher-value contributions within their roles (Denagama Vitharanage et al., 2020). At the organizational level, the adoption of RPA embeds new routines that facilitate organizational advancements such as improved efficiency (Denagama Vitharanage et al., 2020; Dias et al., 2019; Lindgren, 2020; Ranerup, 2020), service quality (Denagama Vitharanage et al., 2020), accountability, transparency, and compliance (Denagama Vitharanage et al., 2020, Ranerup & Henriksen, 2019). At this level, routine capability is achieved collectively (Swanson, 2019). The impact of RPA at the societal level is related to broader societal practices, such as its contribution to the digitalization of public services and digital government initiatives (Dias et al., 2019; Lindgren, 2020; Ranerup & Henriksen, 2019).

The impact of RPA extends beyond the mere implementation of software robots, influencing the broader practices of public organizations. From the multi-layered perspective of routine capability, Swanson's (2019) description of four spheres of “worlds”, “practices”, “routines”, and “devices” helps in understanding how RPA is integrated into and transforms the routines and practices of public organizations. In this dissertation, “worlds” are considered to represent the broader social, economic, and institutional contexts in which public organizations operate. Within the worlds, “practices” are the organized sets of activities that public organizations perform to fulfill their mandates; examples include administrative practices (Andersson et al., 2022), finance practices, IT practices, or social assistance practices in which citizen applications are processed and decisions are made (Ranerup & Henriksen, 2019). The integration of RPA into these practices aims to streamline operations, reduce processing times, and improve accuracy and transparency, thereby advancing the organization's ability to meet its objectives. “Routines” are the repetitive,

recognizable patterns of interdependent actions that constitute practices (Pentland & Feldman, 2008). In public organizations, routines involve data entry, document verification, or information dissemination and more. RPA automates these routines, leading to more consistent and efficient execution, which not only enhances existing routines but also enables the development of new ones. The sphere of “devices” pertains to the tools and technologies employed within routines; in the context of RPA, devices are the software robots configured to perform specific tasks. These software robots interact with existing information systems to execute predefined processes without the need for significant changes to the underlying infrastructure.

According to Swanson (2019), technology as routine capability involves an inherent process of practice advancement through four interrelated modes of change: design, execution, diffusion, and shift. Interpretation of how RPA, changes routines and generates routine capabilities in public organizations in each of these modes is below.

Change by Design: The initial implementation of RPA in a public organization involves the design of new automated routines tailored to specific tasks. This design process is about both configuring the software and rethinking the process and workflows to integrate software robots effectively, ensuring that human and machines interact seamlessly.

Change by Execution: Once implemented, RPA changes the routine. Its execution requires continuous monitoring and adaptation to address emerging requirements. RPA-enabled routines become a key element in capability development through repeated execution and refinement.

Change by Diffusion: The diffusion of RPA into different units within a public organization demonstrates the extension of routine capabilities through replication (Swanson, 2019). As RPA implementations prove successful, similar automated routines may be adopted in other departments, thus spreading its capabilities. For instance, after successful implementation in finance department, RPA may be extended to other departments where similar routine tasks are carried out, such as procurement or human resources. This diffusion process establishes a common ground for advancing organizational capabilities at scale and promotes further changes across the organization.

Change by Shift: The adoption of RPA can lead to significant shifts in organizational practices, which may require the redefinition of roles and responsibilities, elimination of some practices and creation of new ones (Swanson, 2019). For example, employees who are freed from mundane tasks may focus on more strategic ones that require more intellect and creativity. In the same vein, organizations can advance certain capabilities through the shifts in practices. However, as these shifts contribute to the development of new capabilities and practices within and across organizations, they also necessitate the rethinking and redesign of the work processes and organizational structures that they are established in.

2.3 RPA Governance

Despite its increasing adoption across the public sector, the governance of RPA in public organizations remains relatively underexplored. Although much of the recent literature has focused on the implementation of RPA in the private sector (Asatiani et al., 2019; Eulerich et al., 2024; Farinha et al., 2024; Herm et al., 2023; Wellmann et al., 2020), these studies offer valuable models and frameworks for understanding RPA governance in general, and provide foundational principles that can be adapted to RPA governance in public organizations.

Three central approaches are particularly relevant in understanding RPA governance: the IT governance framework (De Haes & Van Grembergen, 2006), the lightweight IT governance model (Bygstad & Iden, 2017), and the contextual factors that influence the RPA governance (Borghoff & Plattfaut, 2022). Each approach offers a specific perspective on RPA governance. The emphasis of the IT governance framework is on structuring the governance of RPA, whereas the lightweight IT governance model addresses the agility required to manage user-driven technologies such as RPA. The contextual factors put forward by Borghoff and Plattfaut (2022) highlights the importance of tailoring governance to specific contexts that influence the design and development of RPA governance models to achieve a better fit to a diverse range of environments.

2.3.1 Information Technology Governance

IT governance (ITG) is a well-established research field in IS, grounded in decades of work exploring how organizations can effectively align their IT functions with broader strategic objectives. Van Grembergen (2002) conceptualizes ITG as “the organizational capacity exercised by the board, executive management, and IT management to control the formulation and implementation of IT strategy, ensuring the fusion of business and IT” (p. 1). Rooted in the principles of corporate governance (Weill & Ross, 2004), IT governance frameworks encompass a wide range of models, tools, and best practices that help organizations to ensure accountability and adaptability in managing the IT operations while supporting the creation of business value (Van Grembergen et al., 2004).

Organizations can employ diverse ITG models, which vary based on the distribution of decision-making authority, control, and responsibility across the organization (Borghoff & Plattfaut, 2022). These models typically range from centralized to decentralized and federated forms (De Haes & Van Grembergen, 2006). In a centralized model, decision-making authority and control reside predominantly within a central IT department, meaning that strategic IT oversight is concentrated at higher organizational levels. Conversely, in a

decentralized model, autonomy is granted to individual business units, allowing them to make IT-related decisions tailored to their unique needs and operational contexts. Federated models represent a hybrid approach that centralizes control over core IT infrastructure while allowing business units some latitude over their specific IT applications, thereby achieving a balance between standardization and adaptability (Asatiani et al., 2019; Peterson, 2004).

ITG models combine structures, processes, and relational mechanisms that operate interdependently across strategic, management, and operational levels within organizations (De Haes & Van Grembergen, 2006). These elements serve distinct functions within the IT governance framework (see Figure 2).

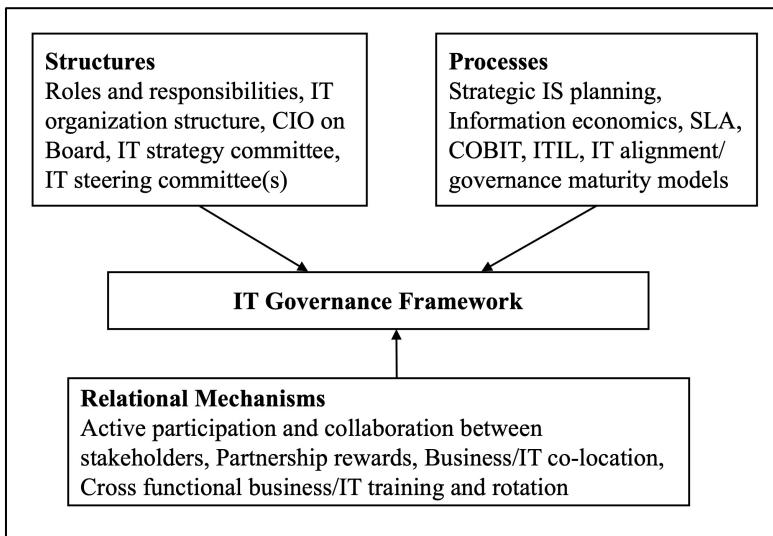


Figure 2: ITG framework (adapted from De Haes & Van Grembergen, 2006)

Structures: Structures include the establishment of defined roles, responsibilities, and formal IT governance bodies such as IT committees or councils. These entities typically include executive roles and designated IT departments tasked with overseeing IT activities. These structures facilitate accountability and clarity in decision-making, which are essential for effective IT governance (De Haes & Van Grembergen, 2006).

Processes: Processes are standardized procedures and policies that guide IT governance activities, such as strategic planning, risk management, and performance monitoring. Frameworks such as Control Objectives for Information and Related Technologies (COBIT), Information Technology Infrastructure Library (ITIL), Service Level Agreements (SLAs), and maturity models are widely used to formalize these processes. These tools provide best practices that can help organizations align their IT services with business priorities, manage risk, and optimize the utilization of resources (De Haes & Van Grembergen, 2006).

Relational Mechanisms: Relational mechanisms facilitate communication and collaboration among stakeholders, thereby fostering a shared understanding of ITG objectives across the organization. These mechanisms may include regular meetings, reporting protocols, collaboration platforms, and training initiatives, and are essential for bridging the gap between IT and business units, encouraging cross-functional cooperation, and promoting a culture of shared IT accountability (De Haes & Van Grembergen, 2006).

The optimal configuration of structures, processes, and relational mechanisms in IT governance frameworks is contingent upon several organizational factors, including the industry, the size of the organization, (De Haes & Van Grembergen, 2006), the organizational and cultural context (Zhong et al., 2012) and the evolving technological landscape (Asatiani et al., 2019). These factors also influence the choice between centralized, decentralized, and federated governance models (Borghoff & Plattfaut, 2022).

2.3.2 Lightweight IT Governance

Lightweight IT governance addresses governance needs arising from the rapid adoption of lightweight IT technologies, such as mobile devices and applications, sensors and RPA (Bygstad & Iden, 2017). These technologies, which are typically deployed by end users or local business units with minimal involvement from central IT departments, have become essential for organizations seeking agile, business-driven IT solutions (ibid.). Unlike traditional IT systems (also referred to as heavyweight IT) which are often and require significant coordination and oversight, lightweight IT solutions enable rapid, decentralized innovation, supported by the widespread availability of consumer digital technologies (Bygstad, 2016). While this trend introduces considerable flexibility, it also gives rise to governance challenges related to security, compliance, and integration with established systems (Bygstad & Iden, 2017; Osmundsen et al., 2019).

RPA exemplifies lightweight IT, as its agility and quick deployment allow businesses to implement automated solutions without extensive involvement from the IT department. RPA's potential for swift implementation, combined with its low initial cost and minimal maintenance requirements, enables organizations to innovate directly at the business unit level (Osmundsen et al., 2019). This autonomy allows non-technical staff to automate routine tasks independently of core IT systems, reducing their reliance on heavyweight IT infrastructures (Willcocks et al., 2015). However, since lightweight IT operates outside the traditional sphere of IT, separate governance mechanisms are needed to manage both its innovation potential and the associated risks. Bygstad and Iden (2017) argue that distinct approaches to governance are needed for lightweight and heavyweight IT, as they operate within separate “networks of technology, designers, users, and discourses kept together by a knowledge regime” (Bygstad & Iden, 2017, p. 3).

To meet these distinct governance needs, Bygstad and Iden (2017) propose a framework in which user-driven innovation is balanced with the necessary controls for security, compliance, and compatibility with existing IT infrastructure. Their framework rests on the two main dimensions of resourcing and securing (see Figure 3). Through resourcing, innovation is fostered by providing business units with suitable resources for lightweight IT initiatives, including organizational support such as access to funding and training and technical resources such as application programming interfaces (APIs). This dimension encourages the adoption of lightweight IT solutions by empowering users to pursue innovative applications for business value (Bygstad & Iden, 2017). On the other hand, the aim of securing is to ensure the safe and regulated use of lightweight IT by implementing policies, standards, and procedural guidelines. This includes involvement from the central IT function to enforce standards and assign decision rights, thereby balancing flexibility and control (ibid.).

Based on these two dimensions, Bygstad and Iden (2017) outline four distinct approaches to governance within the lightweight IT framework, which they refer to as *laissez-faire*, central control, bimodal IT, and platform models.

