RPA in HR – Case Finn Church Aid

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Abstract

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RPA (Robotic Process Automation) has been offering organisations the opportunity to streamline processes for a decade. The thesis topic was to support an organisation that has not yet become familiar with the possibilities of RPA and has not made a roadmap for implementing RPA to get started. The goal of the development project was to find the so-called low-hanging fruits for automation, i.e. the most potential processes that are relatively easy and fast to automate and can achieve the most significant benefits. The research method of the thesis was a case study, and the development project was focused on dealing with the processes and tasks of the HR team of the target organisation.

The theoretical part of the thesis first introduced the basic concepts, uses and benefits of RPA. After that, research was delved into how potential automation use cases can be found and what factors make a process potentially suitable for RPA. The most potential use cases for automation are high-volume, frequently repeated processes where data is structured and digital.

At the beginning of the development work, HR team members were given a brief introduction to RPA, after which they were interviewed to collect ideas for potential RPA tasks and processes. To process a total of 88 ideas, a special process analysis tool was designed for the organisation's use, which helps its users identify processes suitable for automation with as few work steps as possible and further analyse the most potential processes among them.

A process analysis was performed for 19 selected processes that were assessed as potential. Of these, 12 potential processes were found, of which the five most timesaving were found to be the lowest-hanging fruit. Along with the results, the report also planned follow-up actions to promote the implementation of RPA in the target organisation and compiled essential observations during the project and suggestions for the target organisation.

Keywords
Robotic Process Automation (RPA), Human Resources, process analysis, automation

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1 Introduction

Although robotisation began in manufacturing decades ago, its application to business processes is more recent. It is gaining momentum, particularly in service sectors such as finance, insurance, logistics, and public administration. RPA has been used in the corporate world for several years, and its adoption continues to grow steadily year by year. Most available statistics and case studies focus on RPA usage in the private sector, particularly within large enterprises and the financial industry. However, the benefits of RPA are not limited to for-profit organisations. Although there is a lack of comprehensive statistical data on RPA usage in the non-profit sector, experts agree that non-profit organisations can significantly benefit from implementing automation technologies. The potential to enhance operational efficiency, reduce manual workload, and improve service delivery makes RPA a valuable tool even for resource-constrained non-profit entities.

Finn Church Aid (FCA) is Finland's largest international aid organisation with operations in 12 countries and more than 70 years of experience. FCA specialises in supporting local communities in three priority areas: Right to Education, Right to Livelihood, and Right to Peace. (FCA 2022) FCA strives to ensure effectiveness, high quality of work, and accountability to all key stakeholders. The work is carried out in collaboration with selected local partners, and FCA is committed to adhering to the highest aid sector standards in everything it does. The focus is on ensuring the quality of programme implementation, the best use of resources and achieving the goals. (Finn Church Aid 2022, 19). In the FCA Global Strategy (Finn Church Aid 2022, 22), one of FCA's strategic objectives is to use financial resources ethically and efficiently. This thesis project aims to investigate whether RPA could be one of the means to meet this objective.

1.1 The objectives and the research questions

This thesis project aims to investigate the possibilities of implementing RPA in the target organisation's HR function, map the tasks for which RPA can be used and form an initial plan with a realistic timeline to start implementing the RPA. One of the targets is to find the lowest hanging fruits of all the tasks or part of those tasks, which can be the first steps with RPA, giving the first experience on where RPA can be used, where it cannot and why not. What does it require to make the operational environment and the processes suitable for using RPA if they are not yet?

The goal of the thesis project is to get started with using RPA in an organisation that has not yet been known to use RPA at all, except for possible individual experiments. The development project aims to learn RPA as a work tool and its usability in the target organisation. The concrete goal of

the development project is to identify HR tasks and subtasks where the use of RPA is possible and to assess which tasks automation will bring the best benefits to the organisation.

Research questions of this thesis are:

- Which HR tasks in the target organisation's HR unit are suitable for automation?
- What needs to be considered when implementing the RPA?
- What are the benefits of automation in the target organisation?
- What is the plan for the target organisation to proceed with implementing RPA more widely?

Through the thesis project, the HR team's understanding of the use of RPA will increase, which will help to develop the use of RPA further in the organisation, one task and process at a time. The key concepts in this thesis project are Robotic Process Automation, Process and Process Analysis.

1.2 Report

This research report begins with an introduction to the key concepts related to RPA and its features. It then explains the benefits and limitations of RPA. Once familiar with RPA as a tool, the report will explore the methods that can be used to find the best uses for RPA. At the end of the theory section, the report briefly familiarises you with the features of RPA applications and piloting the implementation.

Starting in chapter six, you will learn about the target organisation of the thesis project, FCA, and describe the research strategy and methods of the development project. Chapter eight reviews the activities of the development phase of the thesis project in chronological order. Chapter nine presents the results of the development work and the follow-up plan. The chapter also evaluates the results and implementation of the development project. Chapter ten contains the ideas that arose during the development project related to the research topic, which will be shared with the target organisation.

The thesis has utilised ChatGPT and Copilot artificial intelligence applications. ChatGPT has been used to search for channels for source material and to refine research questions iteratively. It has also been used to some extent as a writing aid. The information used in the report has been checked against the actual sources, and the report has not used the text produced by artificial intelligence as such. Copilot has been used to compile and group interview materials.

2 Robotic Process Automation

This chapter introduces what RPA is and how it works. The chapter provides basic information about RPA's features, including the three basic components: Robot, Process and Automation. The RPA benefits and limitations are also presented.

"RPA is an umbrella term for tools that operate on the user interface of other computer systems in the way a human would do. RPA aims to replace people by automation done in an "outside-in" manner. This differs from the classical "inside-out" approach to improve information systems. Unlike traditional workflow technology, the information system remains unchanged." (van der Aalst, Bichler & Heinzl 2018)

Precedence Research (2024) has compiled statistics of the market size of the global robotic process automation market. In 2024, it was estimated at USD 22.80 billion 2024 and is predicted to increase from USD 28.31 billion in 2025 to approximately USD 211.06 billion by 2034. Based on their data, the increasing possibilities of integrating RPA with AI and cognitive technologies and the reduction of paperwork accelerate market growth. RPA is used globally in all business sectors, but its development has been the biggest in healthcare and finance.

2.1 Robot

According to the traditional model, the first thoughts about robots may lead to physical robots used in industry or human-like characters familiar from the entertainment world that speak machine-like and move somewhat stiffly. RPA robots are something else.

> As UiPath (2025) describes: "Robotic process automation (RPA) is a software technology that makes it easy to build, deploy, and manage software robots that emulate human actions interacting with digital systems and software. Just like people, software robots can do things like understand what's on a screen, complete the right keystrokes, navigate systems, identify and extract data, and perform a wide range of defined actions. But software robots can do it faster and more consistently than people, without the need to get up and stretch or take a coffee break."

Robotic process automation is often mistaken for artificial intelligence (AI), but the two are distinctly different. AI combines cognitive automation, machine learning (ML), natural language processing (NLP), reasoning, hypothesis generation and analysis. IBM (2025) clarifies RPA's relationship to artificial intelligence and machine learning as follows: You can think of RPA as "doing" tasks, while AI and ML encompass more of the "thinking" and "learning," respectively. This means that RPA does not think or learn independently, but its functionality depends on how the process and its automation are implemented. RPA is the automation of a process, but the RPA software is not

improved or changed based on the automation inputs or its results. This differs from machine learning or artificial intelligence (AI) software, which can learn and improve based on continuously evaluating its inputs and results. Instead, RPA software simply repetitively performs the same task(s) based on business requirements (BDO 2018).

2.2 Process

The concept of process in the context of RPA differs from what is generally understood by process. The Cambridge Dictionary defines a process as "a series of actions that you take in order to achieve a result." UiPath's definition of a process is more technical: "a set of interrelated or interacting activities that transform inputs into outputs". Therefore, when talking about RPA, a process can be understood to mean any series of activities, including both business processes and the process steps and subtasks that are part of them. Also, Taulli (2020, chapter 1) agrees to this definition and lists processes that are individual action items, tasks that are the most typical of RPA:

- The cut-and-paste of information from one app to another
- The opening of a website and the login
- The opening of an email and its attachments
- The read/write of a database
- The extraction of content from forms or documents
- The use of calculations and workflows

In information systems and software engineering, the concept of a process extends beyond the mere flow of data or the execution of tasks. It represents a structured sequence of activities aimed at achieving a specific goal. Curtis, Kellner, and Over (1992) define a process as "a set of partially ordered steps intended to reach a goal."

Each step in a process is considered an atomic action, the smallest possible action, which cannot be meaningfully decomposed further without losing clarity about its role in achieving the overall objective. In this framework, a process element is any identifiable process component. Understanding whether a particular element qualifies as a process step depends on the intended granularity and the modelling objectives. In addition to defining the steps, process modelling incorporates several core constructs that provide structure and meaning to the process:

- Agent: a human or machine responsible for executing a process element.
- Role: a coherent set of responsibilities assigned to an agent, often indicating the function the agent performs within the process.

- Artefact: any product, intermediate or final, that is created or modified during the execution of a process element.

To effectively model processes, Curtis, Kellner, and Over (1992) highlight four primary perspectives that should be considered:

- Functional perspective: what is done and how data and artefacts flow.
- Behavioural perspective: when and how tasks are executed, including sequencing, feedback, and iteration.
- Organisational perspective: who performs the tasks, where, and with which communication mechanisms.
- Informational perspective: the data and knowledge structures manipulated or generated by the process.

Together, these perspectives enable a comprehensive view of processes, supporting goals such as improving communication, guiding automation, analysing process efficiency, and managing complexity. Covering all four perspectives in defining and describing processes can make the work slow and laborious. Still, it often opens the eyes to see bottlenecks and possibilities for improvement in the process.

2.3 Attended and unattended automation

There are two kinds of automation that are based on how the RPA tool helps you automate. These are attended and unattended automation used in different task types. Attended automation is used to augment human employees' work, enabling them to do it faster and better. Unattended automation follows the rules to complete the process automatically. (Mullakara & Asokan 2020, Chapter 1)

Attended automation runs on an individual employee's computer. It helps, for example, by copying and pasting data from one system to several, running specific reports as needed, and sending messages according to templates. Typically, automation performs a specific subtask on behalf of the human employee, after which the human continues to work until the robot is needed again for the next task. Typical use cases for attended RPA are, e.g., customer service assistance, travel expense entries and report generation.

Unattended automation performs workflows more independently, starting according to a set schedule, for example, always at night, weekly or when a specific event triggers the automation process. It is typically used for processing large amounts of data, continuous verification, or maintenance work, e.g., checking data between different systems and making error reports from them. The robot

usually works independently and only reports those cases that require human intervention. Unattended RPA can be used, e.g., in invoice processing, payroll calculation, and user account creation.

Understanding the difference between the RPA on-premises and cloud deployment is essential to choosing the best option for your organisation. SaveMyLeads (2024) encapsulates in their blog post the benefits of these two options:

- On-Premise: Offers greater control over data and processes, often preferred for stringent security requirements.
- Cloud: Provides scalability, flexibility, and reduced infrastructure costs, making it ideal for dynamic business environments.

In their web articles, Ryan Williamson (2023) and Beril (2023) have described the key practical differences between the desktop and cloud versions of Microsoft Power Automate. These factors are summarised in Figure 1. Choosing between on-premises and cloud solutions largely depends on your organisation's specific needs and constraints. Since it may be difficult for a novice automator to make the right solutions, professionals recommend seeking expert consulting help to choose the most suitable version.

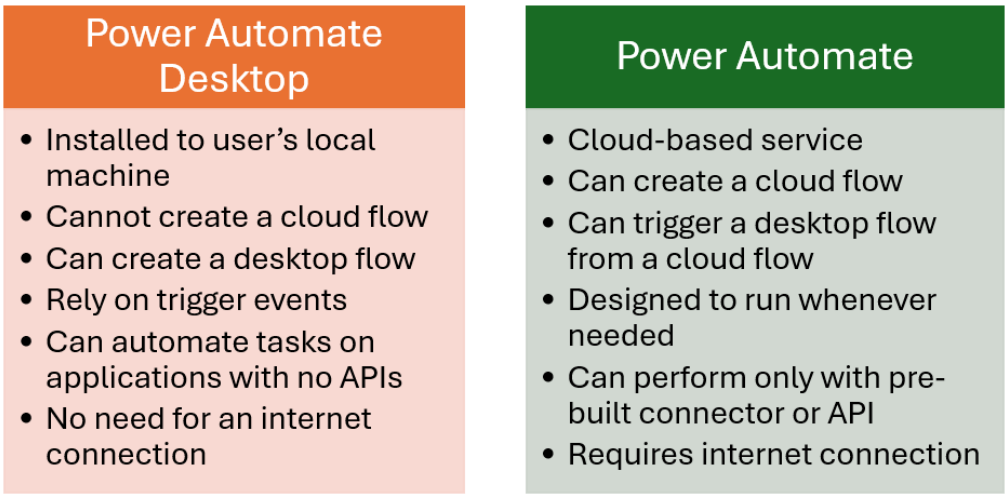

Figure 1. Features of Power Automate Desktop and Power Automate (adapted Williamson 2023 and Beril 2023)

Originally, on-premises RPA software was the only solution available and has remained the dominant option in recent years. Today, major RPA vendors offer RPA as a service and cloud-based Robotic Process Automation (RPA) is becoming increasingly central to the future of enterprise

automation. While traditional RPA tools have primarily been deployed on-premise, they are often complex, costly, and limited in scalability. Cloud RPA, on the other hand, offers more flexibility, faster deployment, and easier scaling across organisations. Experts in the TechTarget article (Pratt 2022) highlight that cloud-native RPA can be quickly adopted by different departments, reducing the reliance on IT teams and accelerating innovation. Moreover, cloud RPA platforms are better suited to integrate with modern cloud applications and other advanced technologies like artificial intelligence and machine learning.

2.4 Benefits of RPA

Anyone in the process of acquiring an application for an organisation has experience in practice with a wide range of different systems, with various features, available on the market. Comparing systems is difficult because their features differ. Although all modern systems now offer customisation options, there are and will always be interfaces between different systems in the organisation's system structure. Therefore, it is easy to understand the possibilities and benefits of RPA in complementing this network. RPA platforms can be used as a bridging technology and eliminate missing interfaces in a fragmented system landscape (Langmann & Turi 2023, chapter 2). RPA is non-invasive and can be rapidly implemented to accelerate digital transformation and it's ideal for automating workflows that involve legacy systems that lack APIs, virtual desktop infrastructures (VDIs), or database access (UiPath 2025).