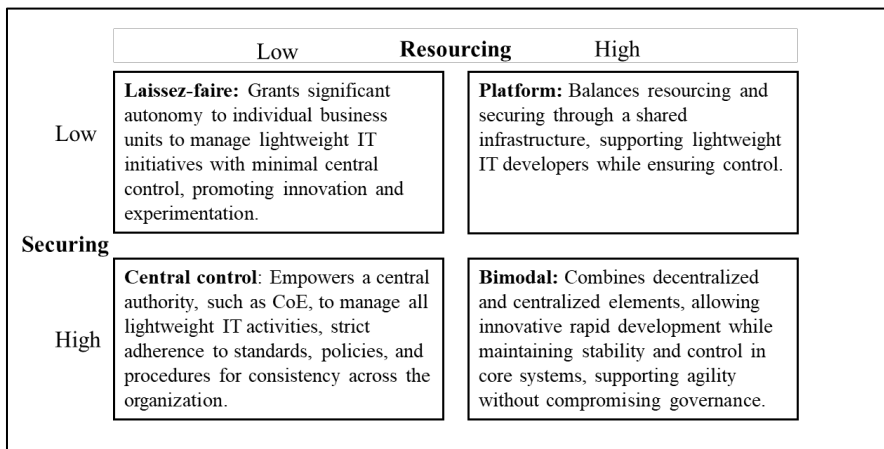


Figure 3: *Lightweight IT governance models (adapted from Bygstad & Iden, 2017)*

While *laissez-faire* and central control are similar to the two ends of the spectrum of IT governance, decentralized and centralized, respectively, the bimodal and platform models lie between these two ends and correspond to the federated model in conventional IT governance (Asatiani et al. 2019; Borghoff & Plattfaut, 2022). Each approach represents a different balance between resourcing and securing.

Laissez-faire: This model represents a decentralized approach to governance, granting business units with significant autonomy over their lightweight IT projects. In this model, individual units have the responsibility for managing risks and allocating resources, thereby fostering an environment to free

innovation and experimentation. However, this lack of central oversight may lead to fragmented IT landscapes and heightened security risks if not properly managed (Bygstad & Iden, 2017).

Platform: This approach aims to provide a middle ground through a shared infrastructure that balances innovation with control. In this model, a heavy-weight environment supports lightweight development. This structure enables organizations to innovate within a defined framework that encourages integration and interoperability among lightweight IT solutions. A major drawback of the platform model is the challenge of high investments in middleware to handle privacy and security (Bygstad & Iden, 2017).

Bimodal IT: This model combines elements of decentralized and centralized governance, thus allows organizations to pursue rapid innovation under heavyweight standards. It accommodates agility and experimentation, particularly in areas that benefit from rapid development, while ensuring that core operations adhere to stable, consistent governance practices. However, in this model, the potential for innovation may be limited due to the prioritization of resources in favor of heavyweight IT (Bygstad & Iden, 2017).

Central Control: This approach represents a highly centralized governance model in which a central authority (the IT department) oversees all lightweight IT activities. In this model, strict adherence to standards, policies, and procedures is required, to promote uniformity and reduce the risks associated with non-compliant IT practices. While this model minimizes security and compliance risks, it reduces the speed and flexibility often sought in lightweight IT initiatives (Bygstad & Iden, 2017).

2.3.3 Factors Affecting RPA Governance

RPA governance differs from IT governance in several ways and requires consideration of factors influencing the design and implementation of effective governance models (Borghoff & Plattfaut, 2022). These factors, which include both strategic and operational aspects, are essential for establishing RPA governance to meet organizational needs. The primary factors include lead, automation maturity, system complexity, structural diversity, focus, and scale (see Table 3) (Borghoff & Plattfaut, 2022).

Table 3: Factors affecting RPA governance (adapted from Borghoff & Plattfaut, 2022)

Factor	Dimension
Lead	Business led–IT led
Automation maturity	Mature–immature
System complexity	Complex–simple
Structural diversity	Heterogeneous–homogeneous
Focus	Security–innovation
Scale	Local–global

Lead: RPA is primarily led by the business side, typically developed and deployed by individual departments. According to Borghoff and Plattfaut (2022) this shifts the responsibility of the automation governance to the business units.

Automation maturity: This refers to the level of advancement in terms of the implementation and utilization of RPA within a business unit. As these units gain experience with RPA, a decentralized form of governance empowers them to take ownership of this technology. A decentralized approach may be applied from the beginning of the RPA initiative, depending on the organizational structures or the sectoral context (Borghoff & Plattfaut, 2022).

System complexity: Complex systems often involve multiple dependencies and touchpoints with other core systems, and require numerous access rights and permissions (Borghoff & Plattfaut, 2022). There may be varying degrees of complexity in the implementation of RPA. According to Borghoff and Plattfaut, (2022, p. 180), “the more complex systems get, the more centralized the governance should be”. In this case, the focus factor should be considered in order to strike a balance between the need for security in complex environments and the need for flexibility in innovation (Borghoff & Plattfaut, 2022).

Structural diversity: This refers to the level of heterogeneity within an organization, which can arise from differences between regions, cultures, or organizational structures, for example by operating in multiple countries or industries with distinct needs. Organizations with a higher level of structural diversity often prefer more decentralized RPA governance models (Borghoff & Plattfaut, 2022).

Focus: This refers to how an organization balances the need for stability against the need for innovation. Prioritizing stability helps to reduce risks, such as malfunctions, but this is often achieved at the expense of innovation and the potential efficiency gains (Borghoff & Plattfaut, 2022). Balancing the stability and innovation depends on factors such as organizational structure, industry context, and regulatory requirements (Borghoff & Plattfaut, 2022).

Scale: The scale factor in RPA governance refers to the intent to expand automation to multiple parts of an organization (Borghoff & Plattfaut, 2022). A decentralized governance model can facilitate local adaptation by leveraging unit-specific process knowledge, while a centralized approach can help in achieving standardization across the organization.

2.3.4 RPA Governance Models

The literature on RPA governance contains various frameworks and guidelines that address different facets of RPA implementation and maintenance, and a range of focus areas and perspectives. Among these, Herm et al. (2023) synthesize findings from various sources to develop a comprehensive framework

for RPA implementation that encompasses the phases of initialization, implementation, and scaling. This framework emphasizes the importance of establishing CoEs, defining clear roles and responsibilities, and ensuring strategic alignment. However, it lacks specific guidance on how these roles and responsibilities should be adapted at the organizational level. Noppen et al. (2020) focus on the maintenance aspect of RPA, and propose 11 guidelines with the aim of reducing maintenance burdens, including standardization of development practices, implementation of robust monitoring systems, and the promotion of reusability of automation components. These guidelines are particularly relevant in federated governance models, where decentralized development requires centralized support from a CoE to maintain consistency and reliability. Furthermore, Eggers et al. (2023) propose a framework for decentralized RPA governance that focuses on the roles and responsibilities of citizen developers, reflecting the structures found in ITG models (De Haes & Van Grembergen, 2006).

An essential function of RPA governance is the strategic selection of processes for automation (Syed et al., 2020). In this regard, decision-making frameworks ensure that resources are allocated to the initiatives with the highest potential for impact (Plattfaut et al., 2022). One example of such a framework is that developed by Wellmann et al. (2020), called the Process Characteristics Evaluation Framework (PCEF). The framework allows for the assessment of processes based on several criteria related to the task, time, data, system and human perspectives. This systematic approach facilitates the identification of candidates for automation that offer significant efficiency gains and risk reduction. Similarly, Farinha et al. (2024) present a framework for evaluating process cost and potential automation savings that can assist decision-makers in identifying suitable candidates for automation.

Adherence to regulatory standards and internal control is another important aspect of RPA governance. Eulerich et al. (2024) propose RPA governance guidelines in which established IT governance standards (i.e., COBIT and ISO) are integrated with the specific requirements of RPA. These guidelines include 14 control requirements that relate to critical areas of risk, such as data security, compliance, and auditability. By embedding these controls into the governance structure, organizations can ensure that RPA initiatives do not inadvertently introduce vulnerabilities or compliance issues (Eulerich et al., 2024).

Despite the availability of RPA governance frameworks, however, challenges have arisen in terms of their application to real-world settings (Asatiani et al., 2019). In order to adapt these models to navigate the emerging challenges, there is a need to enhance coordination and communication mechanisms, and to foster collaboration and continuous knowledge management (Plattfaut et al., 2022).

2.3.5 RPA Governance in the Public Sector: An Integrated Analytical Lens

Previous studies indicate that RPA governance is influenced by both formal IT governance and lightweight IT governance principles (Borghoff & Plattfaut, 2022). Although lightweight IT governance can support flexibility and experimentation in the early stages of implementation, formal governance structures and processes become increasingly important as automation expands and requires coordination, control, and sustainability (Asatiani et al., 2019). It is therefore necessary to establish governance arrangements in order to align automation with organizational objectives, manage risks, and ensure compliance. In this dissertation, these perspectives are combined into an integrated analytical lens to explain governance models.

Although RPA has gained increasing attention in public organizations, governance-oriented research in this context remains limited (Eggers et al., 2023). Much of the available knowledge originates from private-sector settings, where RPA adoption began earlier and reached higher levels of maturity (Willcocks et al., 2015; Flechsig et al., 2022). Nevertheless, these studies remain relevant because they identify governance mechanisms such as decision-making arrangements, strategic oversight, and operational coordination that are equally important in public organizations (Asatiani, 2022). This view is consistent with broader IT governance research which shows that the IT governance principles developed for the private sector can provide analytical guidance for public organizations (Pang, 2014) when interpreted contextually and adapted to the institutional conditions of public administration (Magnusson et al., 2017).

RPA governance in public organizations is also shaped by institutional conditions that differ from those of private firms. Regulatory requirements, accountability structures, and legal obligations influence how automation initiatives are organized and governed (Flechsig et al., 2022; Wirtz et al., 2018). In this setting, automation is not introduced solely in order to improve efficiency but also to maintain transparency, compliance, and continuity in administrative work (Johansson et al., 2023). Processes in the public sector are also often heterogeneous and interconnected, requiring adaptation before automation can be sustained across organizational units.

Decision-making in public organizations commonly involves multiple stakeholders and formal layers of approval, which may slow RPA implementation and complicate coordination (Johansson et al., 2023; Toll et al., 2022). For this reason, governance models do not always follow CoE centralized approaches commonly associated with private-sector RPA programs. Instead, governance structures are shaped by administrative conditions, policy requirements, and organizational responsibilities, such as procurement procedures and data protection obligations (Frick, 2024). In public organizations, hybrid

models in which elements are drawn from centralized and decentralized approaches are commonly used to balance the requirements for formal accountability and risk management with the need for responsiveness in public service delivery (Rychkova & Zdravkovic, 2017).

Although these differences limit the direct transferability of governance models, prior research shows that several governance practices remain relevant when adapted to the public sector (Flechsigt et al., 2022). This integrated perspective therefore provides an analytical basis for understanding how public organizations establish and develop governance arrangements for RPA under different administrative and organizational conditions.

2.4 Positioning the Dissertation in Information Systems and Digital Government Research

Digital government research has evolved from a sole focus on service digitization to the more complex phenomenon of digital government transformation (DGT) (Janowski, 2015; Janssen et al., 2025). Unlike incremental IT implementation, DGT involves fundamental shifts in organizational structures, cultures, and processes to create public value (Bannister & Connolly, 2014). Despite this shift, the literature remains limited in its ability to explain how such a transformation is enacted in practice (Mergel et al., 2019). In particular, prior research has been criticized for being undertheorized and for offering insufficient empirical insight into the mechanisms through which public organizations translate digital initiatives into everyday administrative practices (ibid.).

Recent studies emphasize that automation technologies, including RPA and forms of AI, are changing how decisions are made, how tasks are coordinated, and how responsibilities are distributed across human and technological actors (Andersson et al., 2022; Ranerup, 2020). Automation is acknowledged both as a tool for efficiency and an enabler for administrative transformation (Lindgren, 2024). However, as noted by Sundberg and Holmström (2024), although AI and automation are recognized as key drivers of modernization, the field still lacks a systemic understanding of how these technologies reshape the inner workings of public organizations (Zuiderwijk et al., 2021; Sun & Medaglia, 2019).

One useful perspective for examining RPA in public administration is provided by the technology as routine capability framework (Swanson, 2019). From this perspective, automation is embedded within the rules, processes, and interactions that shape everyday work. The analysis moves beyond viewing automation as task substitution and instead examines how RPA reconfigures routines, which constitute the operational basis of organizational practices and the enactment of governance (Gil-García & Martínez-Moyano, 2007).

An essential pillar of digital transformation is the evolution of IT governance in public organizations (Rychkova & Zdravkovic, 2017). Traditional centralized governance models often struggle to accommodate the rapid, decentralized nature of lightweight IT tools such as RPA (Bygstad & Iden, 2017). This dissertation positions RPA governance as a dynamic, context-dependent process. Through an investigation of transitional governance structures, this dissertation demonstrates how public organizations balance the need for bureaucratic control with the requirement for flexibility to scale innovation. This focus addresses a significant gap in the literature on the contextual nature of governance across diverse administrative settings, such as those in Sweden and Turkey.