The literature and case studies (Langmann & Turi 2023, chapter 2; Mullakara & Asokan 2020, chapter 1; Siderska 2020, 22; Taulli 2020, chapter 1; Mohamed, Mahmoud, Mahdi & Mostafa 2022) list plenty of RPA benefits. The most common ones are gathered in Figure 2. Among these benefits, every organisation can find the ones that best support it and plan its RPA strategy accordingly.

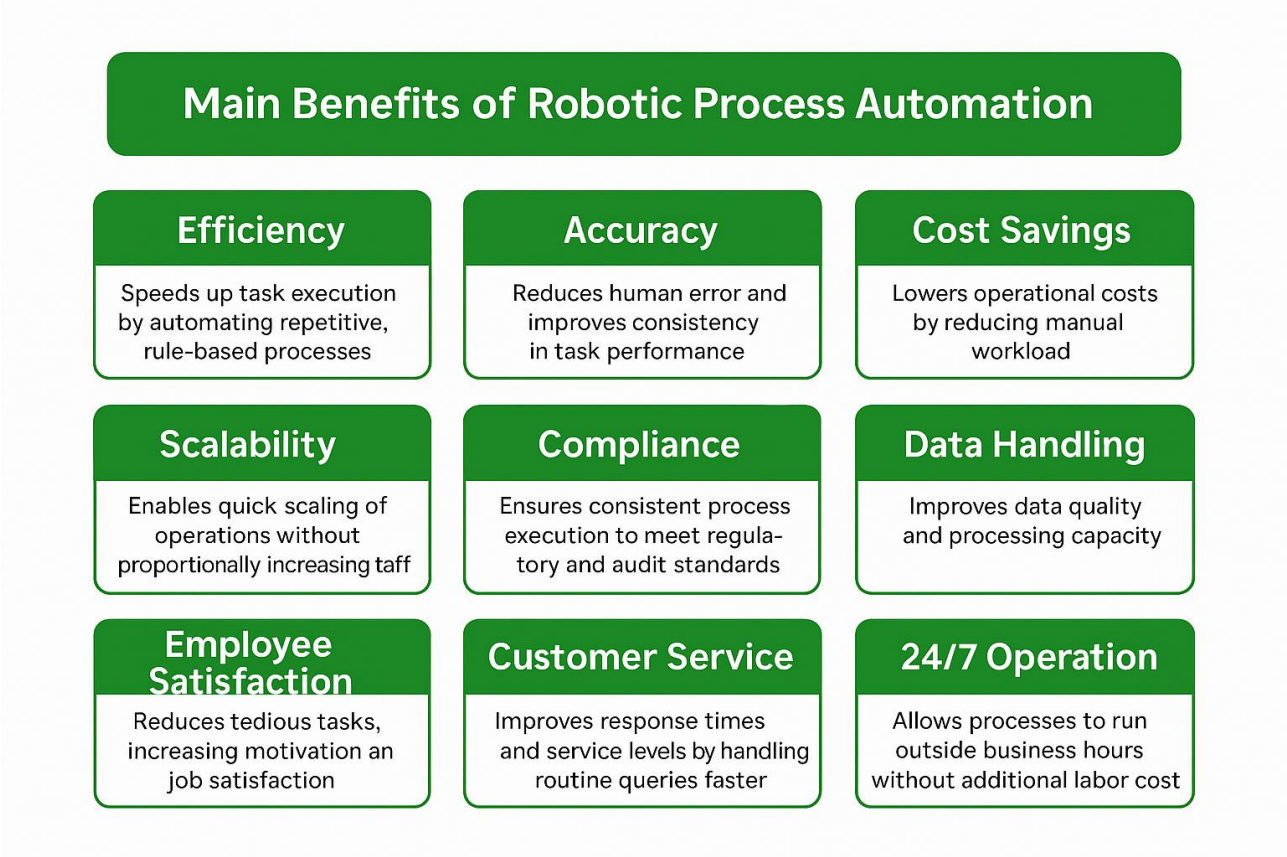

Figure 2. Main benefits of RPA

Robotic process automation streamlines workflows, which makes organisations more profitable, flexible, and responsive. It also increases employee satisfaction, engagement, and productivity. In addition to its use as a bridging technology that does not require any modifications to the IT infrastructure and is easy to handle, the low costs for introduction and operation and the high return on investment (ROI).

RPA has a relatively short implementation time compared to API (Application Programming Interface) connections between different software. Building the API always requires cooperation with the software providers at both ends of the API connection. Once the organisation has the expertise to build a software robot, it will likely be faster and smoother to build a new one rather than a new API interface between applications. Since the user interfaces of software robots are often designed to be as easy to use as possible without programming experience, modifying a previously built software robot is also simpler and requires fewer resources than modifying a previously built API interface. One RPA tool that can be used throughout the organisation will easily pay back the investment compared to building several APIs to cover all the necessary connections between the existing software.

The so-called RPA citizen developer is usually an employee from the business unit who has a certain IT affinity, but is a rather nontechnical user or has no profound IT background (Langmann & Turi 2023, chapter 3). Although RPA is marketed as a low-threshold solution that citizen developers can smoothly implement in the organisation, their role is usually to know the processes and the needs of the organisation. Typically, the role of a citizen developer is to develop software robots for simple processes using existing prefabricated robot sequences based on graphical modelling, for which he does not need any programming knowledge. To support him, the citizen developer needs a professional technical RPA developer. A technical developer knows the RPA application better and can solve technical challenges when using it. Nevertheless, citizen developers often play a vital role in helping enterprises scale the technologies.

RPA can also be implemented with legacy systems that do not enable API connectivity. A legacy system is any outdated computing system, hardware or software that is still in use (Barney 2022). Most enterprises use legacy applications and computer systems that continue to serve critical business needs. One perspective on implementing RPA is for an organisation to consider how long RPA will be sufficient to compensate for the shortcomings of old legacy systems and when it is the right time to make significant changes.

2.5 Limitations of RPA

Despite the numerous advantages described, RPA also has limitations and disadvantages. A key aspect here is the maintenance of robots. Even the slightest change in the underlying process (e.g. in the user interface of applications) can cause errors in the robots and require adjustments. Especially in more complex processes with many decision-making possibilities, or in processes where changes occur frequently, there is an increased susceptibility to errors, the maintenance of which can be time-consuming and expensive. If the process and operating method are changed more extensively, it can make the built robot completely unusable, in which case, the investment made is simply a loss. A software robot cannot develop or change itself based on the input or results of the process, such as applications that utilise machine learning and artificial intelligence.

The efficiency benefits of RPA generally increase as the number of robots increases. However, the increase in the number of robots also requires a correspondingly efficient organisation with sufficient resources (e.g. RPA developers) to regulate the key processes (Langmann & Turi 2023, 13). RPA administration, separate from the IT department, takes care of the maintenance of the robots, their development, connections to the RPA supplier, the efficiency and productivity of the robots, and the appropriate use of the resources used for RPA. Like many other investments in production

tools, RPA also requires content expertise, time, and an owner in the organisation to ensure its continued relevance. According to Langmann & Turi (2023), studies show that companies have difficulty scaling RPA. Without sufficient expertise and the ability to scale, the returns from RPA remain small compared to the investments made.

The implementation of RPA requires accurate documentation of the process to be robotised down to the click level, which is usually not yet available, but must first be created (Langmann & Turi 2023, 13). Depending on the process, creating documentation takes some time and effort, but can also reveal and optimise potential shortcomings in the process. This is, in most cases, beneficial for the organisation, but while the phase can be laborious, it is not the right place to adjust or save on the implementation schedule and costs.

The application area of RPA still has its limits. In principle, RPA is ideally suited to rule-based, standardised and stable processes that follow clear if-then rules and handle structured data. In more complex processes that require decisions or handle unstructured data, RPA reaches its limits or proves to be unsuitable (Langmann & Turi 2023, 13).

3 RPA in HR

This chapter has compiled information from various sources on how RPA has been used in human resources management. For which task areas is RPA suitable, and what is the role of RPA in supporting HR? The chapter also briefly discusses how data protection should be considered when RPA is used in human resources management and personal data management.

Due to the characteristics of RPA, it has a wide range of application possibilities in different industries and various functions within organisations. There are also many possibilities for using RPA in HR, and since the history of current RPA covers more than ten years, experience has also been accumulated over the years.

In HR, the benefits of RPA are best seen in regularly repeating, rule-based tasks that are similar and often only concern one employee at a time, which increases the volume of the process. Clear rules from labour legislation in terms of employment enable smooth automation of processes in many cases when there is no need for case-specific consideration. Similarly, the organisation's internal policies also support the application of RPA. Taulli (2020, chapter 4) has listed in his book the examples of use cases of implementing RPA in HR:

- Talent recruitment
- Employee onboarding
- Termination
- Payroll
- Benefits administration
- Employee training
- Compliance reporting
- Employment history verification
- Expense management and reimbursement
- Time record validation
- HR spend analytics
- Requisition management

Some of the processes Taulli suggests are such that the role of RPA is clearly more to support the human worker than to manage the process for people. A responsible HR would never leave orientation, termination of employment, or handling complaints to a robot.

> According to Balasundaram & Venkatagiri (2020) "Deployment of robotic process automation (RPA) can help (a) to offer better service to employees and managers (b) ensure compliance

> of HR processes with standards and regulations (c) facilitate rapid initiation and completion of HR processes (d) enhance efficiencies by digitising data and auditing process data (e) improve HR productivity and cost savings by automating manual and repetitive tasks."

In the case study research by Mohamed et al. (2022), one of the primary areas of RPA application was employee data management, where software robots were used to enter, update, and verify personnel information across different systems. These tasks often require accuracy and consistency, making them ideal for automation. In several cases, organisations used RPA to automate onboarding by registering new employees in HR systems, sending notifications, and ensuring that required data fields were completed correctly. Another key use case was in payroll processing. RPA was deployed to collect payroll data, perform calculations, and generate reports, significantly reducing manual effort and the risk of human error. These activities, which are cyclical and time-sensitive, benefited from automation's ability to handle tasks rapidly and reliably.

The case studies also featured recruitment-related processes (Mohamed et al. 2022, 4). Organisations used RPA tools to extract applicant data from recruitment platforms, sort candidate information based on predefined criteria, and forward relevant details to hiring managers. Although the decision-making aspects of recruitment still require human input, the initial phases of candidate processing were effectively automated. Regarding HR analytics and reporting, RPA was implemented to pull data from multiple internal systems and compile them into standardised reports. These included compliance metrics, workforce statistics, and performance indicators, which were previously gathered manually repeatedly. Additionally, RPA supported employment lifecycle management, particularly in generating employment contracts, sending onboarding materials, and managing exit procedures. Tasks such as sending reminders, archiving documents, or removing access rights from systems were executed by bots based on predefined rules and schedules.

The study concluded that RPA can substantially benefit HR, especially when automating high-volume, standardised processes prone to error. By delegating routine tasks to robots, HR professionals can focus on more value-adding activities such as employee engagement, talent development, and strategic planning. In addition to internal HR processes, it would be advisable to consider using RPA, for example, in transferring information from HR to other parties in the organisation, such as IT.

Even if it is technically possible to automate HR processes, it is wise for employers to consider which functions visible to employees will be automated and what kind of impression and experience automation will create for employees. The choices made majorly impact on the employer image and employee experience. The distance experienced by employees can easily negate the

benefits of automation, or if employees feel that the robot is not working correctly or is causing inconvenience.

3.1 RPA possibilities in the target organisation's HR

The main HR processes have been documented, which enables finding the most straightforward and repetitive tasks and process phases. In addition to the processes described and as part of them, there are many smaller processes and task sets, among which many tasks can potentially be automated.

Due to the legal requirements, donor requirements, and internal compliance requirements, there are many repetitive routine tasks in HR. All decisions that impact an employee's terms of employment are documented, approved by a signature, and archived either for a specific period or permanently. In addition to this, there is a lot of record management and reporting. We also need notifications and alerts for different processes to ensure that everything is done on time.

3.2 Data and Data Protection in HR

Applying RPA in HR doesn't require importing or creating any new external data. The data used in automated workflows is the data the employee uses in their daily work, emails with attachments, the senders and recipients of those, Excel worksheets, Word documents and other material created and used with Office tools, calendar events and task lists.

As long as there is no secure and detailed information available about the data protection of the RPA tool and its suitability for processing sensitive data, it is safest for the data controller, i.e. the employer, to only use RPA for processing non-sensitive data in HR. Taulli (2020, chapter 1) warns that "security is a growing risk with RPA implementations, especially as the technology covers more mission-critical areas of a company's processes." In the case of a data breach, it is very much possible that highly sensitive information could easily be obtained. On the other hand, using RPA doesn't necessarily increase the risk level for potential data breaches if the sensitive data is already available in the system.

One specific area strictly regulated in Finland and the EU is the use and handling of personal data. Systems that contain this kind of data, e.g., HR systems, are compatible with the regulations by default. Still, if any AI solution is used for handling personal data, the organisation is responsible for ensuring the regulations are followed.

The EU AI Act (Regulation (EU) 2024/1689 laying down harmonised rules on artificial intelligence) was approved some months ago, and it is the first-ever comprehensive legal framework on AI worldwide. The new rules aim to foster trustworthy AI in Europe and beyond by ensuring that AI systems respect fundamental rights, safety, and ethical principles and addressing the risks of compelling and impactful AI models. (European Commission 2024). The regulatory framework defines four levels of risk for AI systems: Unacceptable risk, high risk, limited risk, and minimal risk. The AI technology used in employment and management of workers falls into the high-risk category. High-risk AI systems are subject to strict obligations before being put on the market. Therefore, using the generic RPA tools for HR tasks must comply with the same obligations.

4 Process for implementing RPA

The initial phase is critical for the success of an RPA implementation. Through careful preparation, it is possible to make the right choices regarding which processes in the organisation should use RPA. The effects of the choices will be visible even years later in the smoothness of the processes, the use of employees' time, the payback period of RPA, and employee satisfaction. Well-planned is half done, but depending on the scope of RPA use, the design phase must also be sized correctly. It is not profitable to make the mistake of overplanning. After the process analysis and design phases, there is still much to do before the application robot is in use.

There are many different instructions and tools of varying levels in the literature and from system vendors for the process analysis and design phases. In addition, vendor-specific partner consultants and consultants independent of vendors also offer their help. Depending on the size of the organisation and the estimated automation need, it is worth considering how many resources it is reasonable to use for the design phase. This chapter has presented a few approaches to starting and advancing the design of an automation project.

4.1 RPA use cases

The most common objectives of automation are to reduce the FTE time worked on processes, improve cycle and turnaround times, and lower the number of errors. Van der Aalst, Bichler and Heinzl explain the RPA use cases in their article Robotic Process Automation (2018):

> For example, SAP is used for finance and Moodle is used as a learning management system, but these two systems are completely disconnected. This requires people entering information into multiple systems and trying to maintain consistency. However, the work is fairly simple and tedious. RPA provides agents that interact with different information systems thus partly replacing humans.

Figure 3 shows the different types of cases (x-axis). Two cases are of the same type if they are similar and can be handled similarly. The y-axis shows the frequencies of these case types. Traditional process automation aims to address the most frequent case types (say 20% of all case types, the left end in the figure). Less frequent cases are traditionally handled by humans as the costs of traditional automation increase when the cases are not simple enough or when different systems need to be integrated. According to van der Aalst et al. (2018), in such settings, humans serve as the ‘‘glue’’ between different IT systems. With RPA, it is possible to support the middle part by having agents that interact with the different information systems as if they were human. By doing so, only the right-hand side of Figure 3, the most complicated and time-consuming cases, still need to be handled by human workers.

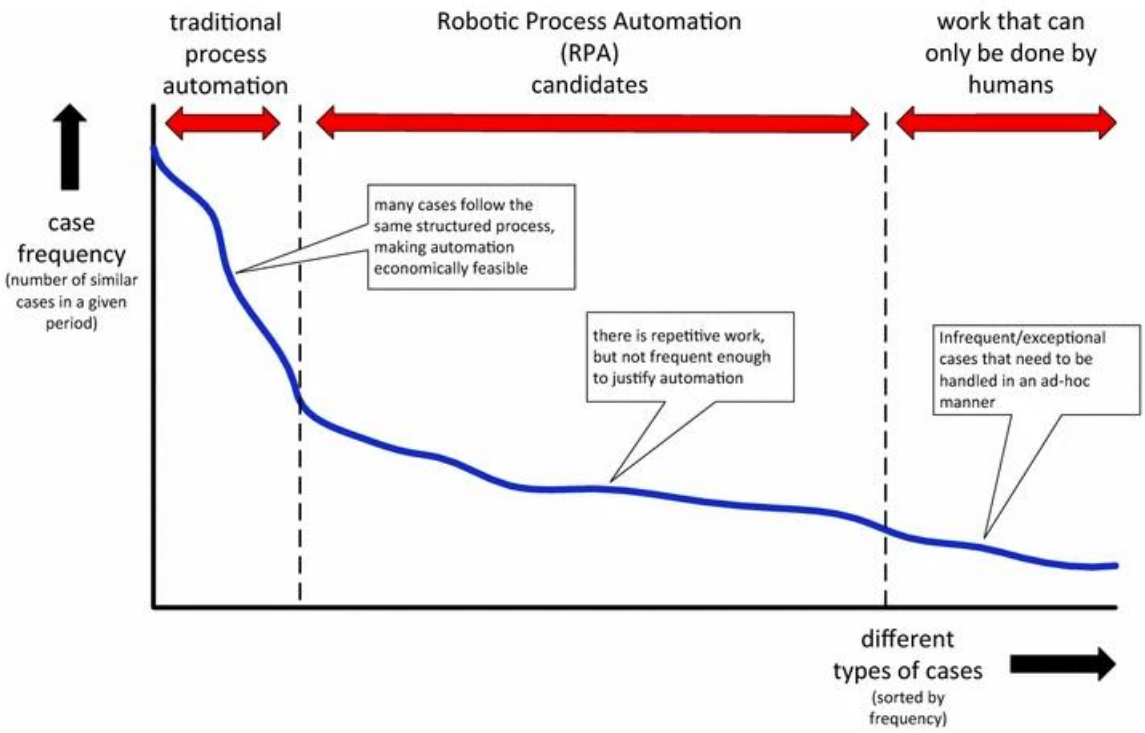

Figure 3. Positioning RPA (van der Aalst, Bichler and Heinzl 2018)

4.2 Finding the optimal processes and tasks

We have learned that RPA can do a lot, but to use RPA as effectively as possible, it is essential to choose the right tasks and processes for its use. In this chapter, we will explore ways to ensure that the most relevant tasks, the ones that will benefit the organisation the most from automation, are automated.

According to Langmann & Turi (2022, 12), “to robotise processes and to achieve the described positive effects from the use of RPA, it is first necessary to identify and document suitable processes. The content of a process documentation is the definition and sequence of the individual process activities as well as the clear definition of responsibilities and involved systems. Regarding the level of detail, the activity level and transaction level are necessary.”

According to Siderska (2020), the typical criteria for processes suitable for RPA are:

- Low cognitive requirements (it is hardly possible for complex processes with many complicated tasks to be handled by RPA).
- No requirement for the access to multiple systems as RPA is applied on top of existing applications.

- Relatively frequently performed processes and tasks are good candidates for RPA implementation.
- Processes with a high probability of human error and limited exceptions should be selected first for RPA.

Taulli (2020, chapter 4) suggests searching for certain manual task types, which often apply regardless of the industry. These types are:

- Data migration, much time is spent just transferring information around. It's definitely a big waste of time and susceptible to mistakes. With RPA, it is relatively easy to handle data migration because of the integrations and low-code capabilities.
- Data Updates: What if a customer has a change of address or phone number? How do you update this across different software systems? It can be a pain for workers. But RPA has abilities to create rules to automate this process.
- Tracking: Employees simply do not have the time to monitor the many changes within a department. Because of this, it's common for problems to slip through the cracks. However, RPA can be configured to detect changes and take action – without human intervention.
- Alerts: You can program a bot to detect when a decision needs to be made by a worker. For the most part, RPA is ideal for this.

"Surveys on the introduction of RPA show, however, that processes are often not standardised and are lived differently in reality despite existing process documentation. Thus, the exact recording of the lived process is necessary in order to uncover inefficiencies and to carry out optimisations (e.g. elimination of double loops) before the process is mapped by a robot. Due to this necessary prerequisite, the introduction of RPA ultimately also has the effect of improving process documentation and optimising existing processes without automating them directly in RPA. (Langmann & Turi 2023, 12-13)

4.3 Process Mining

Process mining is a research area and technology that helps businesses understand their real processes, how they are operated, and identify opportunities for improvement, automation, and digitalisation. (Microsoft 2024). Wil van der Aalst, together with his research group, have developed the process mining field of research since the 1990s. Process mining software focuses on event data. With algorithms, it can look at the process, create visualisations and help the organisation to get an understanding of what does not work well in their processes. By analysing event data from various sources, the process mining capability provides a clear view of how processes are actually being

executed in practice (Microsoft 2024). Once the data has been collected, the process mining can give ideas on where to focus in developing the process. Process mining is used in various fields of business for continuous improvement of processes, not only for RPA needs, but also for e.g. product development, ERP migration and internal audits (Taulli 2020, chapter 12).

4.4 Overall process for analysing and classifying a process for the RPA approach

In their article (2018), Bourgouin, Leshob and Renard propose a method that analyses business processes and verifies their suitability for RPA automation. In their model, the result is one of four options: *not suitable for RPA*, *less suitable for RPA*, *moderately suitable for RPA*, or *highly suitable for RPA*. Balasundaram & Venkatagiri (2020) have further adapted the Bourgouin et al. model to HR processes. The method has four steps. The first step confirms the suitability of business processes for RPA. The second step assesses the RPA potential of the process. The third step assesses its RPA relevance. The fourth and final step provides an RPA classification of the process (Bourgouin, Leshob & Renard 2018).

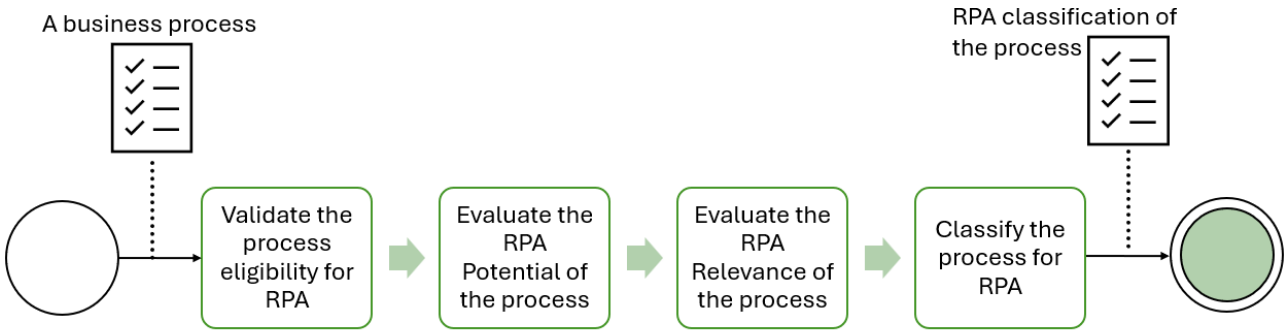

Figure 4. Overall process for analysing and classifying a process for the RPA approach (Bourgouin, Leshob & Renard).

The Bourgouin et al. model deals with entire processes (Figure 4). Still, it is also possible to apply RPA to subtasks of a process to support and accelerate the overall process only for those tasks. In such a case, their proposed analysis and classification can be a cumbersome tool; therefore, a lighter assessment procedure could be a welcome option. The main point of such a method is, in all cases, to take into account the critical factors for RPA and produce a reliable analysis of whether RPA can be used for the planned task or part of the process. The next sub-chapters present all the phases of the analysing and classifying process according to Bourgouin et al. (2018) and Balasundaram and Venkatagiri (2020).

4.4.1 Process eligibility for RPA

The first step in confirming the suitability of a process for RPA automation in the Bourgouin et al. model is to assess the maturity and standardisation of the process. Assessing the maturity of a process involves ensuring that the outcomes of the HR process are stable and predictable. Process maturity refers to the stability and predictability of the process outcomes. For a process to be considered mature, it must be well-established, with all stakeholders expecting consistent results and all interactions with supporting systems clearly defined and reproducible. This criterion ensures the process behaves reliably over time and does not require frequent adaptations that could hinder automation. Standardisation means ensuring that the process is executed in a standardised way across all parts of the organisation. This involves checking whether the process includes clearly defined elements (Curtis, Kellner & Over 1992) such as:

- What is done, and how do data and artefacts flow?
- When and how tasks are executed, including sequencing, feedback, and iteration?
- Who performs the tasks, where, and with which communication mechanisms?
- Are the data and knowledge structures manipulated or generated by the process?

Only when both maturity and standardisation criteria are satisfactorily met is the process deemed eligible for further analysis. This step serves as a foundational filter that ensures subsequent evaluation phases (e.g., assessing automation potential and relevance) are conducted only on processes that meet the basic structural and operational requirements for RPA adoption.

4.4.2 RPA Potential of the Process

Once a business process has been deemed eligible for automation based on its maturity and standardisation, the second step is to assess the RPA potential of the HR process. The RPA potential means the capacity of software robots to do the work humans have performed so far. This RPA potential of the HR process is assessed based on properties of – (a) the extent of manual interaction involved in the HR process (b) whether there is use of a software application to execute the process and (c) if the activity is based on clearly defined business rules (Balasundaram & Venkatagiri 2020).

According to the framework proposed by Bourgouin et al. (2018), a task has RPA potential if it satisfies two main criteria: "First, the activity should require at least a manual interaction with a software application. Second, the activity must be based on predefined business rules." In practice, this evaluation involves asking two simple questions for each task:

- Does the task require manual interaction with a digital system?

- Is the task rule-based and repeatable in a predictable manner?

If the answer to both questions is Yes, the task is considered highly suitable for RPA. Tasks that do not involve software interaction or lack rule-based logic are excluded from initial consideration. By looking at processes at the task level rather than evaluating the entire process, this phase makes it possible to identify automation opportunities that can deliver quick wins. In turn, early quick wins strengthen the skills and confidence of those involved in the process to expand the use of RPA later.

Balasundaram and Venkatagiri (2020) have listed over 20 HR tasks and processes with high RPA potential in their article. These HR processes were identified by Zinnov Management Consulting, which, with the DRAUP platform, analysed 100+ HR activities (Ramalingegowda 2019). In the list, there are many familiar tasks to all HR professionals, e.g. in Talent Acquisition, such as publishing open roles to websites, preliminary candidate screening or information collation for onboarding, in Compensation and Benefits, e.g. autonomous updating of payroll inputs, time and attendance data validation. With years of working experience in HR, it is easy to see the connection between these tasks and the RPA potential criteria.

4.4.3 RPA Relevance of the process

According to Bourgouin et al. (2018), RPA relevance is assessed based on two primary factors: the volume of transactions and the degree of complexity of each task. These properties help determine whether automating the task will give significant benefits in terms of efficiency, scalability, and resource savings.

The volume of transactions refers to how frequently a task is performed within the organisation. Typically, this is measured as the average number of times per day. High-frequency tasks are more relevant for automation because they consume much employee time and introduce a greater risk of human error when done manually. The degree of complexity indicates how difficult the task is to complete manually, usually measured by the average time it takes an employee to perform it. A task that takes several minutes or more may be a candidate for automation if it is also repetitive and rule-based. Conversely, highly complex tasks requiring subjective judgment are typically excluded from early-stage RPA efforts.

Each task is evaluated along these two dimensions using a structured scale, which categorises volume and complexity into three levels — low, moderate, and high (Figure 5). A task with a high

transaction volume and low to moderate complexity is considered especially relevant, as automating it can lead to immediate gains in productivity and process consistency.