By integrating these perspectives, this dissertation situates RPA at the intersection of IS and digital government. The research presented here illustrates how shifts in organizational routines and capabilities can provide an empirical foundation for broader advances in the domain of digital government. Furthermore, a transition toward federated governance models is documented, showcasing the governance practices needed to strike a balance between bureaucratic stability and the agility required for digital innovation. Through this positioning, this dissertation provides the empirical grounding that is needed to understand how localized automation can contribute to a broader, sustainable digital transformation.

3 Research Methodology

This chapter outlines the methodological foundations of the dissertation and explains how the chosen mixed-methods research approach is theoretically grounded and practically applied to answer the research questions. Section 3.1 provides a literature-oriented overview of mixed-methods research that includes definitions, paradigmatic underpinnings, design strategies, and commonly employed procedures. Section 3.2 demonstrates how these foundations are operationalized in a sequential design strategy, combining quantitative and qualitative phases to holistically address the research questions. The methods used for sampling, data collection, and analysis in both the quantitative and qualitative phases are explained, along with a discussion of how the findings are integrated. Section 3.3 explains how the research quality in mixed-methods research is ensured, addressing key considerations in design quality and interpretive rigor domains. Section 3.4 outlines the ethical considerations that guided the research, ensuring adherence to established principles in social sciences research. The chapter concludes with a discussion of reflexivity and research positionality.

3.1 Mixed-Methods Approach in Information Systems Research

RPA adoption in public organizations is a less explored research area in the IS field. Understanding such multifaceted phenomena requires research methodologies that can capture both the measurable outcomes and the nuanced human experiences associated with technological implementations. Mixed-methods research, which integrates quantitative and qualitative approaches within a single study, has become increasingly valuable in IS research for its ability to provide comprehensive insights into complex issues (Venkatesh et al., 2013; Creswell & Plano Clark, 2018). The mixed-methods approach is most commonly associated with pragmatism, in which practical problem-solving and methodological flexibility are prioritized (Johnson & Onwuegbuzie, 2004). Although alternative paradigms such as critical realism and the transformative–emancipatory perspective are less frequently adopted, they can also inform mixed-methods research (Mertens, 2007; Zachariadis et al., 2013).

In line with Orlikowski and Baroudi (1991), this dissertation acknowledges that positivist and interpretive paradigms each illuminate different facets of RPA adoption in public organizations. The positivist perspective supports measuring adoption of RPA across organizations. On the other hand, individual and organizational aspects which relate with interpretive perspectives require deeper insights that can be gained through qualitative approaches (Orlikowski & Baroudi, 1991). By integrating these two paradigms, mixed-methods design offers a comprehensive approach that leverages the strengths of both methodologies to address this dissertation's research questions, ensuring that it captures the breadth and depth needed to understand RPA adoption in public organizations.

3.1.1 Mixed-Methods Research: Design Strategies

The design of mixed-methods research is guided by a pragmatic principle that emphasizes the primacy of the research questions, an idea referred to as the "dictatorship of the research questions" (Teddlie & Tashakkori, 2003; Venkatesh et al., 2023). This principle asserts that the research problem, research aims, and research questions should drive methodological choices rather than rigid adherence to a specific paradigm (Venkatesh et al., 2023). The main design properties that influence mixed-methods research include the purpose, time orientation, priority of methodological approaches, and mixing strategies.

Regarding the purpose, Venkatesh et al. (2023) outline seven different purposes for choosing mixed-methods as a research design. These include compensation, corroboration, diversity, developmental, complementarity, completeness, and expansion. Compensation involves balancing the limitations of one method with the strengths of another. In this dissertation, a compensation purpose is adopted (Venkatesh et al., 2013), as the research seeks both to measure the widespread adoption of RPA (a quantitative strength) and to investigate the specific organizational and individual aspects of RPA adoption and governance (a qualitative strength).

Time orientation refers to the sequencing of quantitative and qualitative methods. In a sequential design, one method is employed before the other, with the findings from the preceding phase informing the subsequent phase (Teddlie & Tashakkori, 2006; Venkatesh et al., 2013). Concurrent designs involve the simultaneous collection and analysis of qualitative and quantitative data, allowing researchers to gather diverse types of data at the same time (Creswell & Plano Clark, 2018). In this dissertation, a sequential design was selected, in which a preliminary quantitative phase informed a more extensive qualitative phase (Teddlie & Tashakkori, 2006).

The priority of a methodological approach pertains to the weights given to the quantitative and qualitative methods within the study. Equal status designs

give equal importance to both methods (Tashakkori & Teddlie, 1998). In dominant-less dominant status designs, one method takes precedence over the other, addressing the primary research questions while the less dominant method provides supplementary insights (ibid.). In this dissertation, the methodological priority was assigned to the qualitative research. The quantitative component established key trends and addressed RQ1, whereas the qualitative phase played a dominant role, providing in-depth analysis of contextual aspects of RPA adoption and governance in public organizations and its impact on the organizational routines, thereby addressing RQ2 and RQ3.

The mixing strategy refers to how and when integration occurs within the research process (Venkatesh et al., 2023). In fully mixed-methods designs, qualitative and quantitative approaches are integrated throughout all the stages of the research, including data collection, analysis, and interpretation, allowing for a deeply intertwined approach where both methods influence each other throughout the study (Teddlie & Tashakkori, 2006). In a partially mixed-methods design, qualitative and quantitative methods are combined at specific stages rather than throughout the entire research process. In this dissertation, integration occurred once the data collection and analysis of the quantitative phase was completed. This integration informed the subsequent qualitative phase in which the patterns identified in the quantitative phase were further investigated (Creswell & Plano Clark, 2018).

3.1.2 Mixed-Methods Research: Execution

Executing mixed-methods research involves carefully implementing and integrating qualitative and quantitative data collection and analysis methods. This process requires attention to sampling strategies, data collection techniques, and data analysis methods appropriate to both quantitative and qualitative components.

3.1.2.1 Sampling

Sampling in mixed-methods research involves selecting participants or cases that best address the research questions. Quantitative research typically employs probability sampling to ensure representativeness and facilitate generalization (Venkatesh et al., 2023). Qualitative research, however, often employs purposive sampling, targeting participants with specific expertise or experience relevant to the phenomenon being investigated (ibid.). In this research, the quantitative phase included a probability sampling. For the qualitative strand, purposive sampling was used to select participants from public organizations engaged in RPA implementation, ensuring that the sample includes individuals with rich insights into the phenomenon.

3.1.2.2 Data Collection

Data collection in mixed-methods research involves gathering both qualitative and quantitative data to provide a more comprehensive understanding of the phenomenon of interest. Quantitative data collection methods include structured instruments such as surveys, experiments, and observations, as these generate numerical data that are suitable for statistical analysis (Venkatesh et al., 2023). In the quantitative phase of this research, an online questionnaire was used to collect data from a broad sample of public organizations, to measure variables such as the extent of RPA adoption and its perceived benefits. Qualitative data collection methods focus on gathering rich, descriptive information through interviews, focus groups, and document analysis (ibid.). In the qualitative phase of this research, semi-structured interviews and secondary data such as reports and official documents provided in-depth insights into how RPA was implemented and governed in different public sector contexts.

The choice between sequential and concurrent data collection methods depends on the design of the study. In a sequential mixed-methods design, data from one method are collected and analyzed before proceeding to the next, allowing findings from the initial phase to inform the subsequent phase. In a concurrent design, data collection for both methods occurs simultaneously. This dissertation adopts a sequential data-collection approach.

3.1.2.3 Data Analysis

In mixed-methods research, data analysis entails the use of distinct analytical techniques appropriate to qualitative and quantitative data. Quantitative data analysis employs statistical methods to identify trends, relationships, and differences within numerical data (Venkatesh et al., 2023). In the quantitative phase of this research, statistical tests, such as descriptive tests were used to analyze the levels of RPA adoption while paired t-tests were used to compare the perceived benefits of RPA adoption across organizations.

Qualitative data analysis often utilizes thematic analysis (Braun & Clarke, 2006) to identify patterns, themes, and insights within textual data (Venkatesh et al., 2023). In this research, the data analysis processes involved both inductive and deductive approaches, including the coding of interview transcripts to explore themes related to the impact of RPA on work processes and routines, RPA implementation, and RPA governance.

3.1.2.4 Integration of the Findings and Meta-Inferences

Integration of the quantitative and qualitative findings is a crucial step in mixed-methods research, as it provides a comprehensive understanding of the research phenomenon. This integration can occur during data analysis or interpretation and involves drawing meta-inferences—conclusions or insights that arise from the combined analysis of both data sets (Venkatesh et al., 2016).

Meta-inferences in this dissertation, extended beyond the findings of individual analyses, provided broader insights into how the quantitative and qualitative results related to each other and to existing literature or theoretical frameworks (Creswell & Plano Clark, 2018).

3.2 Mixed-Methods Approach: Implementation

To understand the multifaceted nature of the adoption of RPA in public organizations, this dissertation adopts a partially mixed sequential dominant status design with a compensation purpose, prioritizing qualitative methods while utilizing quantitative data to provide a foundational overview (Venkatesh et al., 2023).

The research begins with a quantitative phase to offer a broad perspective on current RPA adoption in public organizations, followed by a qualitative phase that delves deeper into specific contexts. The integration of the quantitative and qualitative strands occurs at the inferential stage, where the results from the quantitative phase inform and shape the subsequent qualitative investigations. Figure 4 shows the sequential design used in this dissertation.

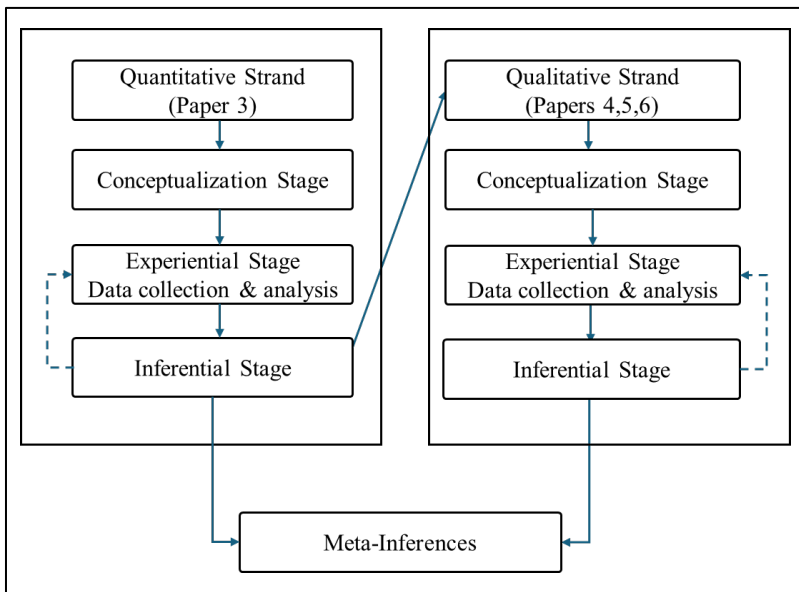


Figure 4: Sequential design (adapted from Venkatesh et al., 2023)

3.2.1 Quantitative Phase of the Research

The aim of the quantitative phase was to investigate the extent and nature of RPA adoption across public sector organizations (Paper 3). A survey research strategy was employed to collect data on organizational motivations, implementation practices, and the perceived benefits associated with RPA.

Sampling

A probability sampling method was applied to select 525 public sector organizations in Sweden, including government agencies and municipalities. This approach was chosen to ensure that the sample included organizations that were either currently adopting or had the potential to adopt RPA, thereby providing a comprehensive overview of RPA adoption across diverse public organizations.

Data Collection

An email survey was distributed to the selected organizations. This was a structured questionnaire comprising 20 questions, with formats including Likert scales, multiple responses and open responses. The questions based on the Likert scale and multiple responses were formulated to capture the measurable aspects of RPA adoption, to allow for a statistical analysis of the levels of RPA adoption, routine capabilities, perceived benefits, and governance practices. The open response format captured detailed insights into participants' perspectives, providing qualitative depth to complement the quantitative data.

Data Analysis

The collected quantitative data were subjected to statistical analysis to identify the trends and patterns in RPA adoption. Descriptive statistics provided an overview of the levels of adoption and perceived benefits, while inferential statistical tests, such as paired t-tests, were conducted to compare the importance and realization of benefits from RPA adoption and to identify changes in employee routines resulting from the implementation of RPA. For the responses to open response questions, thematic analysis (Braun & Clarke, 2006) was conducted. These quantitative and qualitative analyses established baseline data that informed the focus and design of the subsequent qualitative phase.

3.2.2 Qualitative Phase of the Research

Building on the quantitative findings, the qualitative phase comprised three separate studies (Papers 4, 5 and 6) that provided in-depth insights into the adoption and governance of RPA in public organizations. In each study, an interpretive, qualitative research approach was employed in which case study strategies were applied to explore the research phenomena within their real-life contexts.

3.2.2.1 Paper 4: Robotic Process Automation as Routine Capability in a Turkish Municipality

The aim of this study was to understand how RPA functions as routine capability within a public organization. The case organization is a large metropolitan municipality in Turkey, serving a population of over five million residents. As a public legal entity, the municipality has administrative and financial autonomy, and is responsible for coordinating district municipalities and providing essential services such as urban infrastructure, emergency response, environmental management, construction, city planning, social assistance, and digital public services through e-municipality platform.

The adoption of RPA in the municipality started in late 2019, as a part of its broader digital transformation strategy. The IT department initially researched automation opportunities to enhance efficiency in high-volume, repetitive administrative tasks. The urgency to implement automation increased in early 2020 due to the COVID-19 pandemic, which forced many departments to transition to remote work. Recognizing the potential of RPA, the IT department conducted a proof of concept (PoC) in the HR department, automating a single administrative process. Since the initial implementation, the municipality has automated 8 processes across HR, finance, public relations and map planning departments.

Sampling

Purposive sampling was used to select a large Turkish municipality that implemented RPA across various departments. Seven respondents, including employees who were directly involved in the implementation of RPA and a representative from the RPA provider company were chosen based on their roles and experience relevant to the focus of the study.

Data Collection

Data were collected through semi-structured, in-depth interviews which were conducted online. The interviews were recorded with consent, and were transcribed verbatim. Secondary data, such as annual action plans, process flow documents, and a YouTube webinar, were also collected to provide additional context and support for the analysis.

Data Analysis

Thematic analysis was conducted following Braun and Clarke's (2006) six-step model, employing both theory-driven and data-driven approaches. The theory-driven analysis was guided by Swanson's (2019) routine capability perspective, which provided a theoretical framework for understanding how RPA influences routines and practices within the organization. The data-

driven analysis allowed for the emergence of themes directly from the participants' accounts, ensuring that the findings were grounded in the actual experiences of those involved.

3.2.2.2 Paper 5: From Routine to Automation in Swedish Universities

This study explored how RPA advanced administrative practices within the context of higher education institutions. The case organizations were two Swedish public universities, referred to here as Alpha University and Delta University, representing different stages of the implementation of RPA. Alpha University was in the early stages of its automation journey, while Delta University had more developed RPA practices.

Alpha University serves approximately 16,000 students and employs 1,700 staff members. In June 2022, the university launched an 18-month RPA pilot project with the aim of identifying, testing, and validating RPA use cases across different administrative functions. A total of six processes were automated in the finance and library departments.

Delta University serves 12,000 students and employs 700 staff members. The university's RPA journey began in 2019, initiated by the finance department. Implementation started in early 2020. To coordinate and sustain their efforts towards RPA, the university established a CoE within the finance department, overseeing implementation, governance, and training. Delta University had approximately 20 automated processes, primarily within the finance and HR departments.

Sampling

Two Swedish public universities, referred to as Alpha and Delta, were selected using purposive sampling to capture different stages of the adoption of RPA. Nine participants, including university employees involved in RPA projects, daily users of RPA, and a representative from the RPA provider company, were interviewed to gather a range of perspectives.

Data Collection

The data collection process involved semi-structured interviews, analysis of project documents, annual reports, and news articles. The interviews were recorded with consent and transcribed verbatim. The inclusion of multiple data sources enhanced the richness of the data and allowed for triangulation of the findings.

Data Analysis

Inductive and deductive thematic analysis approaches were employed. The inductive analysis allowed for the identification of themes emerging from the data, while the deductive analysis, guided by Swanson's (2019) routine capa-

bility perspective, enabled the examination of how empirical findings correspond to the dimensions of routine capability and assessed the applicability of the theoretical framework within the university context.

3.2.2.3 Paper 6: Governing Robotic Process Automation in the Public Sector: Contextual Insights from Turkey and Sweden

The aim of this study was to examine how RPA governance is configured as automation initiatives scale within public organizations. Drawing on empirical settings in Turkey and Sweden, the study provided insights into how RPA governance models are formed and adjusted in practice and how they vary across distinct organizational and administrative contexts.

Sampling

An explorative case study approach was used, involving a Turkish municipality and two Swedish universities. Purposive sampling selected 15 participants directly involved in RPA implementation and governance. This included stakeholders from various organizational levels to capture diverse insights into the RPA governance practices.

Data Collection

Data were collected through semi-structured interviews and secondary sources such as internal documents, annual reports, and a YouTube webinar. Interviews were conducted both online and in person, recorded with consent, and transcribed verbatim for the analysis. The use of multiple data sources enhanced the depth and validity of the findings.

Data Analysis

Thematic analysis was guided by three theoretical frameworks: the IT governance framework (De Haes & Van Grembergen, 2006) was adopted as the primary analytical lens, the lightweight IT governance framework (Bygstad & Iden, 2017) was employed as an interpretive extension, and the factors influencing governance models of RPA (Borghoff & Plattfaut, 2022) to provide the contextual explanation for the differences between cases. This multi-framework approach provided a robust lens for the examination of the governance structures and practices, allowing for a nuanced understanding of RPA governance within the case organizations.

3.2.3 Integration of Findings

The integration of quantitative and qualitative findings occurred at the inferential stage, where meta-inferences were drawn from the combined results. According to Venkatesh et al. (2016), meta-inferences involve conclusions or insights that arise from the integration of quantitative and qualitative results,

providing a broader understanding beyond individual analyses. This integration facilitated a comprehensive interpretation of how RPA adoption impacts public organizations by considering both measurable outcomes and contextual factors.

The synthesis of the quantitative data and the rich qualitative insights enabled the research questions to be addressed more effectively. The findings from the quantitative phase highlighted the general trends and perceptions associated with the adoption of RPA, while those from the qualitative phase elucidated the underlying mechanisms, challenges, and contextual nuances influencing the implementation and governance of RPA. This integrated approach is aligned with the principles of mixed-methods research, and enhanced the validity and applicability of the findings (Creswell & Plano Clark, 2018).

3.3 Research Quality

Establishing and maintaining research quality is a fundamental requirement in mixed-methods research, where quantitative and qualitative approaches are integrated to address complex research questions (Tashakkori & Teddlie, 2008). Two foundational domains are identified in the literature as critical for evaluating the quality of mixed-methods research: design quality and interpretive rigor (Venkatesh et al., 2023).

Design quality refers to the alignment between the research design and the research questions and aims. This domain encompasses the following criteria: design suitability, which ensures that the chosen methods appropriately address the research questions; design fidelity, which evaluates the rigor in implementing these methods; within-case consistency, which examines the seamless integration of design components; and analytical adequacy, which assesses the appropriateness of data analysis strategies.

Interpretive rigor, on the other hand, focuses on the credibility and trustworthiness of the research findings, particularly the meta-inferences that integrate results across research strands. This domain includes interpretive consistency, which evaluates coherence across findings; theoretical consistency, which assesses alignment with existing theories; interpretive agreement, which examines the transferability of findings to other contexts; interpretive distinctiveness, which ensures that conclusions are more credible than alternative explanations; integrative efficacy, which measures the effective synthesis of findings into cohesive meta-inferences; and interpretive correspondence, which considers the alignment of inferences with the study's stated purpose and objectives (Venkatesh et al., 2023). Table 4 presents these quality domains and how the quality criteria are fulfilled in this dissertation.

Table 4: *Mixed-methods quality criteria and their fulfillment (adapted from Venkatesh et al., 2023; Teddlie & Tashakkori, 2009)*

Quality domain and definition	How the criterion is fulfilled in the dissertation
<p>Design suitability (appropriateness): The extent to which the selected methods and overall design are appropriate for answering the research question.</p>	<p>The dissertation integrates a quantitative survey which identifies broad RPA adoption trends across public organizations with qualitative interviews and case studies which capture in-depth, context-specific insights. This complementary approach ensures that both general patterns and nuanced organizational details are effectively addressed, matching the research aims.</p>
<p>Design fidelity (adequacy): The degree to which the methods are executed as intended by the design.</p>	<p>The quantitative phase uses probability sampling to ensure representativeness, while the qualitative phase employs purposive sampling to gather rich, contextual information from key informants. Both phases are implemented rigorously, ensuring that each method adheres to the intended design and contributes to reliable and valid outcomes.</p>
<p>Within-design consistency: The degree to which the design components fit together seamlessly and cohesively.</p>	<p>Quantitative findings directly inform the focus of the qualitative phase. For instance, themes such as routine changes are explored further in interviews. Clear documentation of the transition between phases ensures a logical flow and enhances the overall coherence of the dissertation's design.</p>
<p>Analytical adequacy: The appropriateness and sufficiency of the data analysis procedures to answer the research questions.</p>	<p>The dissertation employs descriptive and inferential statistics for the quantitative data, alongside thematic analysis (Braun & Clarke, 2006) for the qualitative data. This dual approach triangulates findings, providing comprehensive and contextually rich answers to the research questions.</p>
<p>Interpretive consistency: The alignment of inferences across different strands of the dissertation to form a unified understanding.</p>	<p>Inferences drawn from the quantitative survey, such as the identification of RPA benefits, are substantiated and enriched by qualitative insights. This ensures that conclusions across the different data strands are consistent in type, scope, and intensity, resulting in a unified interpretation of the findings.</p>

<p>Theoretical consistency: The degree to which meta-inferences align with established theories.</p>	<p>The dissertation is grounded in established frameworks such as Swanson’s technology routine capability perspective (2019) and IT governance frameworks (De Haes & Van Grembergen, 2006). This theoretical grounding ensures that the integrated findings are not only coherent but also consistent with current state of knowledge in the field.</p>
<p>Interpretive agreement: The extent to which the meta-inferences are generalizable or transferable to other contexts.</p>	<p>A broad, representative quantitative dataset enhances generalizability, while detailed qualitative case studies (e.g., of a Turkish municipality and Swedish universities) provide context-specific insights. Together, these approaches offer findings that are likely to be applicable in similar public sector settings.</p>
<p>Interpretive distinctiveness: The extent to which each conclusion is more credible than alternative explanations.</p>	<p>The dissertation rigorously tests alternative interpretations through triangulation and iterative analysis. This systematic evaluation process, coupled with clear documentation of the rationale behind each inference, ensures that the conclusions drawn are distinctively credible and stand out from other possible explanations.</p>
<p>Integrative efficacy: The effectiveness of synthesizing quantitative and qualitative findings into a cohesive meta-inference.</p>	<p>A sequential design is employed, with quantitative results guiding the qualitative inquiry. The final synthesis integrates statistical trends with detailed narrative explanations, resolving any discrepancies through theoretical contextualization, thereby achieving a coherent overall interpretation of the research findings.</p>
<p>Interpretive correspondence: The degree to which the integrated inferences align with the dissertation’s initial purpose and research questions.</p>	<p>The meta-inferences directly address the original research aims by linking broad statistical trends to detailed qualitative insights. This alignment confirms that the mixed-methods approach is effective in meeting the dissertation’s purpose, ensuring that the conclusions drawn resonate with the intended goals of the research design.</p>

3.4 Research Ethics

The ethical issues involved in conducting information systems research share commonalities with those encountered in other social science fields (Walsham, 2006). This dissertation is guided by the four ethical principles commonly identified in social science and IS research: non-maleficence, beneficence, autonomy, and justice to ensure that data collection, analysis, and dissemination uphold the rights and well-being of participants (Beauchamp & Childress, 2019; Mingers & Walsham, 2010). In addition to these principles, reflexivity was treated as an important ethical consideration in this dissertation. Reflexivity is understood as an ongoing process of critically examining the researcher’s assumptions, biases, and methodological choices, particularly important in mixed-methods research where quantitative and qualitative strands intersect (Cain et al., 2019). The ethical principles, their definitions and their application in the dissertation are summarized in Table 5.