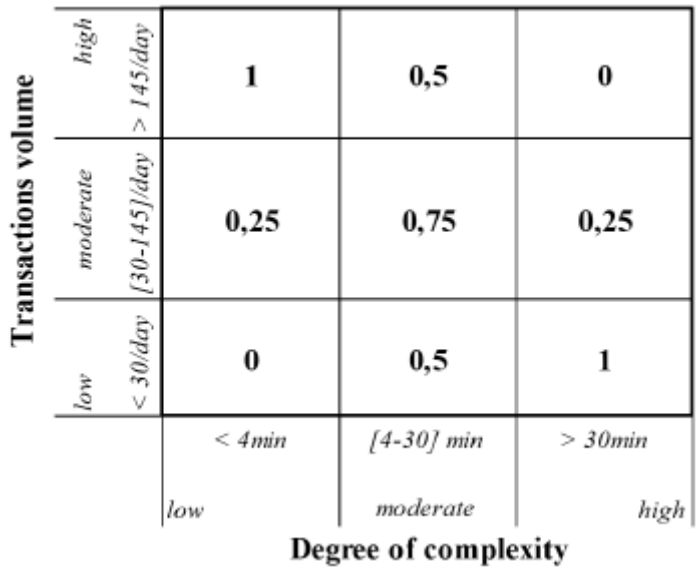

Figure 5. Relevance Scale (according to Bourgouin et al. 2018)

4.4.4 Classify the process for RPA

After evaluating the automation potential and business relevance of individual tasks within a process, the final step in the Bourgouin et al. assessment framework is to classify the process for RPA. This classification step provides decision-makers with a clear and structured recommendation regarding whether a process or a specific task within the process is suitable for automation using RPA.

The classification combines the results from the RPA potential analysis (technical suitability) and the RPA relevance analysis (business value). As Bourgouin et al. (2018) described, each task is positioned within a two-dimensional matrix based on these two factors: The horizontal axis represents the degree of automation potential, i.e., how feasible it is to automate the task from a technical standpoint. The vertical axis represents the relevance, i.e., how beneficial automation would be in terms of volume and simplicity.

Based on their positioning in this matrix (Figure 6), tasks or processes are classified into one of four categories:

- Highly suitable for RPA: Tasks that score high in both potential and relevance. These are the most promising candidates for immediate automation, typically offering strong return on investment and low implementation risk.
- Moderately suitable for RPA: Tasks that have high technical feasibility but relatively low business value (e.g., low transaction volume). These may be worth automating later or as part of broader workflows.
- Less suitable for RPA: Tasks that are relevant from a business standpoint but are technically difficult to automate (e.g., lack standardisation or require judgment). These may require further process redesign or advanced AI integration.
- Not suitable for RPA: Tasks that are neither technically feasible nor strategically beneficial to automate. These should be excluded from the RPA roadmap.

This classification supports structured decision-making in RPA adoption and helps prioritise the implementation of automation.

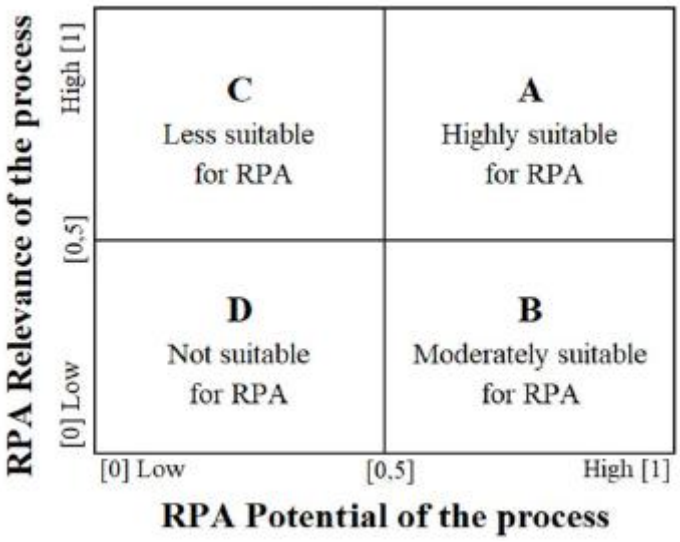

Figure 6. RPA Potential of the process (Bourgouin et al. 2018)

4.5 UiPath Process Assessment tool

UiPath offers its users a Process Assessment tool (Figure 7) that allows them to examine their organisation's processes and their suitability for automation from multiple angles. The tool is a clear Excel form where the user can select the options that best describe their process from the drop-down menus, and the form's calculation formula provides values for ease of implementation and the automation benefit percentage. As a result, the formula also calculates percentages for error

reduction and processing time reduction, as well as an estimate of the implementation work hours and the annual work hours freed up for other work through automation.

The tool is tempting to try because it is simple to use with ready-made answer options. However, the risk is whether choices that correspond to the real-life situation are made when assessing or whether something is forgotten. Another noteworthy point is that the tool focuses on measurable results in the assessment, but it does not consider, for example, the improvement in employee job satisfaction, employee turnover or other indirect effects. However, it is possible to use other tools to measure these later.

UiPath's analysis tool has very much the same elements as those presented in the Bourgouin et al. model, but it also includes additional factors that help determine the suitability of a process for automation. The tool also helps its users promote the automation of their own processes by providing guidance as the assessment process progresses.

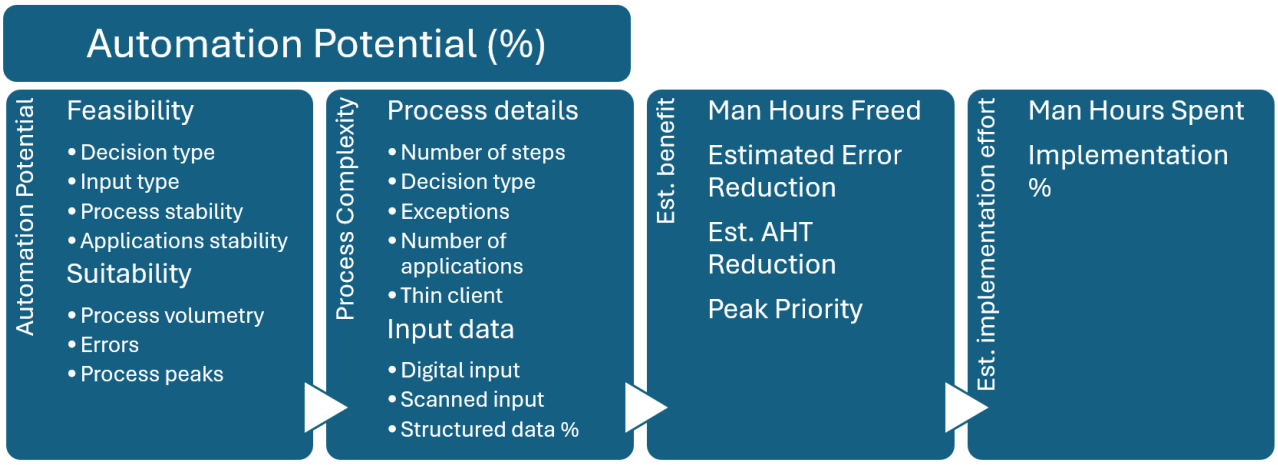

Figure 7. Structure of the UiPath Process Assessment Tool

The first step when using the tool is to assess the Automation Potential, which the tool divides into Feasibility and Suitability assessments. The following elements are examined under the feasibility assessment:

- Decision type – Are the decisions rule-based or subjective/strategic?
- Input type – How do the majority of your data inputs look?
- Process stability – How will your process change in the next 6 months?
- Application stability – How will your process applications (incl. interfaces, menus, reports) change in the next 6 months?

After these four questions, the tool gives its assessment of the feasibility of automation. The options are: *Low feasibility*, *Digitise first*, *Postpone* and *Feasible*. This first step is relatively easy and quick to implement, and therefore, it is easy to exclude processes where the data is in a non-digital format or where changes to the process are expected in the near future.

The second step of using the tool is to delve deeper into the suitability of the process for automation. The focus is on process volumetry, errors and process peaks. The tool asks you to answer these questions:

- What is the frequency of the process?
- What is the volume of transactions/frequency (number of times the process is run/selected frequency)?
- What is the average time it takes for the process to be run once (average handling time/transaction)? (in minutes)
- What is the average number of human errors? (%)
- How would you characterise the peaks of the process?

The last question has four ready-made answer options, which the tool scores. After answering, the tool calculates the number of FTEs to be used for the process.

The third step assesses the complexity of the process. The questions in the tool address the process steps using numerical data, making the data comparable across processes. All answers to the questions are selected from drop-down menus, and the tool scores all choices. The questions include:

- How many steps does the process have?
- How difficult are the decisions that you must make to complete the process?
- What is the average number of cases where you are unable to complete the entire process? (Either because you require input from a different person or because you end up in a situation that is not covered by a clear rule)
- What is the number of applications that you use for the process?
- Are any of the applications accessed via Citrix/VDI?
- What % of your input data is digital?
- Is any of your digital input scanned?
- What % of your input data is structured?

The result of the third step is the Automation Potential percentage between 0 and 100%, calculated using a calculation formula based on UiPath's knowledge and experience. UiPath doesn’t provide

any explanation of the calculation formula. Some of the factors affect the result more than others. This Automation Potential percentage is most easily reduced by the small amount of digital data and the large number of exceptions in the process.

After assessing the process and data, in the fourth phase, the tool calculates the estimated work hours freed, error reduction and average handling time reduction. In addition to this, the tool has a formula for calculating the implementation effort percentage based on the process complexity score and estimated person-hours according to the UiPath RPA project roles.

4.6 Proof of Concept

Langmann & Turi (2023, 17) recommend the so-called Proof-of-Concept (PoC) as a starting point for introducing RPA. Put simply, a PoC is a pilot or lighthouse project. The PoC aims to use the first software robot(s) to test the technology's functionality, build up basic know-how about the technology, build up acceptance and support (e.g. from management), and prepare for the subsequent introduction. The PoC goes through a series of typical steps illustrated in Figure 8.

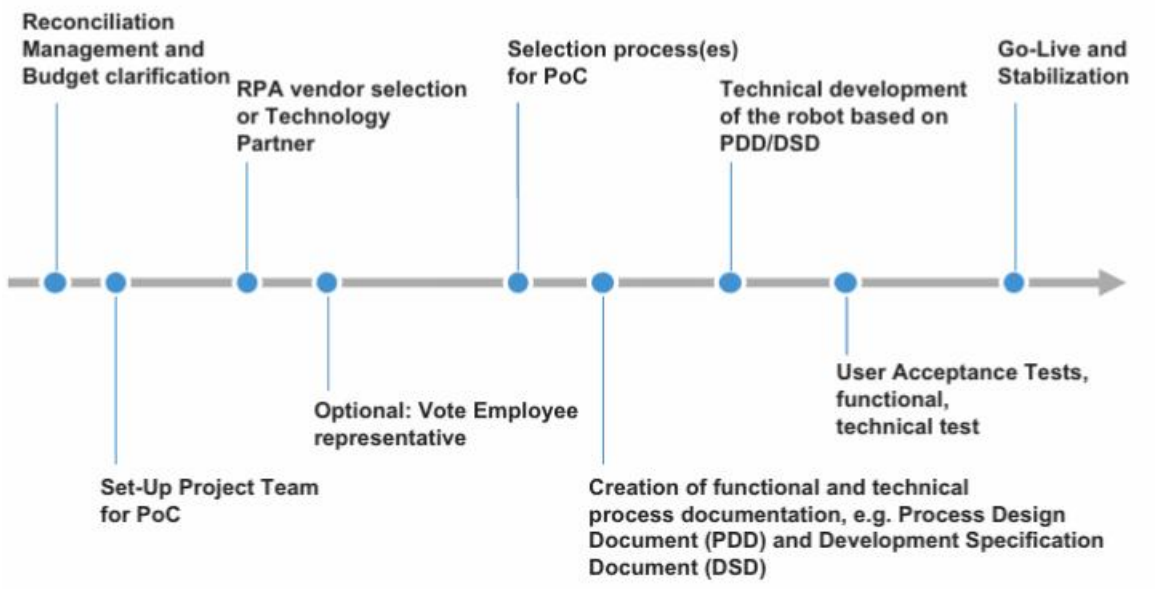

Figure 8. Procedure for Proof-of-Concept (PoC)/Pilots (Langmann & Turi 2023)

Depending on the resources and context, the entire PoC takes a few weeks to a few months. At the beginning of the PoC, the focus is also on coordination with management. This involves communicating the topic, releasing personnel resources, and approving a budget for the PoC. A project team is then put in charge of overseeing the PoC. The team should consist of at least a project manager, an RPA expert or an employee with a technical affinity for RPA, and a representative of

the IT department. Since a software robot is developed for a department's process in the PoC, the department or a department representative should be directly involved. Although not necessarily as a project team member, presenting the project to employee representatives (works council, staff council, etc.) may be advisable at this early stage. Early involvement and transparency about the project reduce reservations and prejudices among the employee representatives, creating an initial basis for a later, comprehensive introduction.

The technical RPA software used to develop the robot can be provided directly by an RPA software provider or a technology partner. If the existing internal technical know-how is insufficient, RPA providers or RPA technology partners can support the PoC with expert knowledge and development services. On the one hand, the PoC gains speed. On the other hand, valuable know-how can be built up internally. For use in the context of a PoC, i.e. not in productive operation, some RPA providers usually offer free licenses/versions of their RPA solution.

5 Tools for RPA

This chapter provides general information about two RPA vendors and their RPA tools. The purpose of the chapter is to highlight important considerations when choosing the right tool. The chapter also includes ideas on how selecting the RPA vendor affects the usage of RPA in the organisation and slightly compares the features of these two RPA tools.

There are several RPA vendors on the market, and they all have business partners that can support the organisation in ensuring successful implementation. From the risk management perspective, it is better to compare at least two RPA tools to determine the key factors, e.g., functionalities, cost structure, compatibility, usability, data protection, and security. Gartner (2024) has gathered a Magic Quadrant report evaluating 13 enterprise RPA vendors to support their customers globally to make the best choice (Figure 9). Another good source to compare the variety on the market is the peer reference reports, such as PeerSpot. Before committing to any product, finding out any fresh experiences from real life, verified users is recommended. As the features of the products vary, it makes a difference how skilled the users of the RPA tool are, what kind of workflows will be automated, and what the operational environment is like in the organisation.

The writer has previously used UI Path and Microsoft Power Automate, for which there has been a comparison report by PeerSpot in 2025. As FCA already has Microsoft Power Automate Desktop included in the current Office package, the most resource-wise option might be to put it to use with no additional expenses. Alternatively, at least do the first RPA experiments with it to get to see the level of interest, competency, and resources in the organisation before making any longer-term plans or commitments with any other vendor.

Microsoft Power Automate is described (PeerSpot 2025) as a powerful tool that streamlines and automates tasks within an organisation. It is used for workflow automation, data integration, and creating automated notifications and approvals. Power Automate connects different applications and services, such as SharePoint, Excel, and Outlook, to automate data transfer and synchronisation. (PeerSpot 2025). PeerSpot users give Microsoft Power Automate an average rating of 3,9 out of 5.