Table 5: Ethical principles and their applications

Ethical principle	Application of the principle
Non-maleficence: Avoiding harm to participants (Beauchamp & Childress, 2019)	Careful measures were taken to ensure that no harm came to participants. For the quantitative survey, an introductory cover letter explained the purpose of the study, its duration, and data handling procedures. Interview participants received an interview guide in advance to reduce stress and allow for thoughtful preparation. All participants were informed of their right to withdraw at any time. Data confidentiality was strictly maintained by restricting access to authorized researchers and anonymizing identifying information, thereby minimizing the risk of distress, professional repercussions, or breaches of privacy.
Beneficence: Maximizing benefits and minimizing harm (Beauchamp & Childress, 2019)	The research was designed to maximize benefits for participants, their organizations, and the broader academic and practitioner communities. By exploring the adoption and governance of RPA in public organizations, insights were generated that could inform policy and improve operational practices. Qualitative interviews offered participants the opportunity to reflect on their practices, challenges, and successes, thereby fostering organizational learning. Aggregated findings were shared with interested participants, creating a feedback loop that enabled benchmarking and further improvement.

<p>Autonomy: Respecting individuals' rights to make informed decisions (Beauchamp & Childress, 2019)</p>	<p>Autonomy was upheld by ensuring that all participants made informed and voluntary decisions to take part in the study. For the online survey, detailed information about the study's purpose, methods, and ethical commitments (such as data confidentiality) was provided prior to obtaining consent. In the case studies, consent was obtained at the beginning of each interview, and participants were reminded of their right to withdraw at any time. All personal and organizational identifiers were anonymized to ensure confidentiality and respect participants' autonomy.</p>
<p>Justice: Ensuring fairness and equity in participant selection, data handling, and dissemination (Beauchamp & Childress, 2019)</p>	<p>Fairness and equity were ensured in participant selection, data handling, and dissemination of results. In the quantitative phase, probability sampling was applied to capture a diverse range of public sector organizations, while in the qualitative phase, purposive sampling was used to focus on individuals directly involved in RPA implementation. Both positive and challenging aspects of RPA adoption were considered. Findings were transparently reported and shared with participating organizations to ensure equitable access to the research outcomes.</p>
<p>Reflexivity: Ongoing self-examination of the researchers' assumptions, biases, and methodological choices (Cain et al., 2019)</p>	<p>Reflexivity was integrated throughout the research to ensure ethical integrity and methodological transparency. Reflexive journals were maintained throughout the research process to document thoughts, decision points, and disciplinary assumptions arising across all stages of the research, particularly in data interpretation and coding. This ongoing process of critical self-examination helped identification and mitigation of potential biases, thereby ensuring that both quantitative and qualitative phases were conducted with clarity and accountability. These practices contributed to the overall ethical rigor of the research.</p>

3.4.1 Reflexivity and Research Positionality

In conducting this research, mixed-methods approach was adopted combining elements of positivism and interpretivism within a pragmatically informed design (Venkatesh et al., 2023). This positioning allowed for the integration of broad empirical patterns with context-sensitive interpretations, providing a multi-layered understanding of RPA adoption and governance (Greene & Hall, 2010). Such integration also required sustained reflexive awareness of

how methodological choices and interpretive decisions influenced the research process and the knowledge produced through it (Cain et al., 2019).

Throughout the research process, my engagement with the empirical settings, specifically the qualitative case studies, was inherently shaped by my positionality and unique access to the research sites. As a researcher with linguistic and cultural ties to both Turkey and Sweden, my identity facilitated a deeper level of trust and entry into these specific administrative environments. This “insider-outsider” status (Dwyer & Buckle, 2009) allowed me to navigate the distinct bureaucratic nuances of each country, providing access to rich professional accounts of RPA-enabled routines that might otherwise have remained opaque to an external observer.

However, I recognize that this empirical engagement is non-neutral. The articulation and interpretation of these experiences were co-constructed through the interaction between myself as the researcher, the participants, and the institutional context (Walsham, 1995). In line with the pragmatic view in IS research (Goldkuhl, 2004), I acknowledge that my own background influenced the selection of the cases and the subsequent synthesis of the data. Reflexivity, in this dissertation, therefore involved the conscious recognition that the findings were not passively observed but were shaped by the strategic intersection of my identity as a researcher and the privileged access granted by the participating organizations.

4 Results

This chapter presents the findings of the dissertation in alignment with the sequential mixed-methods design. The results are organized into two main sections. Section 4.1 details the findings from the quantitative phase, consisting of a survey study aimed at understanding the current adoption of RPA in Swedish public organizations. Section 4.2 presents the findings from the qualitative phase, involving case studies that delve deeper into how RPA changes routines, generates capabilities, and is governed during scaling process in public organizations. Figure 5 illustrates the interconnectedness of the quantitative and qualitative phases, and shows how the findings from the quantitative phase informed the subsequent qualitative phase. It presents the sequential flow for each qualitative case study (Papers 4, 5, and 6), with the findings from each study guiding the focus of the next. Figure 5 also shows the point at which the data from the individual case studies (Papers 4 and 5) were combined, leading to the analysis in the final case study (Paper 6). At the end of this sequence, all of the insights from Papers 3, 4, 5 and 6 are synthesized as meta-inferences, capturing the collective findings from both the quantitative and qualitative phases.

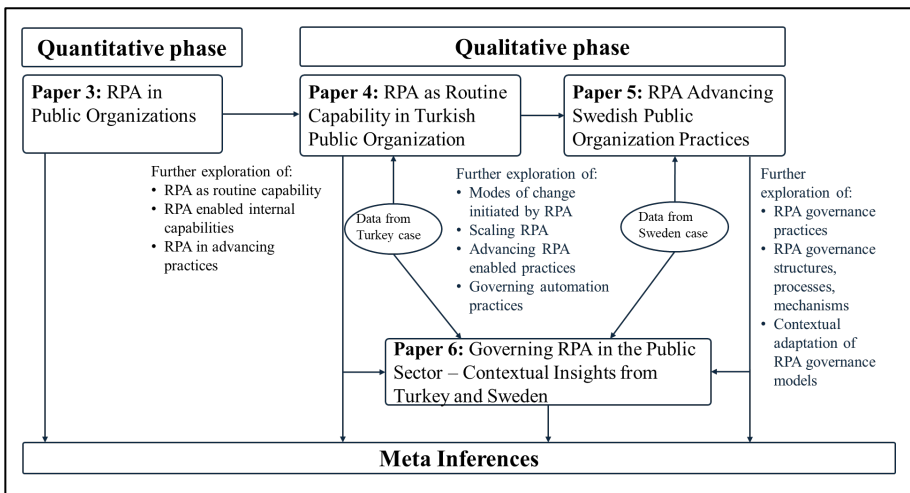


Figure 5: Results flow: Inferences from quantitative to qualitative phases

4.1 Results from Phase 1: Quantitative Study

The quantitative phase sought to address RQ1: “What benefits, routine changes, and challenges emerge from the early adoption of RPA in the public sector?”

This phase is based on Paper 3, which presents a national survey of RPA adoption in Swedish public organizations.

4.1.1 Paper 3: Adoption of Robotic Process Automation in the Public Sector—A Survey Study in Sweden

A comprehensive survey was conducted to examine the adoption of RPA within the Swedish public sector, focusing on motivations, implementation practices, perceived benefits, and governance aspects.

4.1.1.1 Survey Methodology

The survey was emailed to 525 public sector organizations in Sweden, including 235 government agencies and all 290 municipalities. To ensure a broad range of responses, various roles within these organizations were targeted, including IT personnel, administrators, digitalization staff, and employees in strategic roles (e.g., management or policy-related functions). The questionnaire comprised 20 questions, both open-ended and closed-ended. Likert scales, multiple-choice options, and open responses were used to collect data on levels of RPA adoption, routine capabilities, benefits, and governance practices. The online administration of the survey simplified the distribution and data analysis processes (Evans & Mathur, 2005).

4.1.1.2 Survey Findings

Of the 525 organizations that were contacted, 217 responded, representing a 41% response rate. The findings indicated a modest level of RPA adoption within the public sector. Approximately 23% of the organizations were already using RPA, while 39% planned to implement it in the near future, and 38% had no plans to adopt it. The levels of adoption differed between central and local government. Organizations that were not planning to adopt RPA cited reasons such as a low perceived value relative to other digital solutions and concerns over increasing reliance on outdated systems.

The introduction of RPA was reported as leading to the development of new routines and enhanced capabilities within organizations. Ten routine capabilities enabled by RPA were identified: cost reduction and improved public services; enhanced service quality; freeing up employees' time to focus on more strategic and engaging work; reductions in errors; skill development; improved decision making; process orientation; e-service innovation; enhanced digital capabilities; and simplified integration of different systems.

Complaints related to RPA implementation were minimal, probably because the adoption of RPA was in the early stages and because its focus on internal processes was not directly visible to citizens. Organizations considered freeing up time for administrators to be the most significant benefit. The realized benefits related to time-saving and cost reduction were often lower than expected. Some of the benefits, such as knowledge building and improved information quality, were reported by organizations via open-ended responses.

Most of the organizations were using standard RPA software (e.g., UiPath, Blue Prism), and consultants were often involved in the configuration process. Administrative personnel typically took part in managing requirements and setting up robots but had minimal involvement in software procurement. Information regarding governance models and scaling practices was limited.

The survey provided a holistic perspective on the adoption of RPA in Sweden's public sector. Four main dimensions were considered: level of adoption, routine capabilities and changes, benefits and challenges, and RPA governance. The findings revealed that awareness of RPA is high, while actual levels of adoption remain modest, with differences between central and local government entities. RPA enables routine capabilities that enhance organizational practices. However, a gap between expected benefits and actual outcomes was found, highlighting the need for realistic expectations and effective management. Initial governance practices relied on external consultants, indicating the need to develop internal capabilities.

4.1.1.3 Inferences from the Quantitative Phase

The results from the quantitative study underscored the necessity for further investigation into how RPA changes routines and generates capabilities within public organizations. The modest levels of adoption and the identified routine capabilities suggested the potential for RPA to advance organizational practices, warranting a deeper qualitative exploration.

4.2 Results from Phase 2: Qualitative Studies

The qualitative phase addressed RQ2 and RQ3.

- RQ2: How does RPA change routines and generate routine capabilities within diverse public organizations?
- RQ3: How is RPA governed during the scaling process across different public organizations?

This phase consisted of three case studies, Papers 4, 5 and 6:

- Paper 4: “Robotic Process Automation as Routine Capability: A Case Study of a Public Organization in Turkey”

- Paper 5: “From Routine to Automation: How RPA Advances Administrative Practices in Swedish Universities”
- Paper 6: “Governing Robotic Process Automation in the Public Sector: Contextual Insights from Turkey and Sweden”

4.2.1 Paper 4: Robotic Process Automation as Routine Capability—A Case Study of a Public Organization in Turkey

An interpretive case study approach was applied, focusing on a large metropolitan municipality in Turkey that implemented RPA in various departments. Purposive sampling ensured the selection of a public sector entity with multiple RPA implementations and accessibility in terms of in-depth data collection. Data were collected through semi-structured interviews with seven respondents, and were supplemented with secondary sources such as annual action plans, process flow documents, and a YouTube webinar. Thematic analysis was conducted using both theory-driven and data-driven approaches, guided by Swanson's (2019) routine capability perspective.

The scope of RPA as routine capability in the case organization can be described in terms of the departments and processes involved, the types of processes that were automated, interactions with external systems, and changes in how tasks were executed (routine execution). Accordingly, RPA was implemented in eight processes across four departments: finance, HR, public relations, and map planning. The types of processes that were automated were mainly routine, rule-based, and repetitive, requiring data entry, verification, and batch processing. For example, in the finance department, RPA was used to automate the taxpayer verification process, which previously required employees to manually query thousands of records. RPA was also used for processes that required data transfer between different external systems; for instance, in the HR department, RPA was used to interact with the systems of the Social Security Institution. Regarding the routine execution, before RPA was introduced, these tasks were performed manually by employees; after the implementation of RPA, they were executed by software robots, reducing the manual intervention. Employees' roles shifted from performing tasks to monitoring automated processes and handling exceptions.

The scale of RPA as routine capability refers to the extent to which these new capabilities are developed and the levels (individual, organizational, or societal) involved. The automation of eight processes in different departments provided time savings and efficiency gains, representing advances in practices at both the individual and organizational levels.

4.2.1.1 Findings

Three main themes emerged from the study. Firstly, RPA advanced the organization's practices by leveraging its affordances. The implementation of RPA

significantly reduced process completion times; for instance, a task in the finance department that took a year to finish via manual work was completed in two weeks with RPA. Employees redirected their efforts from repetitive tasks to more intellectually engaging work, thereby enhancing productivity and ensuring uninterrupted operation. RPA also improved interactions with inter-organizational e-government systems by facilitating data transfers between systems without APIs, yielding improvements in cross-organizational processes.

Secondly, RPA governance practices emerged from activities related to development, operation, risk management, continuity, and success measurement. Collaboration between the organization's employees and the RPA provider, involving workshops and hackathons, advanced the process knowledge and internal expertise. Building internal RPA teams was essential in terms of managing risks such as process changes and ensuring operational continuity. The ongoing execution and scaling of RPA required knowledge transfer and collaboration with internal sponsors. Clear definitions of roles and responsibilities within the IT department and business units facilitated successful RPA integration.

Thirdly, RPA enhanced existing capabilities (i.e. organizing, communication and IT capabilities) and generated new ones, referred to here as RPA-enabled capabilities. Organizing capabilities involved routines such as workshops and meetings that facilitated collective learning and collaboration. Communication capabilities ensured effective interaction between business units, the IT department, and the RPA provider, minimizing resistance and facilitating maintenance. IT capabilities, including project management and software development routines, were essential for the deployment and operation of RPA.

4.2.1.2 Inferences from Paper 4

RPA acted as routine capability, cultivating new capabilities and enhancing existing ones within the organization. Successful implementation depended on integrating governance practices and adapting routines to the evolving capabilities introduced by RPA.

4.2.2 Paper 5: From Routine to Automation—How RPA

Advances Administrative Practices in Swedish Universities

An interpretive, case study approach was employed, with a focus on two Swedish public universities referred to as Alpha and Delta, which were at different stages of the RPA adoption process. Nine participants were interviewed, including university employees involved in RPA projects and a representative from the RPA provider company. Data collection was done via semi-struct-

tered interviews and secondary sources such as project documents, annual reports, and news articles. Thematic analysis (Braun & Clarke, 2006) was guided by Swanson's (2019) routine capability perspective.

The scope of RPA as routine capability in the case universities included the departments and processes affected, the types of processes that were automated, inter-departmental integration, and changes in how tasks were executed. At Alpha University, RPA was implemented in two departments, namely the finance department and the library. At Delta University, RPA was implemented in finance and HR departments. The types of automated processes were mainly administrative, rule-based, and repetitive; examples included student invoicing, supplier registration, and financial corrections. RPA facilitated inter-departmental data transfer between systems, such as between the finance and HR systems. Several changes in task execution leading to new roles, responsibilities and organizational structures such as CoEs were observed at both universities. Furthermore, at Delta University, improved interaction and collaboration with external stakeholders was included in the scope of the routine capability.

The scale of RPA as routine capability was expanded across multiple levels at the case organizations. At Alpha University, six processes were automated, whereas at Delta University, the number of automated processes was around 20. In both cases, changes were identified at both the individual and organizational levels. At the individual level, the employees' work shifted from manual processing to automation supervision and exception handling, which involved new responsibilities and roles. At the organizational level, the development of a CoE at Delta University expanded the diffusion of routine capabilities in an organized way. Furthermore, engagement in knowledge-sharing networks for automation diffusion was observed at Delta University as an extension of routine capability development.

4.2.2.1 Findings

The implementation of RPA advanced routine capabilities and changed organizational practices across four dimensions: design, execution, diffusion, and shift.

In the design phase, the introduction of RPA led to the creation of new processes and routines. Non-IT staff were empowered to identify and automate processes, enhancing engagement and aligning automation with operational needs. The iterative nature of RPA development encouraged continuous learning, process optimization, and collaboration across departments.

During execution, RPA became integrated into daily operations, reshaping roles and responsibilities, and influencing organizational structures. The formation of a CoE for managing automation efforts demonstrated that RPA execution could lead to new organizational entities. The development of the required organizational capabilities, such as a culture of innovation, technical knowledge, cross-departmental cooperation, planning for re-skilling, and

leadership involvement, was critical. Support from top management was essential for engaging employees and overcoming challenges associated with RPA implementation.

In the diffusion phase, the adoption of RPA was expanded within the universities, which involved the dissemination of automation capabilities across departments and the emergence of collaborative networks. Employees gained digital skills, such as process mapping and robot development, laying the groundwork for broader automation initiatives. Knowledge sharing across universities enabled the sharing of best practices, driving further automation and creating a supportive environment for the scaling of RPA across different public organizations.

In the shift phase, automation practices moved beyond RPA to incorporate advanced automation technologies, signifying profound advances in organizational routines. The evolving vision for automation allowed organizations to adopt more advanced technologies, while roles transitioned towards a more technology-oriented workforce with increasing responsibility for managing and optimizing automation.

4.2.2.2 Challenges and Tensions

Challenges were identified in integrating RPA with existing IT infrastructures and overcoming skill gaps in the areas of process mapping and robot development. Scaling of automation was hindered by the need for cross-departmental collaboration; tensions arose due to the reluctance of IT departments to use RPA and resistance from process owners who feared losing control over their processes and the added complexity that automation might introduce to their daily work.

4.2.2.3 Inferences from Paper 5

Involving non-IT employees and fostering collaboration led to comprehensive organizational changes, with the potential effects of RPA becoming larger when the business side was more involved in automation. Effective governance structures were necessary for scaling and sustaining automation initiatives. These findings highlighted the need to govern RPA effectively, especially when scaling automation to realize greater benefits while managing challenges and reducing risks.

4.2.3. Paper 6: Governing Robotic Process Automation in the Public Sector: Contextual Insights from Turkey and Sweden

An exploratory case study design was used to investigate how public organizations establish and adapt governance models as RPA initiatives evolve. Data were collected through semi-structured interviews with 16 participants who involved in RPA projects within their organizations, as well as secondary

sources such as internal documents and project materials. The data were analyzed using three theoretical frameworks: the ITG framework (De Haes & Van Grembergen, 2006), the lightweight IT governance framework (Bygstad & Iden, 2017), and the factors influencing RPA governance models (Borghoff & Plattfaut, 2022).

4.2.3.1 Findings

In the Turkish case, RPA governance was led by the IT department and was highly centralized, with clearly defined roles for IT staff. A top-down structure was in place, in which approval from the Chief Information Officer (CIO) was required for all automation projects. Strategic decisions regarding RPA were primarily made by the IT department, with automation being tightly controlled and external vendors providing support. Knowledge sharing between departments was relatively limited, with communication primarily occurring between the IT department and the individual business units.

In the Swedish case, RPA began as a localized, business-led initiative within administrative departments. As the number of automated processes increased, a federated governance model developed in which centralized coordination was combined with decentralized execution. Roles and responsibilities were clearly defined, and included RPA ambassadors, coordinators, developers, and controllers guided by the CoE within the finance department. Strategic decision-making was handled by the CoE and integrated with the strategic goals of individual business units. Open communication and knowledge exchange were prioritized, both internally and externally. The leadership actively supported the adoption of RPA by providing resources and showing commitment.

Although both the Turkish and the Swedish cases used centralized elements in their RPA governance, their initial approaches and development paths differed. The Turkish case relied on a centralized, IT-driven model which remained stable during scaling, whereas in the Swedish case, there was a transition from a decentralized approach to a federated model with a CoE. There were major differences in the distribution of responsibilities, role definitions, governance processes, and relational mechanisms. Despite these differences, however, there was a commitment in both contexts for building internal RPA capabilities, decreasing reliance on consultants, and formalizing governance arrangements as RPA was scaled within the organizations.

4.2.3.2 Inferences from Paper 6

The study showed that RPA governance in public organizations is contextually adaptive, evolving through continuous adjustments rather than fixed models. Governance structures, processes, and relational mechanisms develop as automation is scaled, shaped by factors such as system complexity, automation maturity, and institutional context. The Turkish and Swedish cases illus-

trate distinct forms of governance: in the Turkish case, governance has remained centralized and IT-led, with formal decision rights and oversight located within the IT department, while the Swedish case, demonstrates a transition from decentralized experimentation toward a more federated model. The effectiveness of governance therefore depends on how structures, responsibilities, and coordination mechanisms are adapted to the contextual conditions under which automation is developed.

4.3 Meta-Inferences from the Findings

Synthesis of the findings from both the quantitative and qualitative phases allows for a deep understanding of the adoption and governance of RPA in public organizations. In the following, the meta-inferences drawn from the results are organized into three categories:

- RPA as a catalyst for advancing organizational routines and capabilities
- Emergence and impact of RPA governance models in public organizations
- Challenges and opportunities in scaling RPA: The roles of the organizational context and relational mechanisms

4.3.1 RPA as a Catalyst for Advancing Organizational Routines and Capabilities

The collective findings demonstrate that RPA serves as a powerful catalyst for changing organizational routines and enhancing capabilities within public organizations.

In the quantitative phase (Paper 3), it was revealed that the early stage of RPA adoption, although modest, leads to the emergence of new routine capabilities such as improved process efficiency, enhanced service quality, and freeing up employees to engage in more strategic tasks. These capabilities represent not simply operational improvements but also a shift in how organizations approach their work. The implementation of RPA demands new skill sets and evolving roles for administrators, who become involved in the requirements management, setup of robots, and oversight of the processes, meaning that training and support are required for staff to adapt to new responsibilities. The integration of RPA necessitates a process-oriented approach, often requiring process re-engineering to optimize systems for automation. The results highlight the need for organizations to embrace these changes in routines, as they are crucial for successful RPA implementation.

The qualitative studies provided deeper insights into this change. In the Turkish municipality, RPA significantly reduced process times and improved interactions with other e-government systems, fostering new organizing and

communication capabilities. The implementation of RPA required IT capabilities, including project management and software development routines, highlighting the need for organizations to build internal competencies.

In the Swedish universities, RPA led to comprehensive changes across the dimensions of design, execution, diffusion, and shift. Empowering non-IT employees to lead automation initiatives resulted in the creation of new processes and routines, fostering innovation and collaboration. The iterative nature of RPA development encouraged continuous learning and process optimization. As automation practices evolved, organizations began to adopt advanced technologies, signifying changes in organizational routines and a move towards a more technology-oriented workforce.

These findings underscore that RPA is not merely a tool for automating tasks but a technology that reshapes organizational routines and capabilities. To ensure the successful implementation of RPA, organizations need to adapt their practices, embrace innovation, and develop new skills and competencies among their staff. Such change extends beyond efficiency gains and includes cultural shifts towards continuous improvement and innovation.

4.3.2 Emergence and Impact of RPA Governance Models in Public Organizations

The governance of RPA emerged as a critical determinant of the success and scalability of RPA initiatives. The quantitative findings indicated that initial governance practices often rely on external consultants, with limited internal involvement in strategic decision making. This reliance suggests a gap in internal governance structures that could impede the sustainable adoption and scaling of RPA.

The qualitative studies highlighted how governance models evolve and impact on the implementation of RPA. In the Turkish municipality, a centralized, IT-driven governance model offered tight control over RPA projects but limited the cross-departmental collaboration and knowledge sharing. This approach may have constrained the potential for innovation and scaling, as the IT department held the primary responsibility for RPA initiatives.

Conversely, the Swedish universities adopted a federated governance model that evolved from a decentralized approach. The establishment of a CoE allowed for centralized coordination while enabling decentralized execution. This model promoted collaboration, open communication, and the involvement of various stakeholders, including non-IT staff and students. The governance structures facilitated scaling, integration with strategic goals, and continuous improvement, demonstrating that tailored governance models can enhance the effectiveness of RPA initiatives.

The differences in these governance models illustrate that there is no singular best approach; rather, governance structures must be aligned with organizational contexts, cultures, and strategic objectives. Effective governance is

pivotal for managing risks, ensuring alignment with organizational goals, and supporting the scaling of RPA. Organizations must establish clear roles and responsibilities, develop internal capabilities, and foster leadership support to navigate the complexities of RPA governance.