UiPath is a top RPA platform by many measures. The company is one of the most funded, quite popular, and has a big community. The secret to this is that UiPath made the platform easily accessible quite early. It is also one of the easiest RPA platforms with a comparatively low learning

curve. (Asokan & Mullakara 2020, chapter 1). PeerSpot users value UiPath 4,4 out of 5 stars (PeerSpot 2025).

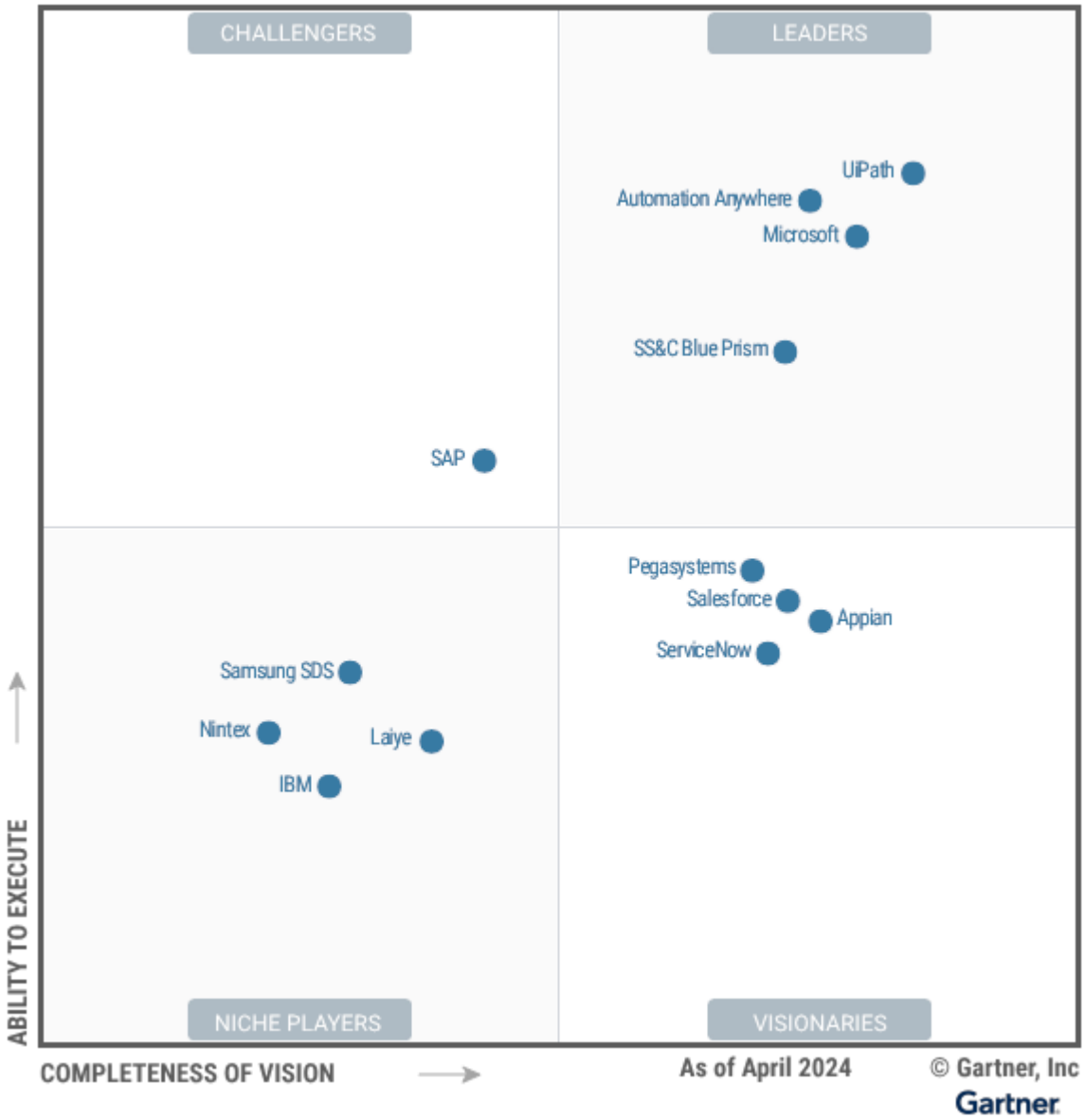

Figure 9. Gartner Magic Quadrant for Robotic Process Automation

5.1 Microsoft Power Automate

Microsoft Power Automate is a cloud-based automation solution with a desktop version available as well. In its report, Gartner (2024) compares 13 enterprise RPA vendors and names Microsoft with Power Automate as one of the top options in the comparison:

> The benefits and strengths of Microsoft are the global distribution and visibility, pricing and product integration. Microsoft is the second-most frequently discussed RPA vendor in Gartner client inquiries, and the fastest-growing vendor in terms of RPA revenues from Gartner's market share research. Customer interest and adoption of Power Automate continues to rapidly grow, and Microsoft continues to expand its network of partners that support Power Automate.

According to Gartner, for smaller deployments of Power Automate, Microsoft's prices are often 30% to 50% lower than those of its RPA competitors. Many customers are drawn to using Power Automate due to its low starting price and its widespread availability. As a limited version of Power Automate is available in Windows 11, it is easy to start investigating the possibilities and workflow templates at your desktop. Yet, as Gartner reveals that many large organisations use Power Automate as a complementary RPA tool to deliver automation within Microsoft applications, it raises the question of whether it will be enough to meet all organisations' RPA needs in the long term. On the other hand, according to Gartner, Power Automate excels at automating and integrating across Microsoft's expansive product portfolio, including Microsoft 365, Dynamics, Power Apps, Power BI, and Edge. Organisations that use Microsoft products extensively, especially those that use Microsoft Azure and Copilot, will benefit most from Power Automate. (Gartner 2024). So, as long as the needs for RPA in the organisation focus on processes and tasks operated with the Microsoft products, Power Automate will most likely be the most suitable option.

Gartner presents three cautions for Power Automate in its benchmark report. These concern product features, licensing, and product usage. Their customers have mentioned, among other things, that Power Automate's features and development capabilities are limited and that it sometimes produces inaccurate RPA script objects. It is certainly disheartening to find that the workflow does not work as planned after the workflow design phase. When an organisation does not have much experience in workflow design, it can be challenging to understand when Power Automate's limits are reached or whether the workflow error is due to the design itself. On the other hand, with Power Automate being so popular and used, these limits are unlikely to be encountered right from the start.

Gartner (2024) reports further: As customers expand their use of Power Automate, they have reported additional costs that add up over time. Customers may end up paying for Azure, premium connectors, Dataverse, Azure DevOps and additional licenses for Microsoft products. Customers have also said they struggle to discern Power Automate access levels provided by E3 and E5 enterprise licenses. (Gartner 2024) This is a feature that makes the comparison between two RPA tools complicated. As the product capabilities and features differ, it is almost impossible, especially at the beginning of the implementation of RPA, to estimate which product will cover all the future needs and what the expected costs of the investment will be. Therefore, Gartner's finding is easy

to understand: Large organisations rarely use Power Automate as their primary RPA tool, instead reserving it for use cases focused on Microsoft applications or citizen development. Perhaps this is also a good indication to smaller organisations that Power Automate may be a good tool to start with. Once the organisation's understanding of RPA logic and its usability grows, it is ready to estimate its future RPA needs and compare them to the market.

5.2 UI Path

UiPath is by far the largest vendor in RPA-specific revenue and continues to increase its dominant market share each year. It is the leader in Gartner's Magic Quadrant, which is easily understandable because of its wide range of features. The services of the RPA platform - UiPath Business Automation - include "RPA, AI, NLP, API automation, process orchestration, low-code app development, process and task mining, IDP, and application testing" (Gartner 2024). The product design studios are tailored to both technical and business developers. It seems that UI Path takes its role as market leader seriously and is willing to keep this position by serving all buyer segments globally, both experienced and rookie users. UiPath is also interested in developing its product further to include the latest technologies. Gartner (2024) lists that "UiPath's roadmap includes deepened support for generative AI, retrieval-augmented generation, process orchestration, Business Process Model and Notation BPMN modelling, API integration, and prompt engineering. It is currently developing proprietary large action models (LAMs)."

According to the Gartner report, the strengths of UiPath as a vendor are product strategy, customer ecosystem, and viability. "UiPath is uniquely focused on using GenAI specifically to enhance its RPA product. Its proprietary UiPath Autopilot uses specialised LLMs (large language models) that are designed to support RPA development, operations and integration across its portfolio." (Gartner 2024) This selected strategy ties the customers to life-long customership, as once UiPath is vigorously implemented in all organisational processes, changing to another vendor requires powerful reasons and will pose a serious risk to the organisation. This set-up will force the customers to accept the gigantic vendor's terms as a partner, whatever they may be. On the other hand, as long as UiPath focuses on developing its product as it has for now, the customers may trust having the best possible RPA tool in their use.

According to PeerSpot users, UiPath's strengths include ease of use, seamless integrations between different systems, and features supporting complex automation. As pain points, PeerSpot users mention, e.g., the system's occasional instability, and all the features may be complex for new users to understand and use effectively.

6 Finn Church Aid

This chapter describes the thesis project's target organisation and operating environment insofar as they impact the project's implementation.

Finn Church Aid (FCA) is Finland’s largest international aid organisation with operations in 12 countries and more than 70 years of experience. FCA employs over 1500 aid workers globally, of whom more than 100 work in Finland. FCA specialises in supporting local communities in three priority areas: the Right to Education, the Right to Livelihood, and the Right to Peace. FCA is a member of the Core Humanitarian Standard Alliance and the first Finnish organisation to be certified against the Core Humanitarian Standard (CHS) (Figure 10). In the standard (CHS Alliance 2024), there are nine different commitments, of which numbers 8 and 9 would especially be supported by RPA.

Figure 10. Nine Commitments of the Core Humanitarian Standard (CHS Alliance 2024)

The basic premise of aid work is that aid is directed primarily to beneficiaries. Although there are many funding sources and opportunities, funders have strict criteria for granting funding and reporting on the use of funds. Success in aid work is based on evidence of reliable and effective

operations and responsibility in one's own operations. These factors contribute to obtaining both ideal partners and funding that enable long-term, effective aid work.

Development cooperation funding has recently been cut both globally and in Finland. Developing work and working methods is vital to ensure effective work with fewer resources than before. Using RPA is an excellent way to support the development of both effectiveness and responsibility in internal processes.

There is rarely any extra time or excessive funds left for developing general processes and tools, and funding organisations are generally unwilling to allocate funding to them. Therefore, it depends on the aid organisation’s own activity and interest whether general improvements, such as artificial intelligence, will ever be harnessed to support the work. Technological development progresses every year, so it is important to at least get acquainted with what could be achieved with the available resources.

The HR team has long recognised the inadequacy of resources in relation to the goals the team has set for itself. As always in HR work, the work involves various details, deadlines, documentation and archiving of documentation, which are often meticulous, repetitive and slow in practice.

6.1 Operational environment of HR in the target organisation

Finn Church Aid has approximately 110 employees in Finland, a few remote-working employees outside Finland, and about 30 expatriates located in other offices outside Finland. Finn Church Aid’s HR is responsible for the employer responsibilities of all these personnel groups and provides group-level global HR policies and support to offices in other countries.

The technical work environment consists of a Microsoft 365 E3 level plan with basic Office 365 tools as a baseline and an option to add some other apps. In addition to those, four HR apps are used as SaaS: Sympa HR as the HR master data system, Accountor Mepco for payroll, Visma Tiima for working hours, and Laura Recruitment for recruitment. Document management is done on SharePoint.

Sympa is the most technologically advanced of the HR systems in use and is constantly being developed. In addition to built-in workflows, Sympa has extensive capabilities, including sending reminders and alerts based on data stored in the system. During the project, it was known that the system supplier was currently developing additional features, such as copying data within the system. Therefore, at the beginning of the project, the assumption is that the most suitable areas for

RPA use for Sympa would be related to transferring data out of Sympa or to Sympa from other systems.

Accountor Mepco was introduced in the early 2000s. It is older in terms of technology, but the system supplier is also doing development work on it, for example, to improve usability. Mepco is one of the leading payroll systems in Finland. Its features for managing payroll in relation to Finnish legislation and the collective agreement environment serve the needs of employers operating in Finland well, and for example, the interfaces between Mepco and the Tax Administration and the National Incomes Register have been developed to respond smoothly to the authorities' requirements. Therefore, it is unlikely that Mepco would be replaced in Finn Church Aid, even though its usability and interface possibilities with other systems are limited.

Visma Tiima is a working time tracking system, and in terms of technology, it is relatively old. Due to its history, its usability and user views are outdated and often seem challenging to understand for users accustomed to newer system interfaces. Tiima's strengths are accuracy and timeliness in working time tracking and flexibility in applying different working time models in Finland. In addition to usability challenges, Tiima's weaknesses are also limited reporting options. According to Visma representatives, several customers who liked Tiima as a system have already successfully corrected Tiima's shortcomings with RPA. It is entirely possible that RPA could also make the use of Tiima more efficient in Finn Church Aid.

Laura is an entirely Finnish player among recruitment systems. According to the company's own announcements, Laura is one of the country's largest SaaS-based recruitment system providers. Annually, approximately 400,000 applications are received through their system, and tens of thousands of recruitments are made. Laura offers a smooth recruitment process, with many different usability-enhancing features for the recruiting employer and various integration options with other systems. The need for RPA related to Laura's use is most likely in the management of individual job applications during or after the recruitment process, or in recruitment statistics.

There are five members in the HR team who work on daily HR tasks: two HR Advisers, an HRD Adviser, a Payroll Accountant, and an HR Assistant. The HR processes cover all employer responsibilities during the employment life cycle from recruitment to the end of employment. At the beginning of the project, the HR team's competence in applying for an RPA was at a very beginner level. The thesis project is an excellent opportunity to increase the team's expertise, and the team is also interested in the topic.

The HR team could use RPA in many processes with repetitive tasks, e.g., data saving. RPA can be implemented in existing processes and tools, so the need for new investments is low. On the other hand, RPA-assisted processes can improve the quality of work in many tasks that are done manually, including copying data, including large amounts of data, filling tables and forms, and requiring numerical accuracy.

Some types of automation have already been implemented in FCA's HR. For example, automated notifications and workflows are in use, but much more could be done with RPA tools. It is also worth checking whether the notifications built into the existing systems are enough or if additional notifications serve the process flow better.

7 The project methods and process

This chapter reviews the methods of the development project and describes the project schedule and scope.