4.3.3 Challenges and Opportunities in Scaling RPA: The Role of Organizational Context and Relational Mechanisms

The scaling of RPA from early adoption (i.e., pilot projects) to full deployment requires the navigation of both challenges and opportunities, with the organizational context and stakeholder collaboration playing crucial roles.

The quantitative phase of this research (Paper 3) revealed a complex interplay between the anticipated benefits and practical realities in early RPA adoption. RPA offers significant potential in terms of streamlined processes, enhanced efficiency, and freed human resources. Organizations expect benefits such as cost reduction, improved service quality, reduced errors, and the liberation of employees from mundane tasks, enabling focus on strategic work. However, translating this potential into realized benefits involves a more proactive approach, in which organizations implement necessary routine changes, develop internal expertise, and establish appropriate governance models. Careful navigation of these complexities enables RPA to transform operations and enhance efficiency, thereby supporting the realization of intended automation objectives.

The qualitative studies (Papers 4, 5, and 6) identified specific challenges in scaling RPA, associated with the integration of RPA with existing IT infrastructures, overcoming skill gaps, and managing resistance from IT departments and process owners. These challenges highlight the necessity of considering technical, organizational, and human factors. The organizational context plays a particularly important role in how these challenges are experienced and addressed; for example, the centralized governance model in the Turkish case may offer limited opportunities for cross-departmental collaboration, thereby hindering the scaling process, whereas in the Swedish case, the emphasis on collaboration and empowerment of non-IT staff facilitated the dissemination of automation capabilities and the emergence of collaborative networks.

Collaboration emerges as an essential enabler for overcoming challenges and leveraging opportunities in scaling RPA. Empowering employees across departments to participate in RPA initiatives fosters innovation, builds internal capabilities, and enhances engagement. Leadership support, together with a culture that encourages experimentation and learning, is important for navigating the complexities of scaling. Through collaboration, organizations can more effectively integrate RPA into their operations, address resistance, and capitalize on emerging opportunities.

As RPA becomes more embedded in organizational routines and is integrated with broader digitalization strategies, the opportunities associated with scaling automation extend beyond operational efficiencies. However, realizing these opportunities requires deliberate efforts to address challenges, adapt to organizational contexts, and foster collaboration at all levels of the organization.

5 Discussion

This chapter interprets the research findings within a broader theoretical and practical context, examining how the adoption of RPA in public organizations influences organizational routines, governance models, and scaling processes. It discusses how RPA serves as a catalyst for advancing organizational routines and capabilities, fostering innovation, and enabling new ways of working. The chapter also discusses the emergence of RPA governance models, highlighting their context-dependent structures. Additionally, it addresses the challenges and opportunities associated with scaling RPA, emphasizing the need for strategic governance. The chapter concludes by outlining the theoretical contributions of the dissertation, its implications for practice, and reflections on the mixed-methods approach employed in the research.

5.1 RPA as a Catalyst for Advancing Organizational Routines and Capabilities

The findings indicate that RPA acts as a catalyst for change in organizational routines and enhances capabilities within public organizations. The adoption of RPA extends beyond the automation of repetitive tasks: it instigates a fundamental shift in how work is organized and executed. This transformation aligns with Swanson's (2019) routine capability perspective, which posits that technology can generate new routines that become deeply embedded in organizational practices, thereby redefining how routines are structured, enacted, and developed.

The empowerment of non-IT employees to participate in automation initiatives, as observed in the qualitative studies, underscores the democratization of technology within organizations. This shift facilitates innovation, fosters a culture of continuous learning, and enhances collaboration across departments. It resonates with the concept of dynamic capabilities, which emphasizes an organization's ability to integrate, build, and reconfigure internal and external competencies to adapt to rapidly changing environments (Teece et al., 1997). The role of support structures such as CoEs in sustaining RPA democratization cannot be overstated (Biedova et al., 2024; Eggers et al., 2023). By providing governance and guidance, these structures enable organizations to

continuously refine their RPA practices, adapt to changes, and develop new capabilities over time (Paper 5).

Furthermore, RPA's role in improving process efficiency and service quality reflects its potential to enhance public value. By freeing employees from mundane tasks, RPA allows them to focus on more strategic and engaging activities, thereby increasing job satisfaction and productivity. This finding supports the argument that technological advancements can lead to more meaningful work and better organizational outcomes (Brynjolfsson & McAfee, 2014).

In Paper 3, the survey provides a broad overview of changes in routine capabilities associated with RPA adoption, indicating a shift from manual, repetitive administrative tasks toward more analytical and decision-oriented work. Changes are particularly noticeable in administrative routines, such as payroll processing, case management, and data entry in finance, HR, and other administrative practices. These changes reflect shifts in how work is performed, with new forms introduced and incorporated into existing practices, providing insight into how RPA alters routines and enables new forms of practices. Although the initial motivation for the adoption of RPA is to save time and reduce the cost of case management, the survey (Paper 3) and the case studies (Papers 4 and 5) reveal that organizations are developing new routine capabilities that extend beyond simple task automation.

One of the primary findings from these papers is that RPA governance practices are enacted through evolving routines that are essential for developing capabilities to support the deployment, management, and scaling of automation. For example, Paper 4 demonstrates that the IT department's role in managing RPA, which involved overseeing the deployment and monitoring of RPA systems, resulted in the emergence of RPA governance structures to manage automation effectively. In addition, RPA-enabled capabilities illustrate how organizational routines evolve, particularly in the areas of organizing, communication, and development of IT competencies necessary for the implementation and execution of RPA.

The modes of change initiated by RPA offer a detailed examination of how RPA advances organizational routines through design, execution, diffusion, and shift—each representing a stage in the evolution of RPA within public organizations. These modes provide a structured understanding of how RPA initiates and sustains changes within Swedish universities (Paper 5). In the design mode, RPA facilitates the creation of new processes and routines by democratizing automation, allowing non-IT employees to actively participate in automation initiatives. This inclusiveness promotes the development of collaborative workflows and cross-functional cooperation between IT and business units. In the execution mode, significant changes in roles and responsibilities occur, with the CoE controlling the operation and management of RPA. Change by diffusion reveals how RPA is scaled across various departments within a single organization, and how this is facilitated by the formation

of collaborative networks for knowledge sharing across multiple universities. This approach enables the widespread diffusion of automation practices. Finally, in the change by shift, RPA acts as a catalyst for evolving the organizational vision, positioning these universities to integrate more advanced automation technologies such as AI. In accordance with van der Aalst et al. (2018), this expansion broadens the ability of RPA to handle more complex tasks. In practice, as organizations move beyond RPA, they must invest in training and oversight to ensure that advanced forms of automation contribute to routine capability development without compromising their legal and ethical obligations (Wirtz et al., 2018). A recent empirical study by Kim (2026) illustrates this trajectory of AI-based automation. Accordingly, the efficiency gained through the deployment of domain-specific small language models (SLMs) in administrative tasks must be complemented by structured human oversight, validation procedures, and clearly defined accountability arrangements to ensure the reliability of outputs (Kim, 2026).

In summary, RPA serves as a catalyst for advancing organizational routines and capabilities in public organizations. By generating new routines and reshaping existing ones, RPA enables organizations to enhance their operational processes and develop new capabilities. This change is supported by the emergence of RPA governance practice and the various modes of change that facilitate the integration and scaling of RPA within organizations.

5.2 Emergence and Impact of RPA Governance Models in Public Organizations

The dissertation highlights the critical role of governance in the successful implementation and scaling of RPA. The evolution of the governance model from a decentralized form to more federated or balanced structures in the Swedish case illustrates the need for adaptability in governance practices. This finding aligns with Weill and Ross's (2004) assertion that effective IT governance aligns IT investments with organizational goals while allowing for flexibility and responsiveness.

In the Turkish case, a centralized governance model facilitated control over RPA projects but limited the cross-departmental collaboration and innovation. This approach can ensure consistency in policy implementation and resource allocation but may impede innovation, a major potential benefit and learning opportunity associated with RPA (Bygstad & Iden, 2017). In contrast, the Swedish case demonstrated a combination of centralized coordination with decentralized execution, which enabled greater engagement from business units and fostered innovation, reflecting the benefits of ambidextrous organizations that balance exploitation and exploration (O'Reilly & Tushman, 2013).

The cross-national perspective (Turkish vs. Swedish) further suggests that context shapes governance outcomes. The differences in approaches to governance reflect Borghoff and Plattfaut's (2022) emphasis on tailoring RPA governance to context-specific factors, such as lead, automation maturity, system complexity, and organizational structure. The influence of national policies and organizational autonomy on RPA governance highlights that standardized best practices may require adaptation to local contexts, as identified by Zhong et al. (2012). Consequently, public organizations may need to refine their governance frameworks in ways that reflect national administrative cultures and the unique demands of public service delivery.

The integration of lightweight IT principles (Bygstad & Iden, 2017) into governance models underscores the importance of agility and user involvement in the digital era. As organizations adopt RPA and other emerging technologies, governance frameworks must evolve to accommodate new ways of working, encourage innovation, and manage risks effectively.

5.3 Challenges and Opportunities in Scaling RPA

Despite the benefits, scaling RPA introduces several challenges. These include skill gaps, integration with existing IT infrastructures, and forms of resistance within organizations, particularly among process owners who are concerned about loss of control and increased complexity, as well as within IT departments that are hesitant to adopt the new technology. These challenges highlight the socio-technical nature of technological change, in which both social and technical factors must be reconciled (Trist & Bamforth, 1951). Addressing these challenges require effective change management strategies, including clear communication, training, and leadership support. These aspects are well-established in models of organizational change. For example, Kotter's (1995) model that emphasizes the importance of creating a sense of urgency, building a guiding coalition, and empowering broad-based action to facilitate change.

Notably, while prior studies have cautioned that RPA in the public sector might diminish employees' discretion or erode transparency and accountability (Ranerup & Henriksen, 2019; Johansson et al., 2023), the findings from this research do not support such concerns; instead, participants indicated that RPA was deployed principally for routine, rule-based tasks where professional judgment played a minimal role. Since these automated tasks did not typically involve complex decision-making or individualized citizen interactions, the scope for compromising discretion appeared to be limited. It is plausible that concerns raised in previous work by Johansson et al. (2023), such as "black-box" AI elements and opaque decision making, may be more pronounced when automation relies heavily on advanced algorithms or unstructured data processing, which was not the case in the organizations studied here.

Taken together, these observations suggest that the realization of risks to discretion or accountability may depend on contextual and process-specific factors, as described by Borghoff and Plattfaut (2022). In particular, the nature of the tasks being automated, the maturity of governance mechanisms, and the organization's existing culture around transparency and professional autonomy appear to be decisive. In the settings examined here, careful task selection, clear role delineations, and ongoing human oversight indicate a mitigation of any adverse impact on discretion. Rather than displacing professional judgment, RPA enabled employees to redirect their efforts to higher-value activities, thereby upholding if not strengthening public sector values of accountability and transparency.

The dissertation also suggests opportunities for leveraging RPA for broader digital transformation. By developing internal capabilities and fostering a culture of innovation, public organizations can enhance their adaptability and responsiveness to changing demands. This corresponds with Binzer and Winkler (2022), who identified a cultural shift toward broader digital competencies among employees through the democratization of IT skills. This resonates with the principles of learning organizations, which prioritize continuous improvement and knowledge sharing (Senge, 1990).

5.4 Contributions to Knowledge

This research contributes new knowledge to the understanding of how emerging technologies, such as RPA, changes organizational routines and capabilities in public organizations. By applying Swanson's (2019) routine capability perspective, the dissertation extends the discourse on technology-enabled organizational change. It demonstrates that RPA not only automates tasks but also initiates broader transformations within organizations, necessitating the development of new routines and capabilities. This underscores the dynamic interplay between technology and organizational practices, highlighting how RPA serves as a catalyst for reconfiguring processes and fostering innovation.

The findings also underscore the importance of organizational routines and capabilities in driving successful RPA implementation. By exploring RPA through the lens of routine capability, this research demonstrates how automation technologies can alter organizational processes and practices. This theoretical contribution deepens the understanding of RPA's influence on routines and capabilities, illustrating how RPA integrates into and enhances existing capabilities within public organizations, thereby advancing the theory of technology as routine capability (Swanson, 2019).

Moreover, by examining RPA governance across diverse national contexts, this research extends the extant understanding of how RPA can be implemented and scaled within different public sector organizations. The analysis

of governance models in Turkey and Sweden reveals the role of contextual elements, such as cultural and organizational factors, in shaping governance choices and outcomes. This finding enriches the current literature by demonstrating that governance models must be adaptable to specific administrative and cultural environments, contributing to broader discussions of RPA's role in public sector innovation.