7.1 Method and strategy

The thesis project is qualitative research, where the research strategy chosen is a case study. A case study is appropriate for development work when the researcher wants to gain an in-depth understanding of the development target and produce suggestions for development (Moilanen, Ojasalo & Ritalahti 2022, chapter 3). This thesis project focuses on analysing the processes and capabilities of the target organisation for implementing RPA. In addition, instructions and an operating model are produced for the target organisation, which are adapted to consider its operating environment and resources. The project uses the processes of the target organisation's HR team as the selected "case" for research because it enables utilising existing written material on processes and work-related data content, knowledge of tasks acquired through work experience, and observations made about processes, together with the HR team.

Figure 11 presents the three phases of the thesis project process. During the first phase, defining the real development task has sometimes been challenging, which, according to Moilanen, Ojasalo, and Ritalahti, is typical of a case study.

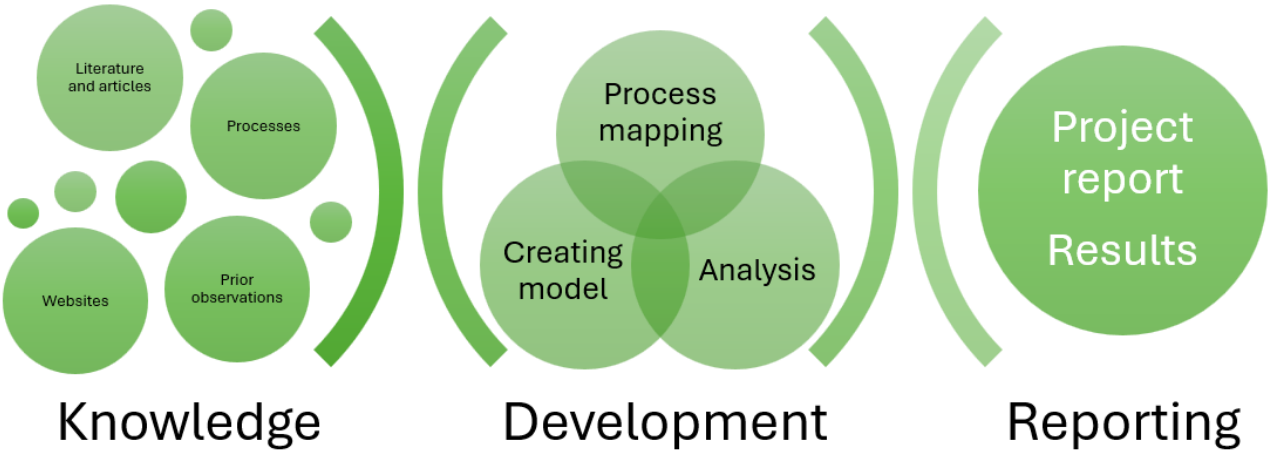

Figure 11. Thesis project process

The first Knowledge phase is to collect as much up-to-date and diverse information as possible about RPA and its application possibilities in HR. In addition, theoretical information is sought on how and with what criteria it is profitable to select processes and various tasks to be automated.

In the second Development phase, interviews related to the research will be conducted. All members of the HR team are interviewed. At the beginning of the interview, the interviewee is given basic information about RPA and its application possibilities, after which ideas are collected from the interviewees about possible automation targets in their own work or other team tasks. The second task at this stage of the thesis project is to develop a process analysis model for the target organisation, which not only analyses the ideas proposed during the research, but can also be used in future process analyses of the target organisation after the project.

In the third Reporting phase of the thesis project, the process analysis model is finalised, the results of the analyses performed are reported, and recommendations and instructions for the target organisation to proceed with the implementation of RPA are recorded based on the project.

7.2 Data collection

The literature review introduces the features of RPA. It explains what RPA can and cannot be used for, and what should be considered when planning the implementation of RPA. In addition, models have been sought for how tasks to be automated have been mapped and evaluated to obtain the best benefits. The purpose is to collect enough information so that if the target organisation wants to proceed with the implementation of RPA more widely, it would be possible to make the necessary solutions. Since RPA is a reasonably young technology that is also constantly developing, the project work has used not only scientific articles and literature as sources, but also the websites of RPA suppliers and other industry players to obtain more up-to-date information.

Regarding the target organisation, information on the topic has been collected through observation before starting the thesis project. More information about the organisation's RPA capabilities is collected from existing process descriptions, the data management plan document and HR team member interviews.

Every employee herself is the best person to know which parts of the work RPA would help them the most. Therefore, the HR team members will be interviewed to gain an understanding of the interviewees' thoughts and views on the possibilities of automating each process. However, during the interviews, the aim is to obtain comparable information on the tasks related to different processes, regardless of the interviewee's prior knowledge or attitude toward the subject. For these reasons, the interviews are carried out as semi-structured interviews.

At the beginning of each interview, there will be a short presentation of the basics of RPA to enhance the understanding of RPA features. After this, the interview goes through predefined

questions. The wording and order of the questions may vary. Process descriptions and the Data Management Plan are used as supporting material in interviews. The interviews are conducted as a Teams meeting online and are documented not only by taking notes during the interview, but also by recording the interview.

Different types of questions will yield different information. The way in which questions are worded is a crucial consideration in extracting the type of information desired. An obvious place to begin is by making certain that what is being asked is clear to the person being interviewed (Merriam & Tisdell 2015, 117). The authors advise on using familiar language in questions and avoiding technical jargon, terms, and concepts from your research topic.

Several different processes have been selected for the interviews so that the interviewees can think about the possibilities of automation as closely as possible to their own area of responsibility. The process descriptions used in the interviews are the New Employee Onboarding Process, the Payroll Process, the Recruitment Process, and the Employment Lifecycle Management in Sympa.

However, the interviews are not intended to limit themselves to the automation of pre-described processes, but rather to cover the entire HR team's task list as widely as possible. The interviews are intended to create a common understanding of the possibilities of using RPA among team members, which will help the team to further develop automations together later after the project. The interviews do not make any new process descriptions but rather reflect on and identify the most promising processes or tasks to automate, along with existing process descriptions. The findings collected in the interview are analysed in the next phase of the project.

When the project looks at the task area of the entire HR team, it is possible to see which task area within the team is profitable to invest in first. Based on the literature, a separate comparison model will be developed for analysing the processes, which can be used more widely in the target organisation in the future. The analysis model will be included as part of the instructions provided to the target organisation.

Alongside the process mapping, the data content in HR will be mapped by using the existing FCA Data Management Plan. In this plan, all the data types are listed, including the person responsible for processing, storing and disposing of the documents. Also, the storage time for each type of data is defined in this plan. From this perspective, it is meaningful to find out the most common types of data, the volume, and the format. It is also important to mark whether a particular data type is confidential personal data, to which stricter AI regulations are applied.

In addition to process analyses, the project will familiarise itself with the features of RPA tools with the aim of comparing them to find those factors that will be relevant in the target organisation in the future.

In addition to the project report, the final output of the development project is practice-based instructions or an operating model for the target organisation on how to plan and promote the implementation of RPA in its other operating units. The guide includes both basic information about RPA and a model to be developed for analysing processes. The purpose of the guide is to increase the understanding of the topic among colleagues interested in automation.

7.3 Project scope and schedule

The project schedule is tight, and the whole project is implemented during April-May 2025. The theory part will be completed in week 16. The process analysis model will be developed simultaneously with the theory part and during the interviews and will be completed in week 17. The interviews will be scheduled for weeks 17 and 18. Process analyses will be conducted starting from week 17.

Based on the process analysis models found in the theory phase of the thesis project, a new analysis model suitable for the target organisation will be developed, as well as instructions for identifying processes to be automated and assessing RPA compatibility. No RPA robots will be built during the project, but the HR team's potential processes to be automated have been identified and analysed.

According to literature sources, there are many different topics to consider in the maintenance phase of RPA (RPA competence development, resourcing, maintenance responsibilities) that are also relevant to the target organisation, not only in the planning phase of the implementation, but also later after the implementation. However, due to the limited schedule of the project, these will not be explored in depth in the thesis project itself, but the sources will be collected for processing in the pilot phase and for further planning. Even when planning the project, it is known that RPA is an entity with far-reaching effects, and therefore, all planning related to it must be done carefully rather than superficially.

7.4 About risks

The project's tight timeframe increases the risks to its success. If the knowledge of the theory remains too superficial or narrow, factors essential for success may be overlooked during the

development phase. One possible risk with far-reaching effects is that processes that are too complex or infrequently occurring are selected for automation, in which case the benefit from automation is lower than its maintenance costs.

The significantly short implementation time allocated to the project endangers the entire project's success if the project cannot be advanced within the planned schedule due to external factors, e.g., illness. In the worst case, the entire project is terminated before the development activities or results are achieved, and all RPA experiments will be postponed to the future. The risk in this is that the target organisation will fall behind in technological development compared to other NGO actors and, by doing so, become a less interesting partner to the donors and other partner organisations.

8 Project phases

This chapter presents the progress of the project development phase. It describes in more detail the activities involved in each phase and the observations made as the project progressed.

8.1 HR Team Interviews

The HR team interviews were conducted in one week. Since the respondents are not RPA experts, each interview began with a brief introduction to the topic, including the features, purposes, and operating principles of RPA, as well as the factors that affect the automatability of the process. After the introduction, the interview continued with questions on the topic.

The questions asked in the interview included:

- First thoughts based on the introduction: What would you use a robot for in your area of responsibility?
- What would a robot do at its best?
- What would be the benefits of automation?
- What are the most time-consuming tasks in your work?
- Which tasks involve a lot of manual work?
- Which tasks are often repeated?
- What is your most boring task?
- What do you think are time-sensitive/critical tasks in HR team work?
- Can you think of any bottlenecks or processes that are not currently working?
- What can RPA be used for in HR?

Since the first interview, various tasks have emerged where automation could speed up the process and streamline the work. One observation is that the HR team has many functions that include monitoring and keeping an eye on changes in data content, and that involve details that need to be remembered. In total, 90 different ideas for tasks that the team could automate were recorded in the interviews. In addition to the 88 HR team processes, two processes emerged in the interviews, in which HR is a party and where there would be opportunities to streamline the process with the help of RPA.

The interviews also asked the HR team's view on where automation is appropriate for HR tasks. The respondents' position is that automation of routine tasks is recommended because it supports the implementation of a better service level. All respondents agreed that using RPA in HR is recommended and saw many of the same benefits mentioned in the literature. These benefits

included shorter response times and fewer tasks and details that HR team employees must remember.

Respondents agreed that robots are not suitable for all encounters but that it is essential to maintain personal contact and conversational connection with personnel and superiors in HR. For example, robots can send automatic reminder messages because people are already used to all kinds of automated messages in the current digital environment. Such messages are not perceived as jeopardising the conversational connection. The interviewees also consider the introduction of a chatbot, for example, possible if its area of use is limited to outside working hours, and the robot's role would mainly be to direct users to information sources.

8.2 Developing a Process Analysis Tool

Building the process analysis tool started immediately after the first interview. It was clear from the first interview that there could be a lot of ideas and wishes in the initial phase. Therefore, there is a need for a tool that clearly helps from the very beginning of the process to identify the processes that are worth moving forward with automation and provides support for justifying choices. For the analysis of dozens of ideas to be smooth and efficient, it is essential to find the key factors with which to pre-qualify the ideas. It is not necessary to conduct a thorough analysis of all ideas. With as little experience and resources available, using process mining was not an option, so the work for creating a manual process analysis tool was started.

It seemed that neither of the models presented in the theory section is the best solution for the target organisation, as such, because the assumption with both of those is that there already is a decision on using RPA widely. In the FCA case, the use of RPA may not be that extensive, at least in the initial phase, but initial experiments will be carried out, and only then will the potential be mapped. The analysis process is needed to guide the selection of tasks that are both easy to automate and impactful from an organisational perspective.

The most important goals for FCA when using RPA will be to use time and team resources more effectively. In addition, it is essential to identify tasks and processes prone to errors and find solutions to prevent potential errors. Combining these goals with the research questions of this thesis, the framework for the structure of FCA’s own process analysis tool becomes clearer.

The strength of the Bourgouin et al. model is that the analysis covers various perspectives that can be considered when using RPA. On the other hand, the model's weakness is that its actions are described at a very high level, far from practice. This can cause an unaccustomed analyst to feel

that the model is challenging to apply to their own work processes. The strength of UiPath's tool is that all kinds of process details have been considered, worded, and scored, making the connection between the analysis tool and their own process clear. In my opinion, the biggest weakness of UiPath's tool is the assumption that the tool is only used by large organisations with a lot of resources for implementing RPA right from the analysis stage and that all possible processes in the organisation will be automated.

For FCA's process analysis model (Figure 12), both the Bourgouin et al. analysis model and UiPath's analysis tool and their contents were studied. The purpose was to identify the factors that ensure that the analysis tool supports the goals of the target organisation and that reliable answers are obtained to the research questions. A comprehensive picture of both models was drawn, which helped to identify similarities and differences in approaches and to find answers to the extent to which the known models met the project's needs and what was perhaps still missing. The development work proceeded one sub-phase of the process analysis model at a time, looking for a method that best considers the target organisation's needs. The Bourgouin et al. model and the UiPath tool were utilised in many respects when building the FCA analysis model.

In the final process analysis model, the process is assessed in five different subject areas: Maturity, Stability, Feasibility, Volumetry and Complexity. A total of 15 questions can be included under these subject areas.