The integration of traditional IT governance principles (De Haes & Van Grembergen, 2006) with concepts of lightweight IT (Bygstad & Iden, 2017) provides a nuanced understanding of how governance can support innovation while maintaining control and alignment with strategic objectives. This emphasizes that governance structures must adapt to address the unique challenges and opportunities posed by RPA, balancing the oversight and flexibility required for innovation.

By situating the findings within the broader digital government discourse, the dissertation advances the empirically grounded understanding of how digital transformation is enacted in practice. It shows that changes in organizational routines and capabilities constitute a key mechanism through which transformation unfolds, moving beyond high-level conceptualizations of digital government. In this respect, the dissertation demonstrates how localized automation initiatives become embedded in administrative practices and, over time, contribute to more sustained and systemic forms of transformation. In doing so, the dissertation offers a theoretically grounded account that links micro-level changes in routines and capabilities to broader processes of public sector transformation, thereby situating these dynamics at the intersection of information systems and digital government research. This perspective suggests that, in the context of RPA, transformation is not driven solely by technological adoption but unfolds through the interaction between organizational practices and evolving governance models.

5.5 Implications for Practice

The findings of this research have several practical implications for public organizations considering or currently implementing RPA. Firstly, public organizations should develop a clear RPA strategy in which the immediate benefits are balanced against the need for long-term scalability. A primary element of this strategy should be the integration of RPA governance from the outset. By embedding governance structures at an early stage, organizations can ensure alignment with strategic goals, manage risks effectively, and facilitate the scaling of RPA initiatives.

RPA is typically used to automate routine, rule-based tasks, but this should not diminish attention to design and control; public organizations should carefully select processes and ensure human oversight in more complex scenarios. This approach not only helps to maintain the ability of public employees to

exercise their professional judgment but can also strengthen transparency by generating auditable logs of automated workflows.

Investment in training and development to build internal RPA capabilities is essential. Public organizations should upskill employees in both technical and process management areas in order to reduce reliance on external consultants and to ensure the sustainability of RPA initiatives. CoEs or similar structures can be established to provide oversight, promote knowledge sharing across departments, and serve as centralized hubs for expertise and support.

To ensure the success of RPA, it is essential to address issues related to employee resistance and managing change. Clear communication about the benefits of RPA, early involvement of IT departments in the automation process, and support from top management can help to mitigate resistance and to foster a positive attitude towards automation across the organization. Employees can be engaged in planning and implementation to alleviate concerns and emphasize the value of RPA in improving work quality and creating opportunities for professional growth.

Furthermore, organizations should consider the organizational factors that influence the adoption and governance of RPA. An understanding of the specific administrative and cultural environments in which they operate allows public organizations to tailor their governance models accordingly. This adaptability ensures that RPA initiatives are responsive to contextual nuances, thereby enhancing their effectiveness and sustainability.

Finally, the alignment of RPA initiatives with broader digitalization efforts is necessary. RPA should be viewed not as an isolated tool but as part of a comprehensive digital transformation approach. By integrating RPA into the overall digital strategy, public organizations can leverage automation to drive innovation, improve service delivery, and enhance public value. This strategic alignment facilitates resource allocation, stakeholder buy-in, and long-term sustainability, ensuring that RPA initiatives contribute meaningfully to organizational objectives.

5.6 Reflections on the Mixed-Methods Approach

The application of the mixed-methods approach in this dissertation enriched the research by combining the breadth of quantitative data with the depth of qualitative insights. The sequential design allowed the quantitative findings to inform the qualitative phase, ensuring that the exploration was grounded in observed trends and addressing gaps identified in the initial survey. This integration facilitated a more nuanced understanding of RPA adoption and its impact, capturing both general patterns and specific contextual factors.

The mixed-methods approach enabled the triangulation of data, enhancing the validity and reliability of the findings (Venkatesh et al., 2013). By corroborating quantitative results with qualitative evidence, the credibility of the

conclusions was strengthened, as described by Venkatesh et al. (2013), who advocate for mixed-methods in information systems research to provide holistic and robust insights.

However, when integrating data from different methodologies, careful consideration was required to ensure coherence and avoid inconsistencies. Methodological rigor was essential in order to align the research questions, data collection, and analysis across both phases. The main challenge lay in synthesizing findings from different paradigms while maintaining the integrity of each methodological approach. Attention to methodological compatibility and transparency was needed to effectively combine the strengths of quantitative and qualitative methods.

The mixed-methods design also allowed for flexibility in the research process. The initial quantitative phase provided a broad overview of RPA adoption, highlighting areas that required deeper exploration. The subsequent qualitative phase then focused on these areas, exploring the mechanisms underlying the observed trends and providing a rich, contextualized understanding. This iterative process enhanced the responsiveness of the research process to the emerging insights.

Reflecting on the mixed-methods approach, it is evident that the mixed-methods design offers substantial benefits for studying complex phenomena such as RPA adoption in public organizations. It enables to capture the multifaceted nature of technological change, encompassing both measurable outcomes and nuanced human experiences. This comprehensive perspective can inform more effective strategies and interventions by providing a robust evidence base that addresses both the ‘what’ and the ‘why’ of observed phenomena.

For future research, the mixed-methods approach could be further refined by applying alternative designs, such as concurrent mixed-methods design, in which quantitative and qualitative data are collected simultaneously. This may provide additional insights into the dynamics of RPA adoption as they unfold in real time, capturing the interplay between immediate perceptions and contextual factors. Additionally, employing longitudinal mixed-methods studies could examine changes over time, enriching the understanding of the evolution of practices and governance models.

6 Conclusion

This dissertation sets out to explore the adoption and governance of RPA in public organizations, focusing on how RPA changes organizational routines and capabilities, the emergence of governance models during scaling, and the challenges associated with RPA adoption. By employing a mixed-methods approach that integrates quantitative and qualitative data, the research provides a deep understanding of RPA's role in advancing the public sector's administrative practices. This chapter concludes the dissertation by revisiting the research questions, synthesizing the key research findings, and presenting the dissertation's contributions. The chapter also acknowledges the societal consequences and limitations of this research and outlines directions for future research, suggesting areas for further exploration.

6.1 Research Questions and Findings Revisited

This dissertation was guided by three primary research questions. Firstly, it sought to identify the benefits realized, the changes in routines, and the challenges faced by public organizations in adopting RPA. Secondly, it aimed to understand how RPA alters organizational routines and generates new capabilities within public sector practices. Thirdly, it examined how RPA is governed during the scaling processes in public organizations.

The quantitative findings revealed that while there is high awareness of RPA among Swedish public organizations, the actual level of adoption remains modest. Organizations that have implemented RPA report benefits such as enhanced process efficiency, improved service quality, reduced errors, and freeing up employees to focus on more strategic tasks. However, challenges have been identified in relation to skill gaps, resistance to change, integration issues with existing IT systems, and discrepancies between the expected and actual benefits.

The qualitative studies demonstrated that RPA acts as a catalyst for advancing organizational routines and capabilities; it not only automates tasks but also initiates the development of new routines and alters existing ones, requiring employees to develop new skills and competencies. Empowering non-IT staff to engage in automation initiatives fosters innovation, collaboration, and a culture of continuous learning. The influence of RPA extends beyond mere

automation to the reshaping of processes and practices and aligning with the routine capability.

The research highlighted the critical role of governance in the successful implementation and scaling of RPA. The evolution from a decentralized governance model to federated structures underscores the need for adaptability in governance practices. Effective governance frameworks integrate traditional IT governance principles with concepts of lightweight IT, balancing the control with flexibility required to support innovation. Cultural and organizational factors significantly influence governance choices and outcomes, underscoring the need for context-specific, adaptable governance models.

6.2 Ethical and Societal Consequences

The findings of this research carry significant ethical and societal implications, particularly concerning the future of public service delivery and the evolving nature of the public sector workforce. As RPA transitions from a technical tool to a catalyst for organizational routine change, it raises critical questions regarding algorithmic accountability (Diakopoulos, 2016) and the digital divide within governance (Johansson et al., 2023).

From a societal perspective, the shift toward “routine capabilities” and the empowerment of non-IT staff fosters a culture of continuous learning, but there is also a risk of marginalizing employees who lack the digital skills to adapt. While this research indicates that RPA can reduce errors and free staff for strategic tasks, an ethical challenge arises in regard to ensuring that the automation does not lead to inequality in the workforce (Borry & Getha-Taylor, 2019) or the erosion of institutional knowledge. Public organizations must balance the drive for efficiency with a commitment to inclusive professional development to prevent an internal labor divide.

From an ethical standpoint, the evolution toward federated and lightweight governance models requires careful recalibration of transparency and control. As automation becomes more decentralized, it becomes paramount to preserve public trust by maintaining clear lines of accountability for automated decisions. The discrepancy between expected and actual benefits further underscores the ethical considerations in innovation: public administrators must avoid “automation for automation’s sake” (Toll et al., 2023) and ensure that scaling initiatives remain aligned with the public interest.

Finally, the cross-national insights suggest that a “one-size-fits-all” approach to RPA is ethically problematic. Since governance is deeply influenced by cultural and organizational factors, the imposition of rigid, standardized automation models on diverse administrative contexts may lead to systemic biases or service failures. As Janowski (2015) emphasizes, responsible digital transformation requires context-specific adaptability. In this regard, the adoption of RPA in public organizations should be aligned with the institutional

conditions and public values of specific administrative contexts to ensure that automation supports, rather than undermines, principles such as equity, accessibility, and reliability in public service delivery.

6.3 Research Limitations

While this dissertation makes theoretical and practical contributions, certain limitations must be acknowledged. The quantitative phase, based on the survey with a 41% response rate, may not fully represent the entire population of public organizations in Sweden. The generalizability of the findings could be affected by non-response bias. The qualitative case studies focused on specific organizations in Turkey and Sweden, providing in-depth, context-specific insights but limiting the ability to generalize findings to other countries or organizational settings with different cultural, administrative, or technological environments.

The dissertation captures a specific moment in time, and given the rapid evolution of technology, the findings may not reflect future developments or long-term impacts of RPA adoption. Integrating quantitative and qualitative data posed methodological challenges, particularly in ensuring coherence and consistency. While efforts were made to align the methodologies, differences in data types and analysis techniques may have affected the integration of findings.

While this dissertation provides insights into digital government transformation, it does so by focusing specifically on the micro-level mechanisms of RPA adoption, routine changes, and governance within public organizations in Sweden and Turkey. The broader, systemic evolution of digital government is addressed as the overarching context rather than the primary object of inquiry. Consequently, while the findings offer a deeper understanding of how localized automation projects imply larger shifts, a comprehensive macro-level analysis of the entire transformation trajectory across public sectors remains beyond the scope of this thesis.

6.4 Directions for Future Research

Building on the insights from this dissertation and acknowledging its limitations, several avenues for future research emerge. Firstly, expanding the empirical scope to include a broader range of public organizations across different countries and sectors would strengthen the generalizability of the findings and yield a more comprehensive understanding of how contextual factors shape RPA adoption and governance. In line with Janssen et al. (2025), further

comparative research across different institutional systems is particularly important, as the outcomes of digital government initiatives are highly context-dependent (Janowski, 2015).

Secondly, given that this dissertation captures RPA adoption at a specific point in time, future research would benefit from longitudinal designs that examine how organizational routines, capabilities, and governance models evolve over time. Such approaches are particularly valuable for identifying longer-term developments, including changes in work practices and the emergence of societal consequences that may not be immediately observable.

Thirdly, the mixed-methods approach could be further refined in future studies by exploring alternative research designs. For example, concurrent mixed-methods design, in which quantitative and qualitative data are collected simultaneously, may provide a more integrated understanding of RPA adoption as it unfolds.

Finally, while this dissertation focuses on RPA as a specific form of automation, future research could extend the analysis to consider broader configurations of the technologies used to automate public administration. As noted by Sundberg and Holmström (2024), AI research in the public sector is undertheorized (Zuiderwijk et al., 2021) and robust empirical investigation is lacking (Sun & Medaglia, 2019). Building on the findings of this dissertation, future research could examine how similar mechanisms such as the configuration of routines, the development of capabilities, and the governance arrangements apply to more complex automation technologies. This could advance the understanding of how digital government transformation unfolds as public organizations adopt and operationalize different forms of automation within their administrative practices.

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