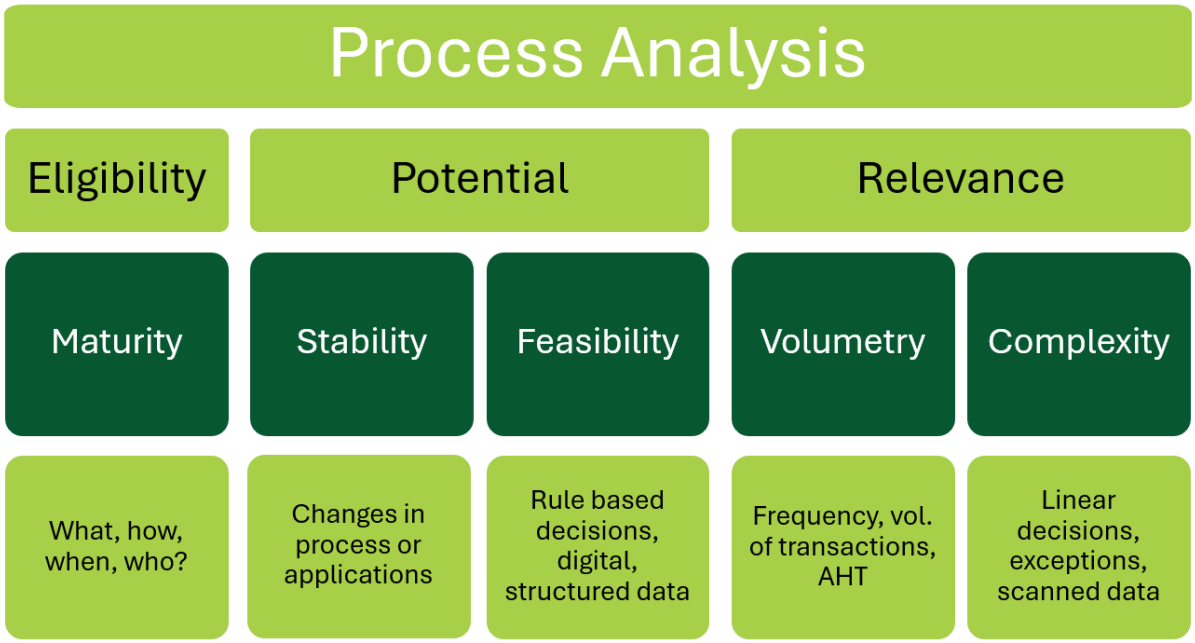

Figure 12. FCA Process Analysis Model

8.2.1 Process Eligibility

Both the process analysis models presented in this thesis, the UiPath tool and the Bourgouin et al. model, focus on process stability in the first phase of the analysis. This is an excellent point to start with, as the organisation should not use time to automate a process that is known to change soon. The UiPath model assumes that all the processes processed with the tool are eligible for RPA. The Bourgouin et al. model uses the simple process maturity check as a baseline. This is one of the critical factors, especially when previous knowledge or experience in using RPA is still limited. A clear and structured process definition is essential to determining which tasks are suitable for automation and how they can be integrated into broader organisational workflows. You should not try to automate a process before you know what is done in the process, when and how it is done, and who does it. The fourth aspect of Bourgouin et al.'s model, the information aspect, is not as critical a factor as the first three factors are at this stage of the process analysis, so it is ignored for now.

When many different ideas have been presented in the initial stage, and various levels of processes have been proposed for analysis, it is vital to identify the eligibility of the process as easily as possible. Therefore, the model being developed uses as simple questions as possible:

- Is the process clear and defined enough to make it possible to copy it as a task for a robot?
- What will be done in the process, when and how, and who will do it?

The process analysis tool instructions also contain clarifying auxiliary questions that help the evaluator decide between "Yes" and "No". If even one of the elements of the proposed process is not defined, the overall assessment of the eligibility of the process is "No", and the process does not proceed to the next stage of the evaluation. The complete analysis will be conducted only on the eligible processes.

8.2.2 Process Potential

In this second phase, the development work began to diverge from the theoretical knowledge. The second phase in the Bourgouin et al. model assesses the RPA potential, the first entity in UiPath's tool. In my thinking, RPA potential consists of the stability of the process and the feasibility of RPA. Stability is assessed with the following questions:

- Are changes expected to the process within the next 6 months?
- Are there anticipated changes to the applications within the next 6 months?

The period for anticipating changes could be longer or shorter than 6 months, depending on the size of the process being assessed and the number of its stages. Some processes can be

automated quickly, and it can be significantly beneficial to the organisation to do it even in the already known period of six months, making it profitable to build a robot, even if it must be modified after six months. In addition, six months reflects the foreseeable future in most matters, a period for which it is realistic to make an assessment, so the period also serves this purpose well.

Another part of the RPA potential of a process is the feasibility of RPA. In Bourgouin et al.'s model, the key feasibility factor is "manual interaction with a software application". Based on the process maturity assessment made in the previous step, I take this for granted, so the FCA analysis model does not spend time separately assessing this factor.

Both sources emphasise that rule-based decision-making is a key factor, which is therefore also included in the FCA model. At this stage, UiPath highlights the data characteristics used in the process as an assessment factor. A process in which the data is in digital form and structured has a better RPA potential than a process in which the data is not in digital form or is not structured. Based on my limited experience in robot building, I understand well how these factors affect the potential, so I consider including these metrics necessary.

8.2.3 Process Relevance

According to Bourgouin et al., the third step is to analyse the RPA relevance of the process. According to Bourgouin et al., relevance is marked by a high number of transactions and a low level of complexity. UiPath further includes the same evaluation factors under RPA potential. Regardless of which heading is chosen for these factors, in practice, they indicate the significance of the results achieved by RPA. RPA relevance is demonstrated by process analysis's most easily understood factors: process frequency, volume, and average handling time (AHT). In the FCA model, relevance comprises two components: volumetry and complexity. The analysis questions in the Volumetry section are:

- What is the frequency of the process?
- What is the volume of transactions/frequency (number of times the process is run/selected frequency)?
- What is the average time for the process to be run once (average handling time/transaction)? (in minutes)

The UiPath tool calculations use FTE as the unit of process time savings because the UiPath tool is designed for larger-scale operators. However, on the FCA scale, it is more justified to express the time spent on the process in annual working hours so that the differences are more clearly

visible between different processes. Working hours per year is also a suitable metric for expressing the savings in working time that the organisation can achieve with RPA.

When we know that the target organisation's goal is to save working time and increase work efficiency, the measurement results in this section are of great importance for the result. Therefore, for process analysis, measuring the active working time spent on the process being assessed makes sense so that the results correspond to actual measurements and not, for example, the employee's perception. In shorter-duration processes, using an incorrect estimate significantly distorts the result.

The UiPath tool also includes the value for the proportion of errors in all cases and the frequency of process peaks. In FCA processes, the volumes are generally so small that the proportion of errors is insignificant for process analysis. Based on prior knowledge, most FCA processes also do not have specific process peaks, which is why both theoretically relevant analysis factors are omitted from the FCA model.

I want to represent complexity using more factors than Bourgouin et al. present in their model. According to them, the average time spent on the process is enough to express complexity, which certainly describes the situation. However, I think it is necessary to know the reasons for the time spent in more detail and the factors that extend the time spent on the process and thus make the process more complex. Therefore, the FCA model includes the Complexity factors used in UiPath's tool, which are asked in the analysis with these questions:

- How many steps does the process have?
- How complex (or linear) are the decisions that you must take to complete the process?
- What is the average number of cases where you are unable to complete the entire process?
- What is the number of applications that you use for the process?
- What % of your input data is digital?
- What % of your input data is structured?

8.3 Process Analysis

When FCA's own, as simple as possible, process analysis tool was ready, it was time to move on to the final stage of the project, the process analysis. This phase aims to find the lowest-hanging fruits, the processes with the most significant volume and the most routine and repetitive tasks. This chapter describes the process analysis process and the observations and insights gained.

Since a total of 88 different ideas for using RPA in HR were received in the five interviews, it was decided to conduct a pre-qualification among the proposals based on a vote. HR team members were asked to vote for a total of five proposals based on four different criteria:

- speeds up work the most
- smoothens work the most
- reduces error risk the most
- increases job satisfaction the most

The vote aims to get the team members' views on where the lowest-hanging fruit can be found. These selected criteria directly correspond to the goals set for the organisation's automation. Based on the vote results, a whole process analysis is performed for the processes that received the most votes, because it is impossible to evaluate all proposals with sufficient accuracy and reliability within the timeframe allocated to the project. In particular, the assessment of the process throughput time and the number of process steps is uncertain without the knowledge of the team member concerned.

With the ideas collected during the interviews, it was also easy to test how the modified new analysis tool guides you in making choices. In addition, the tool helps identify processes that require more refinement before they are suitable for automation. Nineteen different processes received votes in the vote, and the team members responsible for each process were invited to participate in the analysis. For advanced preparation, the team was given the analysis tool questions to familiarise themselves with. The processes represent a wide range of HR tasks. These include processes related to recruitment, employment data management, payroll administration and reporting. As a result of the vote, the following processes were selected as the first processes to be analysed:

- Screening applications in Laura using specific keywords, which would make it easier to find suitable candidates, especially in country offices
- Checking references and sending reminder messages to recommenders.
- Extracting new employee information to Sympa from Laura, CV, recruitment proposal and UPJ calculation.
- Making UPJ calculations for general increases and updating salary data in Sympa
- Making UPJ calculations for expats when CDI and AWCA change, and updating salary data in Sympa
- Supplementing the Sympa - Mepco API connection for information that is not transferred with the connection, e.g. end dates of salary bases and specific corrections of absences

- Alert messages for employees about working time balance limits being exceeded or undershot.
- Monitoring of working time stamps
- HR checking of annual leave applications: correct holiday year, Saturday calculation, adding missing Saturdays and checking with Mepco data
- Comparing payroll data and payroll report before payment.
- Transfer of data from the Mepco International Data tab from the Monthly salaries payment group to the Unit4 payment group.
- Manual entry of foreign salaries into the Nomentia payment system.
- Automatic archiving of payroll accounting documents to SharePoint.
- Extraction of salary payment bank statements from the Nomentia system and archiving them to SharePoint.
- Archiving of payroll materials and saving emails in SharePoint.
- Automatic search and comparison of reconciliation reports from the Incomes Register and the Mepco system.
- Conducting self-assessments of competency surveys and compiling the results into a competency matrix.
- FTE calculation
- Compilation of personnel figures for the financial statements and calculating the average number of personnel

The analyses were carried out in week 19, deviating from the original schedule. The team members responsible for implementing the process participated in the analysis, as they have the best knowledge of the issues covered in the analysis.

It took an average of about 20 minutes to evaluate one process. The analysis began by discussing the content, stages, actors, and outcome of the process together at a general level so that those participating in the analysis have a common understanding of how the object of the analysis has been defined. Suppose the process or task to be analysed is one for which there is no process description yet. In that case, recording the process definition, actors, stages, and data with sufficient accuracy at the beginning of the analysis is helpful. This definition helps to identify, among other things, what the robot needs to function and what must be done before the robot can perform its part. This description is also of great help in the later stages when the actual robot is built. After this, the analysis tool was used step by step.

8.3.1 Observations

All team members who participated in the analyses found the analyses interesting. For a few processes, the team was surprised by how much time was spent doing them. The most challenging steps in conducting the analysis were calculating the volume of processes and the average processing time, because in some processes, both values vary greatly depending on, for example, the organisational unit or the time of the process. Another challenging step was identifying and calculating all the steps in the process. When you are used to doing the task manually, exceptional precision is needed to ensure that every step included in the automation, such as opening a file, copying data, and saving, which is necessary for the robot to operate, is considered.

The use of the analysis tool was found to be valuable and interesting. Using the tool highlighted which tasks take up a lot of time. The benefits of using the tool were observed to include:

- The process to be analysed is so short-timed that automation does not add much value.
- The process can be streamlined and accelerated with simple changes, even without automation.
- Utilising the HR application's features in a new way produces a better result than using RPA.
- The greater the amount of information is structured, the easier it is to build a robot, and the more streamlined the work done by humans, even if RPA is not used.
- Understanding what RPA is not for and what human workers are needed for has grown.

One might imagine cleaning out outdated documents from a document library as one process. Still, when the document type (for example, salary data, medical certificate, job description, internship agreement), the related retention period according to the information management plan, and the party responsible for retention are considered, dozens of different processes can be identified according to the criteria of the process definition. All interviewees mentioned this type of process as a desired automation target. Similarly, running a report is one process, but in RPA thinking, running each report is a separate process, requiring its own robot. Further working on automation ideas in process analysis generates several separate new processes to analyse.

Suppose the tool is used to analyse several processes to compare their potential with each other. In that case, it is recommended that the same people carry out the process analysis. This ensures that the accuracy of the analyses is at the same level and that the results are comparable. For example, the number of steps calculated and the time spent on the process are factors that can unnecessarily create differences between the results.

In some analyses, it was difficult to identify how the process to be automated should be limited. A single step requiring human work can be left to a human if other factors and steps form the actual time savings and efficiency in the process.

While conducting the analyses, the characteristic mentioned in the theoretical sources also became familiar: RPA is not necessarily suitable for all processes. It is not worth trying to build a robot if the process is such that there are no reliable ways to ensure that the robot's ability to make the right decisions can be trusted. A robot also does not help in processes where the data being processed is unpredictable. A large part of a robot's functionality also depends on the developer's skills in building the robot correctly and understanding what solutions work in each process. A robot cannot, like a human, know what things to pay attention to if those factors are not set in the process for the robot to check.

9 Results

As a result of the analysis, it was found that for four processes, the description and content of the process are not at a level that could be analysed further or, especially, automated. These processes are not eligible. For 15 processes, the analysis was completed. The result is that 12 of all the analysed processes (Figure 13) are truly potential RPA targets (Automation potential value over 80%). These processes have in common the fact that their data is both digital and mainly structured.

The automation potential value of the three processes was below 80%. All these processes have in common that the amount of structured data is less than half of all data. In two cases, the automatability of the processes was weakened by the fact that they require subjective and complex decision-making. In two cases, automation is more demanding because there are more than 40 steps in the process.

In addition to the most potential processes, the results found processes for which no significant time savings are known. However, after automation, similar automation can probably be adapted to another similar process with reasonably few changes. It is worth keeping these processes in mind in the organisation if you want to scale RPA to a broader audience.

The lowest-hanging fruits refer to a process with a high automation potential value, saves the most labour time, and is reasonably easy to automate. Based on the analyses performed, the five lowest-hanging fruits are listed in Figure 13. By automating these processes, FCA will save 252 annual working hours, which is almost seven working weeks. Converted into euros, the savings are estimated at 9000 €/year. During the thesis project, the costs of RPA for FCA are not yet known, but the estimated savings in euros provide a good guideline for when the investment is still profitable.

When calculating the future return on investment (ROI), in addition to the salary costs of the human employee, the share of indirect costs can be taken into account. In addition to direct savings, RPA also brings added value when the saved working time can be allocated to other work tasks. As previously stated, increased job satisfaction also has its value, although it is difficult to quantify it in monetary terms.

Process Name	Automation potential %	Estimated working hours freed expressed as h/year	Est. AHT reduction expressed as %	Implementation effort %
Checking references and sending reminder messages to referees	99 %	6	66 %	5 %
Making person-level calculations for general increases and updating salary data in Sympa	96 %	29	64 %	15 %
Making person-level calculations for expats when CDI and AWCA change and updating salary data in Sympa	99 %	12	66 %	13 %
Alert messages for employees about working time balance limits being exceeded and	98 %	88	65 %	10 %
HR checking of annual leave applications: correct holiday year, Saturday calculation, adding missing Saturdays and checking with	93 %	48	62 %	11 %
Transfer of data from the Mepco International Data tab from the Monthly salaries payment group to the Unit4 payment group	99 %	1	66 %	12 %
Manual entry of foreign salaries into the Nomentia payment system	94 %	37	63 %	10 %
Automatic archiving of payroll accounting documents to SharePoint	99 %	12	66 %	16 %
Extraction of salary payment bank statements from the Nomentia system and archiving them to SharePoint	99 %	35	66 %	19 %
Automatic search and comparison of reconciliation reports from the Incomes Register and the Mepco system	99 %	7	66 %	19 %
Global FTE calculation	97 %	49	65 %	10 %
Compilation of personnel figures for the financial statements and calculating the average number of personnel	99 %	50	66 %	14 %

Figure 13. Potential HR processes for RPA and the lowest-hanging fruits

9.1 Post-project action plan

The short implementation time of the thesis project provided a good initial impetus and basis for promoting RPA at FCA. Still, not all activities according to the original project plan were completed. This chapter describes the plan for how the process will continue in the target organisation.

9.1.1 Continuing process analyses

Since the process analysis was only performed for some of the ideas during the thesis project due to scheduling reasons, the entire HR team should return to the tool to ensure that all processes have been analysed with sufficient information and reliably before possibly proceeding to the next stage in the implementation of RPA. Since several new ideas for automation and ideas for streamlining processes without automation were found during the process analyses, conducting low-threshold process analyses would be an excellent way to develop work and practices as an ongoing practice in the team.

9.1.2 Pilot

As a result of the analyses performed, excellent candidates were found for the first pilot trial. The HR team selects the first process from the analysis results to implement the pilot. The pilot's goal is to automate one of the most potential processes in the simplest possible way, to get a process or its phase into use through the pilot, to free up time for more demanding tasks and the development of subsequent robots. The essential thing in the pilot phase is to produce visible results with as little effort and as quickly as possible, so that RPA does not become an overly heavy, complex and long-term project.

Since FCA already uses a desktop version of Power Automate without additional investments, it is worth trying to build a robot for the first process with it first. This way, the features and limitations of the desktop application become familiar. I would consider the first pilot trial smaller than the actual proof of concept phase. While testing the construction of the first robot, the organisation's resources and commitment to using RPA are tested before making larger plans or investments for it. Once the workflow has been automated, it is tested, and its operation is monitored for a sufficient period to determine whether it works.

Concrete results measure the success of the pilot: a working robot, the time savings it brings, and the number of processes completed by the robot. The same metrics can be used to measure the added value achieved in subsequent automation projects. In addition to a working workflow, the

pilot increases the organisation's knowledge of RPA and reveals where and to what extent FCA estimates that external support is needed in implementing automation. Based on the pilot's experiences, it is possible to identify and determine what kind of RPA tool would be suitable for FCA's use.

9.1.3 RPA Competency Development

If the organisation wants to progress in using RPA based on the results of the pilot, the next step is to introduce RPA more widely within the organisation. As the organisation learns about RPA and finds opportunities for use, process analyses make it possible to create a concrete, broader plan for developing RPA expertise and a roadmap and schedule for concrete RPA goals.

The organisation has several experts interested in technology who, depending on the possibilities and their interests, can participate in the design and implementation of RPA in addition to their daily work. In the initial stage, it is worth using, for example, Microsoft's Power Automate training pages and YouTube videos to develop RPA expertise. Both channels offer a flexible opportunity to learn about the latest versions and their features in an illustrative way. Of course, RPA training is also available from various service providers, but open, free sources are sufficient in the initial stage. Implementing RPA is an investment in expertise, and expertise is not acquired by taking paid courses, but by experimenting, researching and testing. Those who know the organisation's needs and processes best also understand what kind of solutions can provide the best input for their work. As expertise within the organisation increases, experts can share and strengthen their knowledge with colleagues by making robots together.

The pilot phase also teaches us what kind of support and additional resources the organisation needs to expand the use of RPA. The growth of RPA expertise in the organisation also benefits the development of processes and working methods in general. Suppose FCA does not yet want to implement RPA more widely at this stage. In that case, the increased expertise and the systematisation of processes and data will support efficiency and facilitate the implementation of RPA later.

9.2 Evaluation of the project

Within the time allocated for the thesis project, the project responded diversely to the research questions and objectives. Several processes in the HR team were found for which RPA can be applied, and we have an analysis tool available to us, with which we can continue to map the most potential RPA targets. In building the analysis tool, the writer has taken special care to ensure that the content corresponds to the factors that increase the feasibility and potential of RPA presented

in theory, and that no essential factor has been omitted. The result is that the process analysis tool not only provides a snapshot of current automation opportunities but also helps to communicate to the rest of the organisation which factors are essential in automation. It offers a shared language to justify why specific tasks are chosen or not chosen for automation. The analysis tool makes it possible to identify which factors promote or hinder the use of RPA. Although the project did not reach the pilot stage, which was initially a rather optimistic goal, it is entirely realistic at this point in the project reporting that the first pilot robot will be in use within the next 3 months.

Hardly ever, and in this case, too, the tight project schedule did not promote qualitative goals. In most cases, limited time forced the writer to use the first suitable sources, so source criticality had to be compromised in some places. Although the sources indicated it would be helpful to research the topic more before choosing a way to proceed, there was often no time for that. Despite this shortcoming, the goals were reasonably achieved.

The schedule challenge was already known before the project started. At that point, the writer accepted that something essential would inevitably be left out of the project. Most importantly, the project was done, and the topic started in the target organisation. Nothing fundamental has been lost due to the project schedule, and all the shortcomings during the project can still be corrected when we move on to the following stages.

9.2.1 Results and relevance

The project succeeded in answering all four research questions of this thesis:

- Which HR tasks in the target organisation's HR unit are suitable for automation?
- What needs to be considered when implementing RPA?
- What are the benefits of automation in the target organisation?
- What is the plan for the target organisation to proceed with implementing RPA more widely?

The HR team's tasks include many tasks that are suitable for automation. The processes are primarily handled in different HR systems, where the data is digital and structured. As is typical for HR, the tasks involve a lot of rules-based, linear decision-making and maintenance of personnel data. Payroll administration processes are repeated in the same way every month. Based on the first analysed processes, it is likely that there are dozens more potential RPA targets. It is a subject of a separate assessment whether there is enough time savings available from all processes to make building and maintaining the robot profitable.

Numerous factors were identified during the project that are worth considering before implementing RPA. These include, among others, objectives, metrics, acquisition of competence, maintenance and development, staff involvement and division of responsibility in RPA tasks. From a resource perspective, in addition to competence, the role of staff in using RPA, the possible need for external assistance, and the identification and selection of a suitable RPA tool are also considered.

The benefits of automation in the target organisation are direct savings in the use of working time, reduced process handling time, the possibility of allocating working time to tasks requiring more demanding thinking, and increased productivity in specific processes. In the long term, these benefits are seen as an improvement in the quality of work, which in turn is reflected in a high-quality partnership for partner organisations and financiers.

At the end of the project, there is still no information on whether FCA will promote the implementation of RPA and, if so, in which task areas and to what extent. I hope the pilots and process mapping would proceed systematically enough so that all solutions are considered and their scale fits into the core work. RPA is intended to be a productive tool to support the work, not an intrinsic value.

The practical significance of the thesis project for the target organisation is significant, and I think the project achieved its goals very well. Before the thesis project, I had not heard anyone talking about RPA at all in the work community. Thanks to the project, the HR team was already quite advanced in the planning and, if desired, the same model developed during the project can be applied to the rest of the organisation: first introduction to the topic, then ideation interviews and process analyses. Of course, there is still a lot to do before a concrete long-term RPA roadmap is ready, but the first steps, as was the goal, have now been taken.

9.2.2 Own learning

As the thesis project progressed, the focus of the work changed when it became clear that developing a new concrete process analysis tool was necessary to achieve a successful outcome within the timeframe allocated for the project. When the time spent developing the analysis tool was three times longer than planned, other subject areas considered in the planning phase received less attention. Developing the process analysis tool was also the most challenging part of the entire thesis.

I was surprised at how many ideas for using RPA were found in just one team’s area of responsibility. The result shows the versatility of RPA and that there is a lot of enthusiasm for implementing

robots within the team, and even with a short introduction to the basics of RPA, the team members have developed a clear understanding of its application possibilities. I feel that I have successfully conveyed to my colleagues the theoretical knowledge I have learned.

The tight schedule also hindered the possibility of using the support of a supervising teacher, as it was necessary to advance the project according to my plan and vision right from the kickoff meeting. As is typical of a case study, both the theoretical part and the development work were partly promoted in parallel, so the unfinished report would not have conveyed how and in which direction I was taking the project. Towards the end of the project, when the whole project could already be better understood from the working version of the report, there was no longer any possibility of making significant changes to the original plan. Therefore, in practice, I had to rely on my ideas about the key topics of the project and the chosen implementation method.

9.2.3 Continuation

I am satisfied with how far and concrete results were achieved within the project. If FCA decides to promote the implementation of RPA, I want to be involved as a citizen developer of RPA and in developing HR processes. The team's interviews and process analyses touched on the discussion that has been going on in Finland a few times about how robots will take all the jobs and people will be unemployed. If this happens in the future with the development of artificial intelligence, RPA is not to blame. With the first process analysis, the project provided concrete examples of how RPA can only be of help in the work done by people. People are needed both to make and modify robots, and to continue to do all the work that requires more thinking and application of knowledge.

During the project's planning phase, the idea was to write separate instructions or recommendations for the management of the target organisation on how RPA should be implemented. However, as the project progressed, and my knowledge of the subject grew, it began to feel impossible to know and have time to write a sufficiently good overview of all the possibilities of RPA and the topics to consider in the piloting, implementation planning and maintenance phases. On the other hand, this project report contains all the knowledge I acquired during my 1-month study leave, and I want to share it all with my colleagues. Therefore, I came to a solution where, to supplement this project report, I have compiled a few topics in chapter 10, which are intended to serve as an introduction to planning if the organisation is considering implementing RPA.

10 Thoughts for FCA

According to the project plan, one of the thesis goals was to provide FCA with concrete instructions on how to proceed with implementing RPA. However, as the project progressed, I realised that the entire project, with all its theoretical information and phases, is valuable information for an organisation potentially planning to use RPA. Therefore, this last chapter of the project report only contains some thoughts outside the project that I want to share with the organisation.

FCA has been following trends for years. The speed of technological development and the development of digitalisation are familiar and have been taken into account in the development of the programmatic work. Development has been more moderate in terms of the organisation's internal working methods and tools, although numerous individual employees have knowledge and interest in new technology. What is FCA's long-term plan in an evolving technology environment? The working environment and tools will develop with the development of artificial intelligence. The human ability to absorb new things remains constant, and there is limited time for this alongside the core work. When is the right time to start for FCA to stay on track in the long term? How do we ensure that FCA and its experts remain on track with the pace of development? How long will people be willing to do work already outsourced to robots elsewhere?

Implementing RPA can offer FCA many opportunities to improve operational efficiency and provide a perspective on developing organisational processes in general. Through my thesis project, I have learned that although RPA is marketed as an easy and quick way to streamline an individual employee's work, it is better for the result and the appropriate use of resources to make plans at the level of the entire organisation. If it is not yet the right time to move forward with automation, FCA's capabilities can be promoted simply by refining processes to be more automation-compatible.

RPA is not suitable for all tasks, but in certain, correctly selected processes, automation can achieve significant benefits that have truly significant cost effects or other benefits that affect the quality of operations. For example, in processes that directly contribute to the rapid delivery of humanitarian aid, robots can improve the speed of response and thus shorten the process turnaround time. Such urgent processes in HR include, for example, preparing an employment contract to be sent to an employee, reporting the employee's information to the insurance company or occupational health care before the start of the work assignment. RPA should also be considered for such value-added processes that have not been possible to implement with the processes in use so far. Various monitoring tasks and alerts can ease human workers' monitoring responsibility and

improve reaction speed in different tasks. Robots can also help personnel follow standard operating procedures.

For years, there's been discussion in FCA about what can be left undone when the need for work increases and the resources to do it are always limited. RPA can find new opportunities to transfer some tasks to robots. Process analysis related to planning the use of RPA offers the opportunity to examine processes in sub-steps, which can highlight opportunities for their simplification. When conducting process analyses, the first step, assessing the process's maturity, also helps to identify whether the process is unnecessarily complex.

There are numerous success stories from the business world about how RPA has produced double-digit ROI figures in most cases. The return on investment can only cover the costs when it is known in advance what kind of returns can be achieved, and after that, the development work is promoted cost-consciously. It is cost-effective to test whether FCA could, with a reasonable investment, find RPA use cases that would be profitable to invest in. Automating the wrong processes is laborious, slow and expensive, so in most cases it is worth optimising the processes first to make them suitable for RPA use.

If RPA is decided to be used after the pilot phase, it is a long-term investment that will become an integral part of operational processes and resourcing. In this case, it is essential to name the parties in the organisation responsible for maintaining the robots in practice. Maintaining robots is continuous work, not a one-off project. It requires monitoring, responding to error situations and proactive development. Therefore, if RPA is decided to be implemented, people must be found outside of ICT, in the substance units, who have an interest and expertise in making and maintaining robots. RPA is in no way the core priority of the ICT unit.

Resources include both budget and human resources. The primary purpose of robots is to make work more efficient, so it is necessary to calculate the limit value for how much time can be spent on developing the robot and, if required, external help, and what is the estimated minimum benefit (person-hours / year or FTE) at which it is profitable to start building and maintaining the robot. The budget not only covers the direct costs of the selected system supplier's RPA tool, but also maintains the server space where the robots operate and prepares for possible unexpected problems and the possibility of using the RPA supplier's support or consulting services to solve them. When choosing an RPA supplier, the same factors must be considered as in other system purchases, including functionalities and their suitability for use needs, usability, pricing structure, cost-

effectiveness, potential for long-term use, availability of support for users, data protection and possible additional services.

At FCA, the scalability of robots should be sought first, for example, in private fundraising or volunteer networks, where the volumes and frequencies of individual events are high. More potential targets could be in processes repeated similarly in all operating countries. Since the processes and practices of programmatic work have already been described and mostly refined, ideas for using RPA can most likely be found in them.

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